17th Anniversary India-Japan Fest

BICON 2022-23

January 21-25, 2023

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70th Anniversary
of the Establishment
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Biyani International Conference on
Academia Industry Interface Model : Avenues for the Future

Department of Science
Establishment of New Relationships in Research

Department of Pharmacy & Nursing
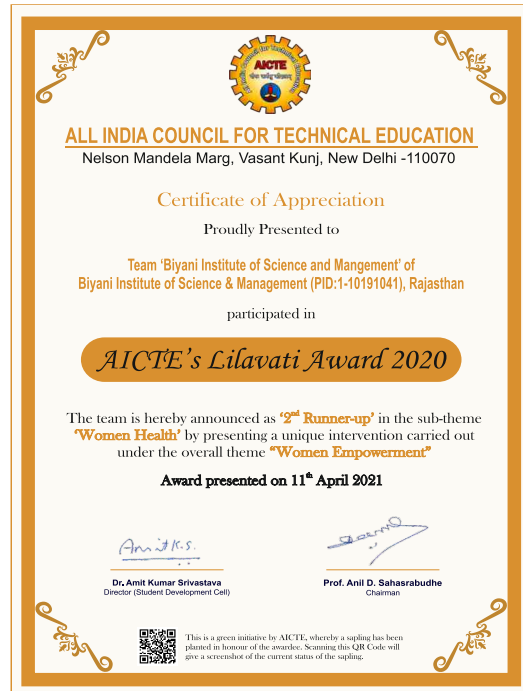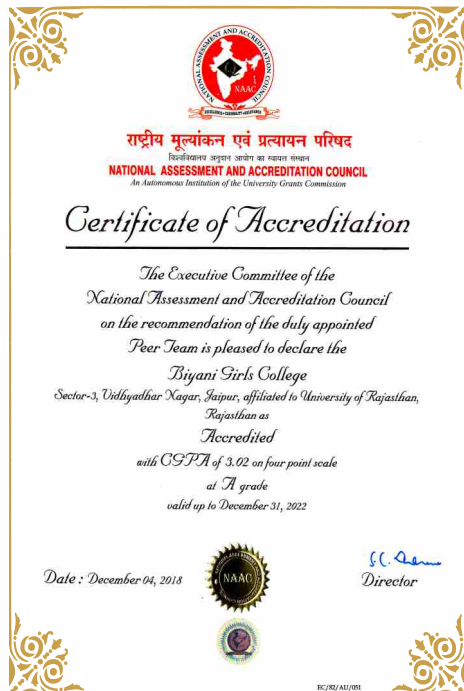**Global Transformation of Healthcare Systems**

Vol.-I

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Minister for Foreign Affairs of Japan extends his deepest regards to **Biyani Group of Colleges**
in recognition of its distinguished services in promoting mutual relationship between Japan and India.
— **Fumio Kishida,** *Minister for Foreign Affairs of Japan*

The 17th Anniversary India-Japan Fest

BICON 2022-23

The Proceedings of Conference

Volume-I

ACADEMIA INDUSTRY INTERFACE MODEL : AVENUES FOR THE FUTURE

Day-1; Saturday, 21 Jan., 2023 - **Department of Science**
Establishment of New Relationships in Research

Day-2; Sunday, 22 Jan., 2023 - **Department of Pharmacy & Nursing**
Global Transformation of Healthcare Systems

ISBN : 978-93-83462-67-4

Organized by:

Biyani Group of Colleges

Department of Science, Pharmacy & Nursing

Jaipur, India

Copies of this proceeding are available for purchase. Please contact BICON at acad@biyanicolleges.org, c/o R-4, Sector-3, Vidhyadhar Nagar, Jaipur-302039, Rajasthan (India) for ordering information.

All papers of the present proceeding were peer reviewed by no less than two independent reviewers. Acceptance was granted when both reviewers's recommendation were positive.

Reviewers:

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- Ms. Deepika Pareek
- Mr. Ashok Kumar Sharma

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- Ms. Remya Renjan
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- Dr. Dheeraj Chitara
- Ms. Monika Bari
- Ms. Surbhi Sharma

Designed by:

- Mr. Nilesh Sharma
- Mr. Shubham Gautam
- Mr. Surendra Mathur

Welcome to India-Japan Fest 2022-23 and Pink City Jaipur, India!

This year we are celebrating the 17th Anniversary of India-Japan Fest at Biyani Group of Colleges, Jaipur. Since, the first conference in 2006, it has become an annual feature of our institution and has continued to grow. The institution is leaving no stone unturned in encouraging the spirit of research and innovations and strengthening the bilateral academic relationship between India and Japan. Every year, this event receives increasing number of participants from both the countries, India and Japan, and we continue to evolve, adapt and develop new collaborative programs between various institutions in India and Japan.

Biyani Group of Colleges is organizing this mega event in collaboration with partner institutes from Japan **BioSeeds, Japan Advanced Institute of Science and Technology, Akita Prefectural University, Saitama University, Kyushu University, Well Group and Kyoto University**.

The theme of **BICON 2022-23** is **Academia Industry Interface Model : Avenues for the Future** guided by different departments including Science, Pharmacy, Nursing, Commerce & Management, Information Technology, Social Science, Law and Education based on 'multidisciplinary-to-interdisciplinary' approach.

We are proud to announce that Biyani Shikshan Samiti has been empanelled as a SENDING ORGANIZATION by NSDC, MSDE, New Delhi. This program will provide opportunity to our technically qualified youth in enhancing their skills as well as getting placed in the top organizations of JAPAN. We are welcoming "WELL GROUP" as the placement partner for Technical Internship Training Program (TITP).

BICON 2022-23 has decided to call for Abstract of the paper to be published in the conference proceedings with ISBN numbers. The Technical Program Committee is charged with reviewing all abstracts to accommodate the growing number of paper submissions. In a rigorous and time-consuming review process, the committee members worked hard to ensure the continued high quality of accepted papers. There are 42 invited talks (06 Japan + 36 India) in BICON 2022-23.

The months of planning, hard work and team effort by dedicated staff has culminated into the success of this event for which we would like to thank the management committee who trusted us to organize this conference and contributed significant funds to support the event. We would also like to thank the Technical Program Committee and the reviewers for their excellent work

in reviewing the abstracts as well as their valuable input and advice. We would also like to express our sincere thanks to all the dedicated BICON-Team members for their active role and support in all aspects of this conference from collecting abstracts, assisting in coordination, helping to plan the agenda, recruiting sponsors and assisting in organizing the conference. I want to thank all the conveners of each symposium : Dr. Shilpa Bhargav, Ms. Kanchan Sharma (Science), Dr. Rambir Singh (Pharmacy), Ms. Jishu B. George (Nursing), Ms. Malti Saxena (Humanities), Ms. Madhuri Sharma (Law), Dr. Pawan Patodiya (Commerce & Management), Mr. Sachin Bagoria (Information Technology), Dr. Ekta Pareek (Education), Dr. Ajeet Kumar Jain (Education) and Graphic designer Mr. Nilesh Sharma, Mr. Shubham Gautam and team for editing the conference proceeding in the last running moments and beautifully designing the brochure and other conference materials.

Finally, we want to express our sincere thanks to all the invited speakers, offline and online, who have joined us from India, Japan and other countires, for taking out time from their busy schedule to participate in this conference. It has been a great pleasure to interact with them and receiving their interest in collaborating in the future.

The venue of this conference is located in Pink City Jaipur and we have tried to promote a sense of the local culture and North-Indian cuisine to the attendees during this conference. We hope that this conference is intellectually stimulating, enjoyable, professionally satisfying and memorable for all the attendees.

With warmest regards,

Dr. Manish Biyani
Organizing Chair
• Director (Reseach & Development),
  Biyani Group of Colleges, India
• Professor (Research), JAIST, Japan

Dr. Neha Pandey
Conference Convener
Principal,
Biyani Girls College, Jaipur

Dr. Tarun K. Kumawat
Conference Secretary,
Research Scientist

CHIEF MINISTER
RAJASTHAN

CM/Message/PRO/2023
Jaipur, 19 January, 2023

Message

I am glad to know that the Biyani Girls College, Jaipur is going to organise the 17th Biyani International Conference (BICON: 2022-23) on the theme 'Academia Industry Interface Model: Avenues for the Future', in Jaipur from January 21 to 25, 2023.

I hope that the theme of the conference will encourage collaboration between Industry and Academia by using futuristic pedagogies and practices in teaching, learning and assessment, as well as deeper engagement between higher education and the industrial ecosystem.

Academicians, industrialists, scientists, and research scholars will get an opportunity to exchange their expertise, build new strategies, and analyse recent advancements in their respective sectors at this five-day conference.

I extend my good wishes to the organisers, management and staff for the success of the conference.

(Ashok Gehlot)

Dr. C.P. Joshi
SPEAKER
Rajasthan Legislative Assembly

सत्यमेव जयते
Message

Telefax (Office) : 0141-2744321
Phone (Office) : 0141-2744007

I am indeed happy to know about effort taken by Biyani Group of Colleges, Jaipur in organizing 17th Biyani International Conference (BICON:2022-23) on January 21-25, 2023.

The theme of the conference is "Academia Industry Interface Model: Avenues for the Future". Rajasthan has been benefited from the special relationship between India and Japan. Since a long time, Rajasthan and Japan have collaborated in both education and industry, and this relationship will continue to grow in the future years.

I am confident that this conference would give an excellent forum for India and Japan to explore the Academia Industry Interface Model.

I wish the conference the very best.

(Dr. C.P. Joshi)
Speaker

Resi.: 49, Civil Lines, Jaipur - 302006 ♦ 0141-2220239
e-mail (Personal) cpj@cpjoshi.com ♦ (Office) Speaker-rajassembly@nic.in

डॉ. सुभाष गर्ग
राज्य मंत्री
राजस्थान सरकार

सत्यमेव जयते

तकनीकी शिक्षा, आयुर्वेद और भारतीय चिकित्सा
एवं जन अभियोग निराकरण विभाग (स्वतंत्र प्रभार),
अल्पसंख्यक मामलात, वक्फ, उपनिवेशन,
कृषि सिंचित क्षेत्र विकास एवं जल उपयोगिता विभाग

Message

I am happy to know that the Biyani Group of Colleges, Jaipur, is organizing the 17th Biyani International Conference (BICON:2022-23) from 21st to 25th January 2023, with the theme "Academia Industry Interface Model : Avenues for the Future".

I am optimistic that the conference will provide a platform for discussions on Education, Mental Health, Building Teacher Capacity, Partnership, Skills, Employability, Commercialization of Research, and Entrepreneurship.

I hope that the 17th Biyani International Conference (BICON2022-23) will be a great Academic event.

(Dr. Subhash Garg)

Dean Faculty Affairs &
Dean Students Welfare
Rajasthan Technical University Kota

Message

I am delighted to hear that the Biyani Group of Colleges, Jaipur, is organizing the 17th Biyani International Conference (BICON : 2022-23) from 21st to 25th January 2023, with the theme "Academia Industry Interface Model : Avenues for the Future".

I am optimistic that the conference will provide a forum for discussions on Education, Mental Health, Building Teacher Capacity, Partnership, Skills, Employability, Commercialization of Research, and Entrepreneurship.

I hope that the 17th Biyani International Conference (BICON : 2022-23) is a great success.

Prof. A. K. Dwivedi

Former Vice Chancellor,
Jagannath University, Jaipur Rajasthan
Professor, University of Delhi, New Delhi

Message

I am glad to know that the 17th Biyani International Conference (BICON : 2022 -23) is being organised on 21st to 25th January, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future".

The theme of the conference will encourage collaboration between Industry and Academia by using futuristic pedagogies and practices in teaching, learning and assessment, as well as deeper engagement between higher education and the industrial ecosystem.

Academicians, industrialists, scientists, and research scholars will have the opportunity to exchange their expertise, build new strategies, and analyse recent advancements in their respective sectors at this five-day conference.

I extend my best wishes for the BICON : 2022-23 success.

Prof. M. S. VERMA

राजस्थान नर्सिंग कौंसिल, जयपुर
बी-39, सरदार पटेल मार्ग, सी-स्कीम, जयपुर-302001

Rajasthan Nursing Council, Jaipur
B-39, Sardar Patel Marg, C-Scheme, Jaipur - 302001

राजस्थान सरकार
Government of Rajasthan

Dr. Shashikant Sharma

Registrar ,

Rajasthan Nursing Council Jaipur

MESSAGE

It gives me immense pleasure that Biyani Sikshan Simiti, Jaipur is organizing a 17TH International India Japan conference BICON 2022-23 "Academia Industry Interface Model: Avenues for the future" where leading academicians, industrialist, scientist and research scholars will share and discuss their knowledge and experiences .

It is my sincere wish that all the participants of this conference will be benefited from the experiences of many academic and technical sessions that have been planned and delivered by the esteemed organizer of BICON 2022-23. I extent my best wishes for the mega success of this conference and encourage all the members who are planning and working across the globe in different higher education institutions to pool expertise and prepare together for better future.

(Dr. Shashikant Sharma)
Registrar
Rajasthan Nursing Council
Jaipur

Prof. (Dr.) Vishal Garg
Professor & Principal
Jaipur School of Pharmacy,
Maharaj Vinayak Global University, Jaipur
Vice President-Rajasthan State Branch
APTI- (Association of Pharmaceutical Teachers of India)
Vishalgarg198427@gmail.com
+91-98872-00801

MESSAGE

BIOCON 2022-23 17th India – Japan International Conference "Academia Industry Interface Model: Avenues" for the future is going too organised by Biyani Group of Colleges, Jaipur gives me immense pleasure to convey my words.

Although the COVID-19 pandemic has changed our attitude towards healthcare digitization, the journey ahead is still long. The pandemic was an accelerator of several trends but keeping up with the current trends and updates are stilled viewed as a challenge. To meet up the realities and overcoming challenges, there is a need to break the interface between academics and industries. Research innovations and technology use shall be a prime adaptation for institutes to evolve out with creative ideas which can help in new drug discovery phase.

The conference is going to address Strategies approach to address the rapidly changing healthcare system, Opportunities and challenges in Pharma Network which can immensely break the interface and will help in developing a massive change in the research areas of academician with the collaboration of Pharma Industries. The several themes for different dates of conference areencyclopaedic with a combination of divergent topics will ultimately meet the need of present scenario.

I express my indigenous wish to all participants of the conference get benefits from all the speakers from academics, Industrialist, Scientists, Research scholar that is being planned by the organisers of BICON-2023. I extent my best wishes for the mega success of this conference. The hardwood of the organisers shall be paid-off and we can successfully drawn toward the better future avenues.

(Prof. (Dr.) Vishal Garg)

FROM THE CONVENER'S DESK

It gives me great pleasure to extend to you all a very warm welcome on behalf of Department of Science and Nursing, Biyani Girls' College. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the BICON 2022-23.

It is an opportune time to renew contacts and discuss opportunities of mutual interest with delegates from both Japan and India bilaterally.

It is gratifying to note that the agenda of the Seminar covers a wide range of very interesting items relating to higher education frontiers in India and Japan, and resulting opportunities for both countries.

No matter how much we can do by ourselves on the national level, whether it be research or development, it is never enough. In a spirit of true cooperation, we in Asia, and particularly in Japan and India, are proud of nurturing past and present civilizations and cultures. We must join in an action-oriented effort to recognize and capitalize on the bilateral opportunities in the higher education sector in both countries.

The utter sincerity and dedication of the management, the teaching faculty, non-teaching staff and the students at Biyani Girls' College has brought this event to fruition. It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.

Dr. Shilpa Bhargava
(Dept. of Science)
Convener, Day-1

Ms. Kanchan Sharma
(Dept. of Science)
Convener, Day-1

Dr. Rambir Singh
(Dept. of Pharmacy)
Convener, Day-2

Ms. Jishu B. George
(Dept. of Nursing)
Convener, Day-2

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- Ms. Surbhi Sharma
- Ms. Priya Chauhan

PROGRAMME AT A GLANCE
Date: January 21, 2023; Saturday (Day-1)

Theme: Establishment of New Relationship in Research

Standard Time	Schedule
Inaugural Session, 09:10 AM-10:45 AM	
08:30 AM-09:00 AM	Registration (Flag Ceremony)
09.00 AM-09.10 AM	Gathering of the Audience to Utsav Auditorium
09.10 AM-09.15 AM	Lighting of the Lamp by Dignitaries
09.15 AM-09.20 AM	Ganesh Vandana
09.20 AM-09.30 AM	Floral Welcome of the Dignitaries
09.30 AM-09.35 AM	**Welcome address by Organizing Chair- BICON 2022-23** **Prof. Manish Biyani** Director (Research & Development) Biyani Group of Colleges, INDIA Professor (Research), JAIST, JAPAN
09.35 AM-09.45 AM	**Inaugural Address by Chief Guest** **Prof. J.P. Yadav** Vice Chancellor Raj Rishi Bhartrihari Matsya University, Alwar, Rajasthan, INDIA
09:45 AM-10:05 AM	**Address by Guest of Honours** **Mrs. Anila Kothari** Senior Vice Chairperson Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan, INDIA **Dr. Usha Dixit** Scientist 'F' AI Division, Department of Science and Technology, Minister of Science & Technology, Government of India. **CA. P.C. Modi** Chartered Accountant P C Modi & Company, Jaipur, Rajasthan, INDIA
10.05 AM-10.25 AM	**Keynote Speaker** **Prof. Masahiro Takagi** Professor, Japan Advanced Institute of Science and Technology (JAIST), JAPAN **Title:** *Membrane Dynamics and Its Application to Biotechnology*
10.25 AM-10.35 AM	**Address by Director, Academics** **Dr. Sanjay Biyani** Director (Academics), Biyani Group of Colleges, Jaipur, Rajasthan, INDIA

10.35 AM-10.40 AM	**Vote of Thanks by** **Dr. Dhyan Singh Gothwal** Vice Principal, Dean (Administration) Biyani Group of Colleges, Jaipur, Rajasthan, INDIA
10:40 AM-10:45 AM	Group Photo
10:45 AM-11.05 AM	**High Tea**
<td colspan="1"></td>	**Technical Session, 11:05 AM-12:30 PM** **Chair:** Prof. Widhi Dubey**; Chair:** Dr. Neha Pandey
11.05 AM-11.20 AM	**Prof. Vinay Sharma,** Director, Biotechnology, Amity Institute of Biotechnology (AIB), Amity University, Jaipur, Rajasthan, INDIA **Title:** *Lignocellulosic Biofuels*
11.20 AM-11.35 AM	**Mr. Roopesh Bhargav,** Chief Commercial Officer, Yashraj Biotech Pvt. Ltd., Mumbai, Maharashtra, INDIA **Title:** *New Drug Discovery Approach*
11.35 AM-11.50 AM	**Prof. Ragini Gupta,** Professor, Dept. of Chemistry, Malaviya National Institute of Technology Jaipur, Rajasthan, INDIA **Title:** *Development of Chromofluorogenic Chemosensors for Selective and Rapid Detection of Aluminium and Fluoride Ions in Water*
11.50 AM-12.05 PM	**Dr. Miho Suzuki,** Associate Professor, Graduate School of Science and Engineering, Saitama University, JAPAN (Online) **Title:** *Aim to Establish No Animals Required but Reliable Methods for Cytotoxicity and Efficacy Tests*
12.05 PM-12.20 PM	**Dr. Hiroshi Okamoto,** Associate Professor, Department of Intelligent Mechatronics, Akita Prefectural University, JAPAN (Online) **Title:** *Prospects of Renewable Energy in Akita, Japan*
12.20 PM-12.30 PM	Q & A Session, Group Photo & Memento Distribution
	Break: 10 min (Glimpses)
	Special Session on Cancer, 12:40 PM- 01:50 PM **Chair:** Dr. Manish Biyani**; Co-Chair:** Ms. Deepika Pareek
12:40 PM-12.55 PM	**Dr. Sandeep Jasuja,** Medical Superintendent of State Cancer Institute, Professor & HOD of Medical oncology, SMS Hospital, Jaipur, Rajasthan, INDIA **Title:** *Clinical Prospective for Future Research in Oncology*
12:55 PM-01:10 PM	**Dr. Sundeep Jain,** Director GI, Minimal Access & Bariatric Surgery, Fortis Escorts Hospital, Jaipur, Rajasthan, INDIA **Title:** *Abdominal Cancers - Preventable & Treatable Disease*

01:10 PM-01:25 PM	**Prof. Kazuhiro Murakami,** Associate Professor, Division of Epithelial Stem Cell Biology, Cancer Research Institute, Kanazawa University, JAPAN **Title:** *A Genome-Scale CRISPR Screen Reveals Novel Factors Regulating Wnt-Dependent Renewal of Mouse Gastric Epithelial Cells*
01:25 PM-01:40 PM	**Dr. Madhu Biyani,** Assistant Professor, WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, JAPAN (Online) **Title:** *Proteolysis-Targeting Chimera (PROTAC)* *"A Kiss of Death" Technique could Help to Battle Cancer*
01:40 PM-01:50 PM	Q & A Session, Group Photo & Memento Distribution
01:50 PM-02:30 PM	**Lunch Break**
Special Session on Academia, Industry & Entrepreneurship, 02:30 PM- 03:50 PM **Chair:** Dr. Tarun K. Kumawat & Dr. Radhika Biyani	
02:30 PM-02:40 PM	**Prof. (Dr.) Subhash Chandra,** HOD, Dept of Zoology, MDS University, Ajmer, Rajasthan, INDIA *Academia Expert*
02:40 PM-02:50 PM	**Mr. Amit Kumar Jain,** Co-Founder, Bijsons Innovations Pvt. Ltd., Jaipur, Rajasthan, INDIA *Industry Expert*
02:50 PM-03:00 PM	**Mr. Rakesh Kumar Rao,** Mentor and Consultant at Istart Rajasthan (Start Up Mission GoR Under DoIT&C) with Grant Thornton India LLP. Jaipur, Rajasthan, INDIA *Mentor*
03:00 PM-03:10 PM	**Er. Bhuvanesh Mishra,** MD, Club First Robotics Pvt. Ltd., Jaipur, Rajasthan, INDIA *Entrepreneur*
03:10 PM-03:20 PM	**Ms. Himanshi Sharma,** Founder, Ayum Essence, Rajasthan, INDIA *Biyani Alumni Entrepreneur*
03:20 PM-03:40 PM	**Panel Discussion**
03:40 PM-03:50 PM	Q & A Session, Group Photo & Memento Distribution
Oral Presentations, 03:50 PM-05:35 PM **Judge:** Dr. Dheeraj Chitara & Dr. Shilpa Bhargava	
03:50 PM-04:50 PM	Oral Presentations
04:50 PM-05:20 PM	Contributed Oral Presentations
05:20 PM-05:30 PM	Award Ceremony & Group Photo
05:30 PM-05:35 PM	**Closing Remarks** **Dr. Shilpa Bhargava** HOD, Science, Biyani Girls College, Jaipur, INDIA
05:35 PM-05:40 PM	**Cultural performance by students**
05:40 PM-05:41 PM	**National Anthem**
05:41 PM-06:00 PM	**Tea and Adjourn for the Day**

TABLE OF CONTENTS

Invited Lecture 1

Membrane Dynamics and its Application to Biotechnology

Masahiro Takagi

Affiliation & Contact:

Professor
Japan Advanced Institute of Science and Technology
1-1 Asahidai, Nomi ISHIKAWA 923-1292 JAPAN
Phone/Fax   +81-761-51-1650
Email: takagi@jaist.ac.jp

Research Interest:

Cell Signal Transduction, Membrane Biology, Synthetic Biology

Education & Professional Career:

1982 -1985   M.S. and Ph.D. Osaka University (JAPAN)
1985 -1994   Asst. Prof in Osaka University
1990 -1992   Postdoctoral Visiting Researcher, UC Davis (USA)
1994 -2001   Assoc. Prof in Osaka University
2001- Present   Prof. JAIST (JAPAN)

Major Publications:

1.   A new way of enhancing the thermostability of proteases. Nature (London)324, 695-697 (1986). Primary sequence analysis of Clostridium cellulovorans cellulose binding protein A. Proc. Natl. Acad. Sci. U.S.A. 89, 3483-3487 (1992).

2.   The hydrophobic repeated domain of the Clostridium cellulovorans cellulose binding protein(Cbp A) has specific interactions with endoglucanases. J. Bacteriol. 175, 7119-7122 (1993).

3. Characterization of DNA polymerase from Pyrococcus sp. KOD1 and its application to PCR. Appl. Environ. Microbiol.   63, 4504-4510 (1997).

4. Dynamic processes in endocytic transformation of a raft-exhibiting giant liposome J. Phys. Chem. B, 111, 10853-10857 (2007).

5. Membrane disk and sphere: controllable mesoscopic structures for the capture and release of a targeted object. J. Am. Chem. Soc., 132, 10528-10532 (2010).

6. Ion permeation by a folded multiblockamphiphilic oligomer achieved by hierarchical construction of self-assembled nanopores. J. Am. Chem. Soc., 134, 19788–19794 (2012).

7. Size-dependent partitioning of nano/micro-particles mediated by membrane lateral heterogeneity, J. Am. Chem. Soc., 134, 13990−13996 (2012).

8. Charge-induced phase separation in lipid membranes.Soft Matter, 10, 7959-7967(2014).

9. Formation of modulated phase and domain rigidification in fatty acids-containing lipid membranes.Phys. Chem. Chem. Phys., 19, 13252-13263 (2017).

10. Membrane permeation of giant unilamellar vesicles and corneal epithelial cells with lipophilic

11. Vitamin nanoemulsionsColloids Surf. B-Biointerfaces, 169, 444-452 (2018).

12. Development of robust isothermal RNA amplification assay for lab-free testing of RNA viruses

13. Scientific Reports, 11, 15997 (2021).

Abstract

Membrane Dynamics and its Application to Biotechnology

Masahiro TAKAGI

Japan Advanced Institute of Science and Technology (JAIST)
TEL/FAX: +81-761-51-1650, E-mail: takagi@jaist.ac.jp

Membrane Research:

The cell membrane separates the inside of the cell from the outside. In 1972, fluid mosaic model, which is a model that explains the structure of functional cell membranes. According to this model,

the plasma membrane is a lipid bilayer of phosphor lipids with embedded protein molecules. The lipid bilayer provides fluidity and elasticity to the membrane (1).

The 1982 Nobel Prize in Physiology or Medicine was awarded to B. Samuelson for his work on arachidonic acid and prostaglandin metabolism (2). The fact that metabolites of arachidonic acid, a membrane component, play an important role in various physiological responses, such as pain, sleep, muscle contraction, and blood pressure, was enough to overturn the previous image of membranes. In 1997, the existence of a "phase-separated micro domain structure" consisting of ordered phases rich in saturated lipids and cholesterol was suggested, which is called "rafts" (3). A model in which rafts regulate signal transduction has been proposed and is being actively studied. We have been studying membrane dynamics by classifying them into two-dimensional (2D) dynamics (phase-separated state changes) and three-dimensional (3D) dynamics (morphological changes endocytosis and autophagy) (Fig. 1).
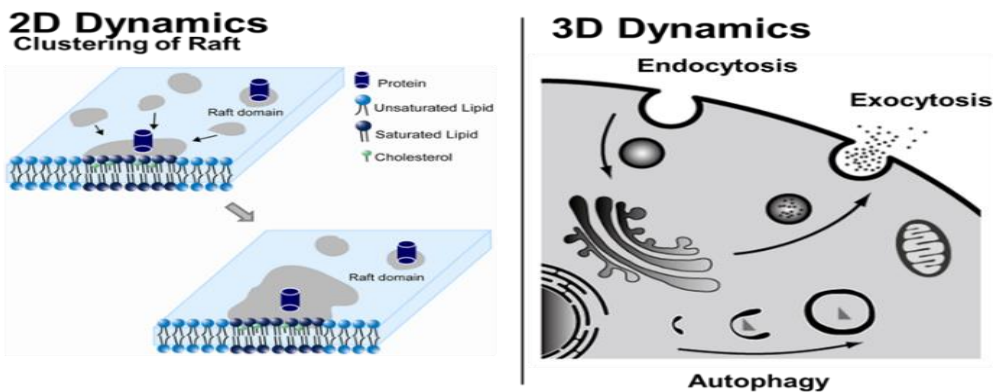
Fig. 1: 2D and 3D membrane dynamics

Physiological responses and membrane dynamics: Research on membrane structure and membrane lipid metabolism is progressing, and much Knowledge is accumulating, including its relationship to lifestyle-related diseases. At the same time, researches to reconstruct membrane structures and their dynamics are also in progress. Liposomes have a composition and structure similar to biological membranes, and have been used in research as model membranes for living organisms. Giant liposomes with a diameter on the order of 10 mm are large enough to allow the direct real-time microscopic observations of membrane dynamics at the level of single vesicles. Many biotechnological studies using giant liposomes have been conducted to analyze the stable membrane structure and/or its changes upon exposure to external stimuli (4-6). Since the proposal of the raft hypothesis (3), attention has been focused on "membrane dynamics" in sensory stimuli. At the interface between biology and physics, researches have been performed to visualize membrane-associated physiological responses through the deformation dynamics of both actual cells and cell-sized liposomes. 2D dynamics (phase-separation) (7) and 3D dynamics (endocytosis

(6) and autophagy (8)) have been reproduced and controlled using liposomes. Examples of further research include interaction between nanoparticles and phase-separated domain (9), and synthesis of ion-permeable nanopores (10). Furthermore, this method was used to develop surfactant-based vitamin nanoemulsions for optimal formulation of new eye drops that can efficiently transport vitamins to the nuclei of corneal epithelial cells (10).

Keywords: Membrane dynamics, Lipid raft, Physiological responses

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Invited Lecture 2

Lignocellulosic Bioethanol

Vinay Sharma

Affiliation & Contact:

Dean Research & Director Ph.D. Programme
Director, Amity Institute of Biotechnology
(Former Associate Prof at IIT Roorkee and
Dean, Prof. and Head at Banasthali Vidyapith)
Amity University Rajasthan, Jaipur
Tel: +91-1426-405689 (Direct)/ 1436-405678 (Exn.-3008)

Research Interest:

Plant Biotechnology/ Bioinformatics

Research & Professional Career:

International Collaborations/ Visits

1. Prof Sharma has widely travelled abroad for research under many prestigious research programmes/ fellowships, viz. DAAD, DST-DAAD, DST-JSPS, INSA-DFG Germany, INSA- Hungarian Academy of Sciences.

2. He has also been Visiting Professor in USA, China and Japan. He undertook academic visits to Germany (7 times), USA (twice), Hungary (once) Japan (once), China (once), UK (once), Italy (twice), Spain (once) Belgium (once) and Portugal (once).

Administrative Experience

1. Prof Sharma has highly rich administrative experience, over 22 years as the Department Chair (Bioscience and/ or Biotechnology) and 18 years as the Dean, Faculty of Science & Technology at Banasthali Vidyapith and currently as Dean Research and Director, Amity Institute of Biotechnology, Amity University Rajasthan for over 4 years.

2. He has been Member/ Convener of various academic and administrative bodies at Banasthali Vidyapith and Amity University Rajasthan, viz. Executive Council, Academic Council, Research Board, Convener Institutional Animal Ethics Committee, Convener Faculty of Science/ Faculty of Science & Technology, Convener Board of Studies, Convener, Institutional Biosafety Committee, Member Human Ethics Committee, Member Board of Management. Many new teaching programmes, viz. M.Tech Biotechnology, M.Sc. Bioinformatics, B.Tech Biotechnology, B.Sc. Biotechnology and many other B.Tech were started under his initiative and guidance.

3. Prof Sharma has also been Member, Rajasthan State Biotechnology Advisory Board, Govt. of Rajasthan (2004-09); Expert Member, R & D Project Committee, DST Rajasthan, Resource Person, DST, New Delhi Brainstorming session, Udaipur, Expert Member, Bioinformatics Committee, State DST, Jaipur. I have also been Expert Member of Selection Committees of many Universities, Selection Committees of MHRD, Govt. of India; UPSC, RPSC, Expert Member, Board of Studies of more than 10 Universities, Academic Council, Member, Advisory / Other Committees at several institutions, viz. DBT Programme Advisory Committee (DAVV, Indore; Barkatullah University, Bhopal), DBT Nominee, Institutional Biosafety Committee at Central University Rajasthan.

Awards/ Medals/ Special recognitions

1. Besides being a Fellow of National Academy of Sciences, Biotech Research Society India, Indian Botanical Society and The Indian Society of Genetics, Biotechnology Research and Development, he has been honoured with other prestigious fellowships and awards including Young Scientist Award by Indian Science Congress Association and has been a Member, The New York Academy of Sciences.

2. He was also honoured with the Distinguished Scientist Award and H.S. Srivastava Memorial Award by Society for Plant Research, and Zahoor Qasim Gold Medal by Society of Biosciences. Prof Sharma was also selected as CSIR Emeritus Scientist in 2016. He has been nominated twice by Indian National Science Academy to visit Germany and Hungary. Besides he has chaired sessions and delivered over 125 invited inaugural and lead lectures in symposia, conferences, seminars, workshops etc.

Research Publications:

1. Prof Sharma works broadly in Plant Stress Biotechnology, Molecular Plant Physiology and Plant Informatics.

2. Prof Sharma has published 425 Full Research Publications out of which 378 are in research journals, and 47 as conference proceedings/ book chapters etc. Besides, he has written 4 text books, 4 edited books, and has been the Guest Editor of 5 thematic issues of research journals.

3. The bibliometrics of Prof Sharma speaks highly of his research accomplishments, viz. h index, 37; i10 Index of 125 and over 5100 citations.

4. Ph.D. Supervised: Guided 77 doctoral students many of whom are employed as faculty in Indian and Foreign Universities and Industries. Currently Prof Sharma is mentoring several young scientists for innovative research in Plant Sciences.

R & D Projects:

1. Successfully handled DST, ICAR, DST-DAAD, DST-JSPS, DBT, UGC, DRDO and State DST supported major projects as PI / Co-PI etc.

2. Besides, he has also been the Coordinator of DST FIST, DBT Centre for Bioinformatics; DBT M.Sc. Biotechnology Programmes.

3. Prof Sharma is also the life Member of 9 prestigious scientific bodies

Abstract

Lignocellulosic Bioethanol

Vinay Sharma

Amity Institute of Biotechnology, Amity University Rajasthan Jaipur

Abstract :
The current status regarding the production of lignocellulosic bioethanol will be discussed. The talk will include various techniques to produce lignocellulosic bioethanol, major limitations of the technology and future prospects with emphasis on the opportunities in Rajasthan will be discussed.

Keywords: Fossil fuels, biofuels, lignocellulosic bioethanol

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Invited Lecture 3

Current Approaches and Challenges for Discovery of New Drugs for Cancer

Roopesh Bhargava

Affiliation & Contact:

A-703 Abrol Vastu Park, Evershine Nagar,
Malad West, Mumbai - 400064
Phone - +917710095770 / 9819825333
Email : roopesh.bhargava@rediffmail.com

Research Interest:

Vaccines, Biotech, Pharma Industry.

Education & ProfessionaI Career:

1987	MBA from FMS Delhi,
1987-2013	Sanofi India Limited -Senior Director — Commercial South East Asia
2013-2015	Sr. Vice President, Glenmark Pharmaceuticals
2015-2018	Managing Director, Besins Healthcare (Belgium Based Pharmaceutical)
2019-2022	CEO Bharat Serums & Vaccines Limited.
2022-till date	Chief commercial officers, Global Operations, Yashraj Biotechnology

- Attended MDP Courses at 11M Indore, ISB Hyderabad, INSEAD Paris

- Visiting Faculty to Norsee Monji Institute of Management Studies

- Visiting Faculty to University of Pune for MBA — Biotech

Major Publications / Achievements:

1.   Patient Relationship Management Model — BMJ

2.   Digital transformation —Flu Awareness (Patented)

<u>Abstract</u>

Current Approaches and Challenges for Discovery of New Drugs for Cancer

Roopesh Bhargava

Yashraj Biotechnology Limited, Mumbai

The 17thAnniversary India-Japan Fest and BICON (Biyani's International Conference) 2022-23 will be held on January 21-25, 2023. Authors are invited to contribute original presentations on topics included in different technical sessions in this meeting.

Drug Discovery is a time consuming and expensive process. Typically, it takes 10-15 years and costs $2-3 billion for 1 drug having <5-10% Success. The broad spectrum of research involves discovery, development and Commercialization. The Process of drug discovery involves basic research, Target ID early Validation, Compound screening, Proof of concept and Candidate Selection. The entire Process can consume 5t07 years. This is followed by Clinical development which includes, safety and Toxicology Studies followed by Clinical Trial Phase 1, Phase 2 and Phase 3. This typically takes minimum of 2-3 years. Even this does not guarantee the discovery of a new molecule.

It has been observed that large Multinational companies have reduced their budgets for R&D activity. Dr Shinya Yamanaka from Japan worked a lot on research and came up with Induced Pluripotent Stem cells discovery for which he was awarded the Nobel Prize in 2012. This discovery reduces the timelines significantly and is also cost effective. More and More large multinationals are using this Technology in their R&D set up. This technology is based on Stem cells and helps in reprograming adult cells like an embryonic stem cell.

This technology is being used in Primary Cancer Models where the source is tumor tissues and blood. The Process of identification and isolation of Primary tumor cells is used for molecular profiling and drug testing.

This Technology will allow a lot of drug discovery in the Coming days in the most cost-effective manner.

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Invited Lecture 4

Development of Chromofluorogenicchemosensors for Selective and Rapid Detection of Aluminium and Fluoride Ions in Water

Ragini Gupta

Affiliation & Contact:

Professor (1st) in Dept of Chemistry
Malviya National Institute Of Technology
Phone +91-9549654854
Email:rgupta.chy@mnit.ac.in

Research Interest:

Synthetic Organo-Fluorine Compounds, Chemistry of Biologically Active Heterocyclic Compounds, Nano-chemistry, Green Chemistry, Biocatalysis, Phase Transfer Catalysis, Microwave Chemistry.

Education & Professional Career:

1988   Ph.D. Rajasthan University (Organic Chemistry)

1990-1999   Lecturer at MNIT Jaipur

2000-2006   Reader at MNIT Jaipur

2006-2018   Associate Professor in MNIT Jaipur

2018-Till   Professor in MNIT Jaipur

Major Publications:

1. Priya Yadav, Lalita Yadav, Harshita Laddha, Madhu Agarwal, Ragini Gupta, "Upsurgence of smartphone as an economical, portable, and consumer-friendly analytical device/interface platform for digital sensing of hazardous environmental ions" , Trends in Environmental Analytical Chemistry Volume :36 / / 2022 DOI: https://doi.org/10.1016/j.teac.2022.e00177

2. Yogendra Singh Solanki, Priya Yadav, Madhu Agarwal, Ragini Gupta, Sanjeev Gupta, Pushkar Shukla, "Naked eye detection and measurement of fluoride concentration in groundwater using novel synthesized receptor" , Sensors and Actuators A: Physical Volume :328 / 112776 / 2021

3. Poonam Kumari, Kumud Malika Tripathi, Kamlendra Awasthi, Ragini Gupta ,"Sustainable carbon nano-onions as an adsorbent for the efficient removal of oxo-anions" , Environmental Science and Pollution Research Volume :00 / / 2022 DOI: https://doi.org/10.1007/s11356-022-22883-3

4. Renu, Madhu Agarwal, Kailash Singh, Ragini Gupta, RK Dohare, "Continuous fixed-bed adsorption of heavy metals using biodegradable adsorbent: modeling and experimental study" , Journal of Environmental Engineering Volume :146 / 04019110 / 2020

5. Yachana Jain, Mitlesh Kumari, Raman Preet Singh, Deepak Kumar, Ragini Gupta, "Sonochemical decoration of graphene oxide with magnetic Fe3O4@ CuO nanocomposite for efficient click synthesis of coumarin-sugar based bioconjugates and their cytotoxic activity" , Catalysis Letters Volume :150 / 1142-1154 / 2020

6. Renu, Madhu Agarwal, Kailash Singh, Ragini Gupta, RK Dohare, "Continuous fixed-bed adsorption of heavy metals using biodegradable adsorbent: 32odelling and experimental study", Journal of Environmental Engineering Volume :146 / 04019110 / 2020.

Abstract

Development of Chromofluorogenicchemosensors for Selective and Rapid Detection of Aluminium and Fluoride Ions in Water

Ragini Gupta

Professor (Dept. of Chemistry, MNIT Jaipur)

Abstract

Ions play a pivotal role in the biological regulatory processes and catalyzing enzymatic reactions; however, increased levels in the human body leads to many health risks or toxicity. To circumvent this, periodic and precise monitoring of significant ions in environmental, biological, chemical, and food samples are necessary, which need to be mapped/monitored continuously. For this, continuous attempts have been made in the sensing field to emphasize the design strategies of the chemo sensors, revealing their binding mechanism and sensing performance towards ions. Within this perspective, in this thesis, the cost-effective, rapid, and facile way that selectively detect aluminum

and fluoride ions in water by synthesizing novel chemosensors has been successfully demonstrated. All synthesized chemo sensors have been well characterized by techniques like FTIR, 1H NMR, 13C NMR, and HRMS. Investigation of ion sensing properties of chemo sensor towards aluminium and fluoride ions were carried out by UV−visible, fluorescence, NMR spectroscopy, and DFT calculations. The development of Smartphone-based colorimetry method by integrating with the synthesized chemosensors provides ingenious solutions to the current bottlenecks in portable, quick, cheap, and in-field analysis of fluoride ions without requiring the assistance of trained person. In the future, smartphone-based colorimetry will continue to emerge and motivate new generations by contributing to real-time monitoring and continuously scrutinizing contaminants in the environment.

Keywords: Aluminium, Colorimetry, Chemosensors.

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Invited Lecture 5

Aim to establish no animals required but reliable methods for pollutants cytotoxicity and medical products efficacy tests

Miho Suzuki

Associate Professor, Graduate School of Science and Engineering, Saitama University, Japan

Abstract :

There are still various opinions to cause Covid-19 pandemic, however, increasing unexpected contacts with those pathogens due to ecosystem destructions might be one of conceivable reasons for that. And the ecology collapses obviously arise from global warming. So our goal for recovery from the Covid-19 pandemic should not be simple economic revitalization but construction of producing and consuming system based on guarantee of sustainable living environments by preventing greenhouse gases emission to keep balance with carbon sequestration and working on global environmental preservation. Approaches for such construction of producing and consuming system would require safety evaluation criteria for alternative stuffs. Additionally, most toxicity checks for pollutants have ever done through animal tests. We need to reconsider about test procedures as well on points of animal welfare. Understanding complexed cellular signaling flow is required to comprehend living organisms because many diseases are originated from disorders in such signaling. We have focused on multiplex live cell imaging for statistical analysis to address complex cross-talk between signaling pathways and response heterogeneities among cells. We have thus developed simple multiple fluorescence imaging system to quantify cell signaling using Förster Resonance Energy Transfer (FRET)-based chimeric molecular sensors comprised of fluorescent proteins and dyes. The dye-fluorescent protein conjugate is robust for a wide selection of combinations, target phenomena, and simultaneous use. We have paid attention to programmed cell deaths, important and diverse biological phenomena for multicellular organisms, as objects for live cell imaging to investigate hazardous compounds. Here we describe our challenge to set up animal free toxicity examination platform.

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Invited Lecture 6

Prospects of Renewable Energy in Akita, Japan

Hiroshi Okamoto

Affiliation & Contact:

Department of Intelligent Mechatronics, Akita Prefectural University
84-4 Aza Ebinokuchi, Tsuchiya, Yurihonjo, Akita 015-0055, Japan
Phone +81-184-27-2088; Fax +81-184-27-2187
Email: okamoto@akita-pu.ac.jp

Research Interest:

Renewable energy, Energy storage, Control Engineering, Electron Microscopy

Education & Professional Career:

1990-1995	M.Sci. and Dr.Sci.,Tokyo Institute of Technology (Japan)
1996-1998	Postdoc, National Research Institute for Metals
1998-2002	Postdoc, The Rowland Institute for Science
2022-2006	Oberrasistent, University at Zuerich
2006-2010	Research Associate Professor, Tohoku University
2010-Till	Associate Professor, Akita Prefectural University

Major Publications:

1. M.Futamura, T. Oikawa, S. Miura, and H. Okamoto, "All-optical non-contact level sensor for liquid hydrogen", 35th International Symposium on Superconductivity (ISS2022),Nagoya, Japan, Nov. 29 - Dec. 1st, 2022.

2. H. Okamoto, "Resilient quantum electron microscopy", Phys. Rev. A 106, 022605 (2022).

3. H. Okamoto, R.Firouzmand, R.Miyamura, V.Sazgari, S. Okumura, S.Uchita, I. I. Kaya, "TEM at millikelvin temperatures: Observing and utilizing superconducting qubits", Micron 161, 103330 (2022).

4. H. Okamoto, Y. Hamate, L. Xu, and H.Kuwano, "Optimal geometry of a parallelized electret-based vibration energy harvester", Smart Mater. Struct. 21, 065001 (2012)

5. H. Okamoto, T.Onuki, and H.Kuwano, "Improving an electret transducer by fully utilizing the implanted charge", Appl. Phys. Lett. 93, 122901 (2008).

Abstract

Prospects of Renewable Energy in Akita, Japan

H. Okamoto*, T. Oikawa*, S. Miura* and M.Futamura**

*Department of Intelligent Mechatronics, Akita Prefectural University, Japan
**Department of Mechanical Engineering, Akita Prefectural University, Japan

Abstract

The entire world is currently making a transition to renewable energy to mitigate global warming and Japan is no exception. A large growth in the number of off-shore windmills is expected in the coming years particularly in the prefecture of Akita, where wind conditions are one of the most favorable in all of Japan.

A major problem associated with renewable energy, however, is its intermittency. Potential solutions to the problem include strengthening of electric grids in terms of transmission capacity, and the development of cost-effective energy storage. Anticipating widespread use of liquid hydrogen as energy storage, we are developing a low-cost, all-optical cryogen level sensor that takes advantage of the recent progress in image processing (Fig. 1).

Keywords: Renewable energy, energy storage, liquid hydrogen, wind farm, optical measurement.
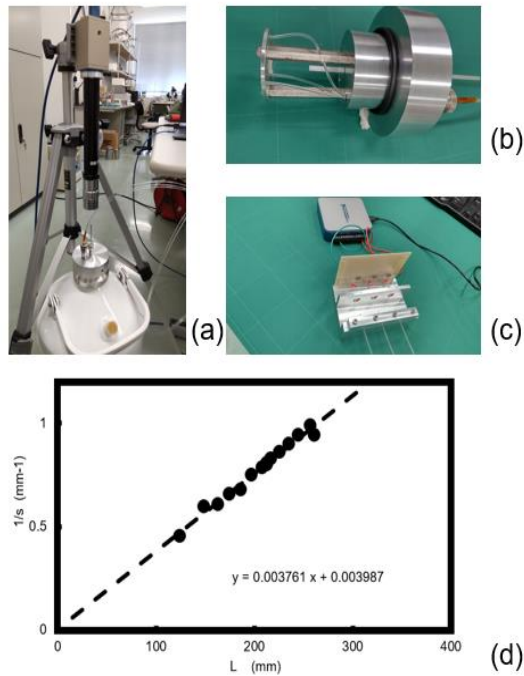
Figure 1. Preliminary test using liquid nitrogen. (a) The entire experimental setup. (b) The sensor body. (c) An optical coupler under development. (d) The measured level $1/s$ with the sensor under test against the level L measured with another method.

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Invited Lecture 7

Abdominal Cancers- Preventable and Treatable Disease

Sundeep Jain

Affiliation & Contact:

Director & Head
Department of GI, GI Cancers, HPB & Bariatric Surgery
Fortis Hospital, JLN Road, Jaipur- 302017
Phone:- +91-9829045733, Email:- drsundeepjain@yahoo.co.in

Research Interest:

Gastrointestinal cancers, liver and pancreatic cancers.

Education:

- MBBS (Graduation, 1996) Dr S. N. Medical College, Jodhpur

- M.S. (Postgraduation in Surgery (1996-1999) University College of Medical Sciences, University of Delhi, India

- M.Ch. (Doctoral course in Gastrointestinal Surgery 2001- 2004) G.B.Pant Hospital University of Delhi, India.

- Honorary Fellowship in HPB/LT Surgery (2015) King's College Hospital, London, UK Intercollegiate MRCS (2017) Royal College of Surgeons of Edinburgh, UK

Professional Career :

- 2020-Onwards
  Director, Department of Gastrointestinal, HPB, Minimal Access & Bariatric Surgery, Fortis-Escorts Hospital, Jaipur, India

- 4th January 2018-2020
  Director, Department of Gastrointestinal, GI Cancers, HPB, Bariatric & Minimal access Surgery, Rukmani Birla Hospital, Jaipur- India

- August 2011 – 13th January 2018
  Additional Director, Department of Gastrointestinal, HPB, Minimal Access & Bariatric Surgery, Fortis-Escorts Hospital, Jaipur, India

- April 2015- June 2015
  Honorary Fellow, Institute of Liver Studies, Deptt. of Liver Transplant & HPB Surgery, King's College Hospital, London- UK

- August 2005- July 2011
  Consultant Gastrointestinal, HPB, Laparoscopic & Bariatric Surgery S.K.Soni Hospital Jaipur, India.

- January 2005 – June 2005
  Fellowship Hepatobiliary and Pancreatic Surgery, Henry Dunant Hospital, Athens, Greece

- July 2004- December 2004
  Consultant Gastroenterology Surgery Kailash Hospital, Noida, India

- May 2001- May 2004
  M.Ch. Gastrointestinal Surgery (Doctoral course), G.B.Pant Hospital, New Delhi, India

- June 1999- September 2000
  Senior Resident, Deptt of General Surgery, University College of Medical Sciences & Guru Teg Bahadur Hospital New Delhi, India

- May 1996- April 1999
  M.S. Surgery (Postgraduation), University College of Medical Sciences & Guru Teg Bahadur Hospital, New Delhi, India

- April 1995- March 1996
  Internship at Dr.S.N.Medical College, Jodhpur, India

Major Publications: 25 publications in international and National Journals.

1. Jain S, Kalla M, Suleman A, Verma A. Proximal spleno-renal shunt with retro-aortic left renal vein in a patient with extra- hepatic portal vein obstruction: first case report. BMC Surgery. 2017;17:65.

2. Bhargava J, Tiwari RL, Goyal P, Jain S. Anesthetic challenges in a patient with polymyositis undergoing emergency laparoscopic appendicectomy. Journal of Anaesthesia & critical care case reports. 2017;3:9-14.

3. Jain S, Bhateja N. Esophageal replacement procedures. In: Mishra PK, editor. Textbook of surgical gastroenterology.1st edition. Jaypee Brothers Medical Publishers;2016.

4. Jain S, Jangir N. Recurrent rectal cancer and pelvic exenteration. In: Mishra PK, editor. Textbook of surgical gastroenterology.1st edition. Jaypee Brothers Medical Publishers;2016.

5. Bhargava J, Tiwari RL, Jain S. Anaesthetic management in spontaneous esophageal rupture

6. (Boerhaave's syndrome). J Anaesthesiol Clin Pharmacol.2016;32:126-7

7. Agarwal A, Tiwari RL, Jain S. Monopolar cautery: a rare, potential cause of perioperative cardiac arrhythmias. J Anaesthesiol Clin Pharmacol. 2015;31:418-9.

8. Jain S, Sharma B, Kaushik M, Jain L. Debakey Forceps Crushing Technique for Hepatic Parenchymal Transection in Liver Surgery: A Review of 100 Cases and Ergonomic Advantages.

9. Volume 2014 (2014), HPB Surg. 2014;2014:861829. doi: 10.1155/2014/861829. Epub 2014 Jun 9.

10. Gupta N, Javed A, Puri S, Jain S, Singh S, Agarwal AK. Hepatic Hydatid: PAIR, Drain or Resect? J Gastrointest Surg. 2011 Oct;15(10):1829-36. doi: 10.1007/s11605-011-1649-9. Epub 2011 Aug 9.

11. Jain S, Sacchi M, Vrachnos P, Lygidakis NJ. Carcinoma of the pancreas with portal vein involvement–our experience with a modified technique of resection. Hepatogastroenterology 2005;52(65):1596-600.

12. Jain S, Sacchi M, Vrachnos P, Lygidakis NJ, Andriopoulou E. Recent advances in the treatment of colorectal metastases. Hepatogastroenterology. 2005;52(65):1567-84.

13. Lygidakis NJ, Jain S, Sacchi M, Vrachnos P. Adenocarcinoma of the pancreas—past, present and future. Hepatogastroenterology. 2005;52(64):1281-92.

14. Lygidakis NJ, Jain S, Sacchi M, Vrachnos P. Reappraisal of a method of reconstruction after pancreatoduodenectomy. Hepatogastroenterology. 2005;52(64):1077-82

15. Kumar S, Jain S. Peritonitis and fulminant sepsis due to spontaneous rupture of iliopsoas abscess. Indian J Gastroenterol 2004; 23(6): 222-223.

16. Kumar S, Jain S. Treatment of appendiceal mass: Prospective, randomized clinical trial. Indian J Gastroenterol 2004; 23(5): 165-167.

17. Kumar S, Jain S. Paracecal hernia – a clinical and radiological diagnostic challenge. Delhi journal of surgery 2003; 1(5): 193-194.

18. Kumar S, Jain S. Role of bedside peritoneal drain insertion in seriously ill adult patients with bowel perforation peritonitis. Delhi Journal of Surgery 2003; 1(4): 155-156.

19. Kumar S, Jain S. Management of right hypochondrial lump suspected to be gallbladder cancer. Laparotomy provides the final answer. Delhi Journal of Surgery 2003; 1(1): 19-21.

20. Kumar S, Jain A, Jain S.Gallbladder carcinoma: experience of 116 cases. Tropical Gastroenterology 2000; 21(2): 65-68.

21. Gupta RL, Jain S, Talwar V, Gupta HC, Murthy PS. Antitubercular activity of garlic (Allium sativum) extract in combination with conventional antitubercular drugs in tubercular lymphadinitis. Ind. J. Clin. Biochem 1999; 14(1): 12-17.

22. Gupta RL, Jain S, Talwar V, Gupta HC, Murthy PS. Studies on a new antitubercular drug, trifluoperazine: its effect in combination with conventional antitubercular drugs in tubercular lymphadinitis. Ind. J. Clin. Biochem 1998; 13(2): 92-97.

Abstract

Abdominal Cancers- Preventable and Treatable Disease

Sundeep Jain

Director& Head, Department of GI, GI Cancers, HPB & Bariatric Surgery
Fortis Escorts Hospital, Jaipur, Rajasthan, (India)- 302017

Incidence of gastrointestinal (abdominal) cancers is increasing significantly globally. Presently they contribute to 26% of total incidences and 35% of overall cancer deaths worldwide. Most of the times these cancers are diagnosed only after symptomatic presentation by the patients. Additionally, patients out of ignorance between the association of such symptoms and possible gastrointestinal cancers delay in soliciting medical help, thus leading to advanced stage at the time of diagnosis. Most of these cancers are detected in later stages when the options of curative treatment are limited or impossible problems of longer duration of treatment, high risk of complications, disease recurrence and cost of treatment. Low cancer symptom awareness is one of the risk factors for delayed presentation. We believe that such deaths due to patient delay are essentially preventable by creating awareness about the importance of early presentation to the specialist doctor after appearance of such symptoms.With this observation and belief, we founded abdominal cancer trust and Abdominal Cancer Day (AbCD)-19th May in 2019 and since then are observing this. It is of utmost importance that we create significant change in terms of getting more patients diagnosed in early stage by making people aware about early symptomatology.

Key words: Abdominal Cancer, Symptomatic disease, Diagnosis.

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Invited Lecture 8

A Genome-Scale CRISPR Screen Reveals Bovel Factors Regulating Wnt-dependentrenewal of Mouse Gastric Epithelial Cells

Kazuhiro Murakami

Affiliation & Contact:

Division of Epithelial Stem Cell Biology, Cancer Research Institute,
Kanazawa University,Kukuma-machi, Kanazawa, 920-1192, Japan
Phone +81-76-234-4510; Fax +81-76-234-4510
Email: kmurakami@staff.kanazawa-u.ac.jp

Research Interest:

Stem Cell Biology, Oncology

Education &Professional Career:

- 2004-2008 Ph.D. Tottori University, Japan (Molecular Biology, Oncology)

- 2007-2011 Research Scientist in CDB, RIKEN, Japan

- 2011-2013 Postdoctoral fellow in University of Cambridge, UK

- 2013-2016 Asst. Prof in Hokkaido University, Japan

- 2016-2022 Asst. Prof in Kanazawa University, Japan

- 2022-Asso. Prof in Kanazawa University, Japan

Major Publications:

1. Fatehullah A., Terakado Y., Sagiraju S., Tan T.L., Sheng T., Tan S.H., Murakami K., Swathi Y., Ang N., Rajarethinam R., Ming T., Tan P., Lee B., Barker N. A tumour-resident Lgr5+ stem-cell-like pool drives the establishment and progression of advanced gastric cancers. Nat. Cell Biol.,23, 1299–1313 (2021).

2. Murakami K.*, Terakado Y., Saito K., Jomen Y., Takeda H., Oshima M., Barker N.*. (*Equal contribution) A genome-scale CRISPR screen reveals factors regulating Wnt-dependent renewal of mouse gastric epithelial cells. Proc Natl Acad Sci U S A., 2021 Jan 26;118(4):e2016806118.

3. Tan S.H., Swathi Y., Tan S., Goh J., Seishima R., Murakami K., Oshima M., Tsuji T., Phuah P., Tan L.T., Wong E., Fatehullah A., Sheng T., Ho S.W.T., Grabsch H.I., Srivastava S., Teh M., Denil S.L.I.J., Mustafah S., Tan P., Shabbir A., So J., Yeoh K.G., Barker N. AQP5 enriches for stem cells and cancer origins in the distal stomach. Nature, 2020 Feb; 578(7795):437-443.

4. Leushacke M., Tan S.H., Wong A., Swathi Y., Hajamohideen A., Tan L.T., Goh J., Wong E., Denil S.L.I.J., Murakami K., Barker N. Lgr5-expressing chief cells drive epithelial regeneration and cancer in the oxyntic stomach. Nat. Cell Biol., 2017 Jul; 19 (7): 774-786.

5. Murakami K.*, Günesdogan U.*, Zylicz J.J., Tang W.W.C., Sengupta R., Kobayashi T., Kim S., Butler R., Dietmann S., Surani M.A. NANOG alone induces germ cells in primed epiblast in vitro by activation of enhancers, Nature, 2016 Jan; 21 (529): 403-407. (*Equal contribution).

Abstract

A Genome-Scale CRISPR Screen Reveals Bovel Factors Regulating Wnt-dependentrenewal of Mouse Gastric Epithelial Cells

Kazuhiro Murakami

Division of Epithelial Stem Cell Biology, Cancer Research Institute, Kanazawa University

Wnt activation is critically important not only in the process of early development but also during maintenance/regeneration of adult stem cells in epithelial tissues. However, the underlying mechanism regulating Wnt-dependent epithelial regeneration and differentiation remains poorly understood.

Development of 3D epithelial culture systems capable of supporting the growth of highly stable, self-renewing primary tissues that more accurately recapitulate the composition and functionality of the tissue of origin has revolutionized the study of epithelial biology. In the stomach, epithelial organoid formation is selectively driven by primary glandular Lgr5-expressing cells, further underscoring their endogenous stem cell identity. Like their in vivo counterparts, the ex vivo stem cells display an absolute dependence on canonical Wnt signals to regulate their ability to orchestrate self-renewal and differentiation within the organoids.

Genome-wide, targeted loss-of-function pooled screens using the clustered, regularly interspaced, short palindromic repeats (CRISPR)-associated nuclease Cas9 (CRISPR/Cas9) in human and mouse cells provide a powerful screening system to functionally dissect molecular mechanisms. Here, we applied Genome-scale CRISPR-Cas9 knockout (GeCKO) screening to 3D ex vivo stomach organoids, revealing important new mechanistic insight into Wnt-dependent epithelial regeneration in mouse gastric glands.

Using GeCKO screening in combination with next-generation sequencing, we identify Alk, Bclaf3 and Prkra as novel regulators of epithelial regeneration in the gastric gland. We further show that Alk functions as a novel negative regulator of Wnt signaling, whilst Bclaf3 and Prkra suppress Regenerating protein (Reg) family genes, which are known to be essential for the regeneration of intestinal epithelial cells (Figure).

Our research highlights the value of CRISPR-based Genome-wide screening using near-physiological organoids and provides important mechanistic insight into the regulation of Wnt-dependent epithelial regeneration in the stomach.

Keywords: Tissue Stem Cell, Stomach, Organoid, CRISPR/Cas9, Wnt.
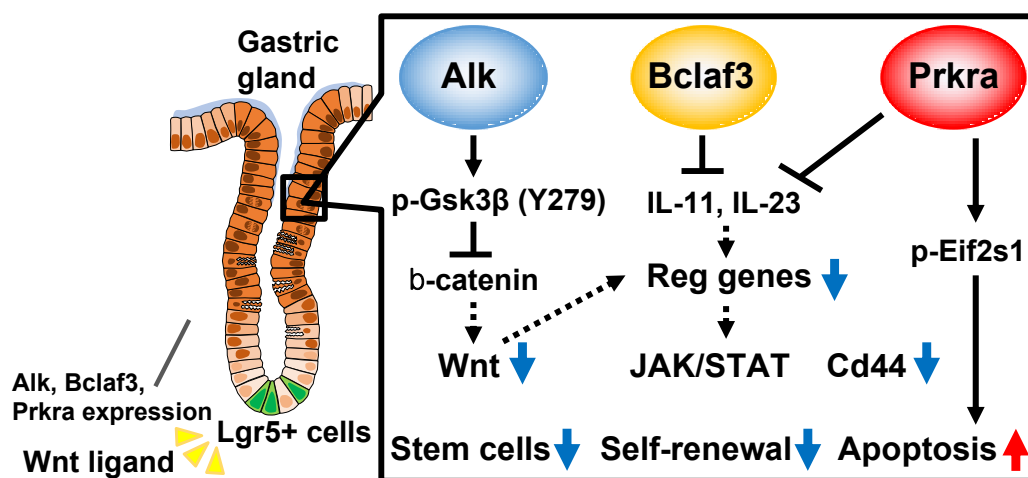
Invited Lecture 9

Proteolysis-targeting chimera (PROTAC) "A Kiss of Death" technique could help to battle cancer

Madhu Biyani

Affiliation & Contact:

WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, Drug Metabolism and Toxicology, Faculty of Pharmaceutical Sciences

Kanazawa University,Kukuma-machi, Kanazawa, 920-1192, Japan

Email: biyani@staff.kanazawa-u.ac.jp

Research Interest:

DNA aptamer technology, Aptamer-PROTAC, Cancer

Education &Professional Career:

2008-2011 Ph.D. Saitama University, Japan (Engineering)

2014-2015 Research Scientist in JAIST, Japan

2015-2019 Research Scientist in BioDevise, Japan

2019-2020 Research Scientist in Toyama Prefecture University, Japan

2020- Till   Asst. Prof. in Kanazawa University, Japan

Major Publications:

1. Mark B. Meyer, CarlosBernal-Mizrachi, Daniel D.Bikle, Madhu Biyani, Snehal N. Chaudhari. Tom D. Thacher, John H.White, Margherita T. Cantorna, et al., Highlights from the 24th workshop on vitamin D in Austin, September 2022, The J. of Steroid. Biochem. & Mol. Bio. Volume 228, 2023.

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Abstract

Proteolysis-targeting chimera (PROTAC) "A Kiss of Death" technique could help to battle cancer

Madhu Biyani & Miki Nakajima

Drug Metabolism and Toxicology, Faculty of Pharmaceutical Sciences,
WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University

Despite recent advances in molecular therapeutics, cancer remains a leading cause of cancer deaths. Currently, limited targeted therapy options and acquired drug resistance pose significant barriers to the treatment of cancer patients. Therefore, new strategies for targeted therapy to overcome drug resistance are urgently needed to improve patient outcomes.

In this context, targeted protein degradation (TDP) has gained much attention as a novel strategy because of its potential to therapeutically modulate proteins that are difficult to target with conventional drugs. Amajor class of TDP, the proteolysis targeting chimera (PROTAC), has emerged asa promising tool to degrade proteins of interest (POI) by exploiting the cell's own disposable system.The potential benefits of PROTAC technology could compensatefor the shortcomings of conventional drug therapy. PROTACs have the potential to eliminate undruggable disease-causing proteins and overcome resistance to conventional small molecules. Numerous studies on PROTAC technology have provided insight into the feasibility of PROTAC technology for degrading target proteins. In addition, several PROTACs are being evaluated in Phase I and II clinical trials. With these advances, PROTAC technology is increasingly capable of developing new targeted therapies that benefit patients with cancer.

In this talk, I will discuss the basics of PROTAC technology and its advantages in cancer treatment. I will also explain some parts of our ongoing research in the development of a novel aptamer-based

PROTAC degrader against adenosine deaminase acting on RNA1 (ADAR1) target protein for use in cancer therapy.

Keywords: PROTAC, Aptamer-PROTAC, ADAR1, POI, Cancer.
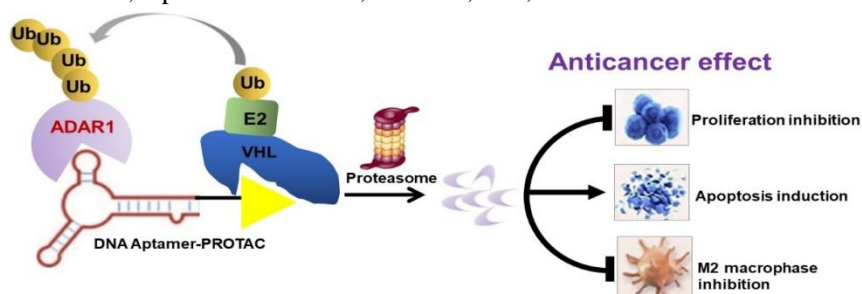
Figure: Schematic presentation of ADAR1 targeting Aptamer-based PROTAC system for use in cancer therapy.

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CONTRIBUTED PAPERS

Global Transformation of Healthcare System

Rekha Mithal[1*], Aman Sain[1], Kritika Sain[2] and Ritika Sain[3]

[1]Associate Professor, Department of Chemistry, JECRC College, Jaipur*
[1]B.Tech. Student, Department of Computer Science and Artificial Intelligence, JECRC College,
Jaipur, [2]Pharmacy, Department of B.Pharma, Arya Main Campus, Kukas
[3]B.A Honours, Department of History, Maharani College, Jaipur

Abstract:

The creation of eco-friendly concrete has sparked a positive revolution in the world of today, where we are dealing with several problems including pollution and global warming. For the modern world and the cement industries, it is a disguised godsend. Green concrete, also referred to as eco-friendly concrete, is produced using leftover cement. In addition to aiding in the utilization of waste materials, it also pollutes the air less than cement does. Compared to the traditional cement, it emits less carbon dioxide. The success of eco-friendly concrete is attributed to its strength, durability, and low energy production costs.

Keywords: water purification, membranes for filtration microorganism nanofiltration

Introduction:

The process of purifying water involves taking out unwanted chemicals, biological pollutants, suspended solids, and gases. Water that is suitable for a range of uses must be produced.

Water is typically cleaned and disinfected for human consumption (drinking water), but it can also be purified for a range of other uses, such as industrial, medicinal, and pharmaceutical ones. There have been many different methods used to purify water throughout history.

Physical processes like filtration, sedimentation, and distillation, biological processes like slow sand filters or biologically active carbon, chemical processes like flocculation and chlorination, and the use of electromagnetic radiation like ultraviolet light are just a few of the techniques used.

Methods of treatment of water -

- coagulation and flocculation
- floc blanket clarifiers
- disinfection
- ozone disinfection
- sedimentation
- filtration
- chlorine disinfection
- ionizing radiation

Other methods for cleaning water-

The list below includes more widely used techniques for water purification, particularly for private local supplies. Several of these techniques are applied to municipal supply on a substantial basis in some nations. Reverse osmosis and distillation (the desalination of seawater) are especially significant.

Results and Discussion:

Our filtration techniques worked well during this experiment even though they were only used on a modest basis. The ph, hardness, chlorine, and alkalinity levels of the water at garland high school may all be improved if this technique was made more widespread. Because of the improved water quality, it is safer to drink.

The most efficient way was the use of activated charcoal, which may also be used to purge water and the environment of airborne pollutants and gases. The activated charcoal was beneficial for the environment as a whole in addition to helping to filter the water. Carbon is the most eco-friendly alternative for water filtration because it is a natural resource and is reasonably priced. Additionally, it can be turned on.

Conclusion:

Through our research we get the results that the process of purifying water involves a number of techniques, including:

1. Physical ones like filtration, sedimentation, or distillation

2. Biological ones like sand filters or active carbon

3. Chemical ones like flocculation, chlorination, or the application of ultraviolet radiation.

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Degradation of organic contaminants present in water bodies by the use of pervoskite as photocatalyst

Pooja Saikia

Assistant professor, Department of Science, Biyani Girls College, Jaipur, India

Abstract:

Water is highly vulnerable to pollution and it is known as a "universal solvent," therefore is able to dissolve more substances than any other liquid on earth. It's also why water is so easily polluted. Toxic substances from farms, towns, and factories readily dissolve into and mix with it, causing water pollution. During the decomposition process of organic contaminants, the dissolved oxygen in the receiving water may be consumed at a greater rate than it can be replenished, causing oxygen depletion which have severe consequences on the biome. Wastewater with organic pollutants contains large quantities of suspended solids which reduce the light available for the photosynthetic organism.organic pollutants include pesticides, fertilizers, hydrocarbon, phenols, plasticizers, biphenyls, detergents, oils, greases, pharmaceuticals, proteins or carbohydrates.use of visible spectrum of electromagnetic spectrum is widely studied and given attention in its application to degrade the organic contaminants present in water bodies. Photocatalysis demonstrates an encouraging application in environmental degradation control processes which includes decomposition of many organic pollutants. The proposed work will target the synthesis of environmental friendly, photo stable and well organized pervoskite material photocatalyst.

Keywords: pervoskite, photocatalyst, nanomaterials

Introduction:

The earliest mention of photocatalysis dates back to 1911, when german chemist dr. Alexander eibner integrated the concept in his research of the illumination of <u>zinc oxide</u> (zno) on the bleaching of the dark blue pigment, prussian blue. So far, mostly ternary metal oxides based photo-catalysts which are usually doped with nonmetals and metals with various systems and structures have been extensively taken under consideration. Among them, titania or titanium dioxide ($ti0_2$) family materials were extensively studied due to their very strong activity in the photo catalytic reactions. However, the drawback of tio_2 is due to the fact that it has a large band gap which limits its applications, therefore several modification techniques were hence developed to enhance its catalytic activity and light sensitivity. Another such material which have a high tendency to act as an excellent photocatalyst is the perovskite materials and their derivatives (nano-perovskites) which are included in the class of semiconductor-based photocatalysts due to their simple synthesis processes and flexibility. Perovskite is a common name for oxides with the structural formula abo_3 or a_2bo_4 which originate from $catio_3$.

Methodology:

1. Design and develop metal oxide and pervoskite based novel photocatalysts.

2. Removal of model organic pollutants from water using developed materials.

3. Removal of heavy metals from water using synthesized materials.

4. Apply the developed technology in batch and continuous process.

5. Degradation, mineralization and kinetic study of the processes.

Few materials used till date:

The following table has been prepared by collection of data from various journals, articles which tell us about the route followed for the synthesis of various pervoskite materials and its efficiency towards the degradation of pollutants.

Pervoskite type	Synthesis process	Light source	Pollutants
Natao$_3$	Ht	Uv	Ch3cho
La-doped natao$_3$	Sg	Uv	Mb
La-doped natao$_3$	Ht	Uv	Mb

(**abbreviations used**-**ht**: hydrothermal; **sg**: sol-gel; **mb**: methylene blue; **uv**: ultraviolet)

Conclusion:

Photocatalysis is a process that involves light irradiation as a source of energy to activate a catalyst which improves the rate of a chemical reaction without being involved in the reaction. Typically, uv light or visible light irradiation is employed as the source of energyfor initiation of the reaction.

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- Someshwar pola and ramesh gade significant role of perovskite materials for degradation of organic pollutants

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To determine the Cytotoxic Potential of Virgin Coconut Oil in Swiss Albino Mice

Bhoomika Sharma[1] and Shilpa Bhargava[2]

[1]*Department of Biotechnology, Biyani Girls College, Jaipur 302039, Rajasthan, India*
[2] *Department of Biotechnology, Biyani Girls College, Jaipur 302039, Rajasthan, India*

Abstract:

Virgin coconut oil (vco) has a high concentration of medium-chain fatty acids, virgin coconut oil (also known as vco) has the potential to be a functional food that has positive effects on one's health. The high concentration of primary metabolites found in the sample is indicative of the calorific value of the substance. Because of the mcfa, vitamins, amino acids, antioxidants, antibacterial, and antiviral components that are found in vco, it has been recognized as a multipurpose nutrient supplement due to the nutritional and therapeutic benefits that these compounds provide. This is because it contains a high percentage of saturated fatty acids, which gives it a strong resistance to oxidative rancidity and making it a desirable ingredient. Considering female swiss albino mice as fields of study for the acute toxicity investigation that was carried out with the vco was successful. The procedure for testing chemicals was carried out in accordance with the guidelines established by the organization for economic cooperation and development (oecd) guideline number 423. The swiss albino mice were divided into three different groups, and the results of a study of the animals' behaviors were reported.

Keywords: vco (virgin coconut oil), toxicity, swiss albino mice.

Introduction:

The term "toxicity" refers to the state of having adverse effects as a result of interactions between toxicants and cells. Toxicity is a negative term. On the other hand, considering that excessive exposure to any material might result in illness or even death, we can consider all substances to be potential poisons. [1] and with very low toxicity and a high therapeutic efficacy, which is determined by the therapeutic index, testing for cytotoxicity is an essential part of the process of developing new drugs [2]. In the acute toxicity test, each animal is given a single dosage on a single occasion. This allows the researchers to ascertain not only the ld50 or median dose, but also the gross behavior of the animals. The acute oral toxicity test is the first step that needs to be taken in order to evaluate whether or not the pharmaceutically bioactive chemical compounds that are contained within the plant extract or its formulation are poisonous. [3]. Virgin coconut oil (also known as vco) has the potential to be a functional food that has positive effects on one's health because it has a high concentration of medium-chain fatty acids, in addition to its capacity to reduce inflammation, vco can be taken as an antioxidant. It is also possible to use it as a probiotic, in the treatment of skin conditions, and topically as a drug, for example as a wound medicine [4].

Experimental/Methodology:

Material:

Sample collection

The virgin coconut oil was purchased in jaipur, rajasthan, india. The samples were delivered to the research laboratory.

To study toxicological effect of vco on swiss albino mice

Swiss albino (mus muculus) male mice (25 – 30 g) were maintained under standardized, environmental conditions (22- 28˚c, 60-70 % relative humidity, and 12 h dark/light cycle and water ad libitum). Then animals were divided in to two groups (n=16). Group i treated with water and standard pellet diet and group ii treated with vco aqueous extract for intervals of 21 days. All the experiments were conducted under the guidelines of institutional animal ethical committee. After initiation of dose, the animals were observed individually for first 30 min and at every half a hr. Interval for 6 hr. And there-after once in 24h for 21 days. Mortality, signs of toxicity, body weight and behavioral changes were individually observed during the study period. [5]

Statistical evaluation

All results are presented as mean±sem. To determine the significant differences between the two groups were calculated using student t- test. P values of less than 0.05 were considered to be significant. All analyses were performed using ibm spss statistics 20.

Result and Discussion:

Anti- toxicity:

Toxicity studies were carried out for vco of dose 50mg/kg and 100mg/kg. The animals survived throughout the experimental period and did not show any sign of toxic symptoms or any kind of behavioral changes immediately after dosing and during the period of 21 days. The examination of the behavior of animals was reported by recording general observation of each animal on a daily basis from the stage of dosing to the end of the study. Any changes or abnormalities recorded could be an indication of toxicity.

Dose 0.5ml														
No. Of days	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alertness	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Aggressiveness	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pile erection	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gripping	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Touch response	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Analgesia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diarrhoea	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mortality	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Body weight	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Toxicity studies carried out for vco

Conclusion:

According to the findings of the study, the vco has no adverse effects and is the most acceptable choice. Vco has antimicrobial and protecting properties.

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In vitro detection of Antimicrobial Activity of Selected Samples against *bacillus subtilis*

Anjali Pandit and Rajshri Nagar

Department of Biotechnology, Biyani Girls College, Jaipur-302039, Rajasthan, India

Abstract:

Banana (*musa acuminata*) peels are usually considered as wastes and are discarded during the processing, which eventually contribute to polluting the environment. Similarly, simbal (*bombax ceiba*) flower are also found scattered in the environment during flowering season, majorly in the urban areas. Hence, this study was aimed to evaluate the antimicrobial activity of these two biomaterials. Antimicrobial study was carried out on the extracts using agar well-diffusion method against *bacillus subtilis* bacteria. However, no inhibition activity was found in aqueous extract of banana peel.among the banana peel extracts, the ethanolic extract showed the best inhibition zone whereas for simbal flower, methanolic extract showed better results againstthebacteria. The results showed that some extracts were bactericidal to a good extend while others were bacteriostatic against the microbes. From the study, it can be concluded that banana peelextracts and simbal flower extracts could be potential antimicrobial alternatives and may be effective to utilize as a natural source of antimicrobial agent in pharmaceutical industries.

Keywords: *musa acuminata*, *bombax ceiba*, antimicrobial activity, agar-well diffusion

Introduction:

Antibiotic resistance in microorganisms is a serious and hotly disputed human health concern. In recent years, microorganisms' strange capacity to build resistance to a variety of antibiotics has become a growing danger to successfully treating infectious illnesses caused by pathogenic microorganisms. As a result, researchers all over the world have been focused on herbal items as a means of developing better medications to combat multidrug-resistant microorganism strains [4].

Various parts of the banana plant such as leaves, stem, flower and pulp have been studied to possess medicinal properties. Banana peel is a byproduct of the banana industry, and reports have shown that it has medicinal properties [2]. Banana peel contains bioactive compounds such as tannins, flavonoids, alkaloids, terpenoids and glycosides. These bioactive compounds are said to have pharmacological effects, including antioxidant, antibiotic, anti-inflammatory, and antidiabetic properties [2]. *Bombax ceiba* linnaeus is a member of the *bombacaceae* family, which includes 26 genera and nearly 140 pantropical species[1].these flowers contain various phytochemicals such as anthocyanins, flavonoids, carotenoids, and phenolics, and therefore have multiple health benefits such as anti-oxidant, anti-cancer, anti-inflammatory, antidiabetic, and hepatoprotective, and are effectively used as food and medicine by indigenous tribes [3]. The findings of this study will aid in

the investigation of the possibility of using selected wastes for the therapeutic purposes in the future to fight a wide variety of multidrug-resistant microorganisms.

Methodology:

Collection of experimental samples

Musa acuminata (banana) peels and *bombax ceiba* (simbal) flowers were used as experiment samples. Banana fruit was purchased from a local market area and its waste peels were used as the sample. Simbal flowers were collected from a nearby simbal tree during the flowering season march and the flower petals were used as the second sample.

Preparation of the samples

20gm of banana peel powder/ simbal petal powder was mixed with 100ml of ethanol and methanol, respectively, in a conical flask. The conical flasks were placed on the rotatory shaker for 72 hours the for bioactive compounds to get extracted into the solvent. After 72 hours, the extract was filtered through whatmann paper no.1 and evaporated at room temperature (37 ˚c) to form a crude extract.

Antibacterial assay

The antibacterial activity of the banana peel extract and simbal flower extract was performed by using well diffusion method in mueller hinton agar (mha) (Himedia Laboratories Pvt. Limited, Mumbai, India).

Result and Discussion:

The results obtained from this study revealed that four out of the five extracts including methanol and ethanol extracts of *musa acuminata* (banana) peel and methanol and ethanol extracts of *bombax ceiba* (simbal) flower taken into consideration exhibited potent antibacterial activity against the chosen microorganisms. The aqueous banana peel extract did not show any inhibition against the bacteria, which shows contrasting results to that obtained by researchers [4], where all the aqueous extracts showed inhibition against the pathogens. The difference in activity was possibly due to the type of solvents used to extract the plant material. In our study, results indicate that water extraction was less likely to dissolve antimicrobial compounds, so that a highly polar solvent may seem a poor choice.

Sample name	Inhibition at different concentration of extracts (zone of inhibition ± standard error) mm		
	25 mg/ml	50 mg/ml	100 mg/ml
Musa acuminata (aqueous extract)	Na	Na	Na
Musa acuminata (methanolic extract)	4.33 ± 0.57	7.00 ± 0.00	6.00 ± 0.00

Musa acuminata(ethanolic extract)	5.33 ± 0.577	6.66 ± 0.577	7.33 ± 0.577
Bombax ceiba(methanolic extract)	9.66 ± 0.577	9.00 ± 0.00	7.66 ± 1.527
Bombax ceiba(ethanolic extract)	5.00 ± 1.00	5.6 ± 0.57	6.33 ± 0.577

Table 1: average diameters of zones of inhibition (mm) of aqueous, methanol and ethanol extracts of banana (*musa acuminata)* peels and ethanol and methanol extracts of simbal (*bombax ceiba*) flowers against microbial strains.

Conclusion:

The present study revealed that both the pathogenic microorganisms tested were sensitive to different extracts of *musa acuminata* peels and *bombax ceiba* flowers. Among the different solvent extracts used, methanol extract of *b.ceiba* flower showed the highest antimicrobial activity while the aqueous extract of *m. Acuminata* had no inhibitory action against the tested gram-positive and gram-negative microorganisms.

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Innovative Approaches for Cancer Treatment: Current Perspectives and New Challenges

Devanshi Soni [1], Udita Jangid [2] and Afshan Fazal [3]

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India

Abstract:

Every year, cancer is responsible for millions of deaths worldwide and, even though much progress has been achieved in medicine, there are still many issues that must be addressed in order to improve cancer therapy. For this reason, oncological research is putting a lot of effort towards finding new and efficient therapies which can alleviate critical side effects caused by conventional treatments. Different technologies are currently under evaluation in clinical trials or have been already introduced into clinical practice. While nanomedicine is contributing to the development of biocompatible materials both for diagnostic and therapeutic purposes, bioengineering of extracellular vesicles and cells derived from patients has allowed designing *ad hoc* systems and univocal targeting strategies.

Keywords: cancer, nanomedicine, extracellular vesicles, targeted therapy, immunotherapy, gene therapy, thermal ablation, radiomics, path omics

Introduction:

Cancer is one of the main causes of death worldwide, and in the past decade, many research studies have focused on finding new therapies to reduce the side effects caused by conventional therapies.

During cancer progression, tumours become highly heterogeneous, creating a mixed population of cells characterised by different molecular features and diverse responsivity to therapies.

Nanomedicine offers a versatile platform of biocompatible and biodegradable systems that are able to deliver conventional chemotherapeutic drugs *in vivo*, increasing their bioavailability and concentration around tumour tissues, and improving their release profile.nanoparticles can be exploited for different applications, ranging from diagnosis to therapy.

Recently, extracellular vesicles (evs) responsible for cancer development, microenvironment modification,

Natural antioxidants and many phytochemicals have been recently introduced as anti-cancer adjuvant therapies due to their anti-proliferative property.

Experimental/Methodology:

In this review, we will provide a general overview of the most advanced basic and applied cancer therapies, as well as newly proposed methods such as nanomedicine, extra cellular vesicles for cancer diagnosis and therapy, natural antioxidants, targeted and immunotherapy, gene therapy.

Result and Discussion:

Advantages and disadvantages of the main innovative cancer therapeutic approaches:

Strategy	Advantages	Disadvantages
Nanoparticles	• high stability and specificity • good biocompatibility and bioavailability	• it depends on the particular nanoparticle
Evs	• physiologically secreted • good molecular characterisation • high biocompatibility • *in vitro* modifiable/loadable	• lack of preclinical procedures for isolation, quantification, storage and drug loading
Natural antioxidants	• easily available in large quantities • exploitation of their intrinsic properties	• limited bioavailability • possible toxicity
Targeted therapy	• highspecificity • reduction of adverse reactions	• lack of information regarding long-term side effects
Gene therapy	• expression of pro-apoptotic and chemo-sensitising genes • expression of wild type tumour suppressor genes • expression of genes able to solicit specific anti-tumour immune responses • targeted silencing of oncogenes and safety (rnai)	• genome integration • limited efficacy in specific subsets of patients • high chances to be neutralised by immune system • off-target effects and inflammation (rnai) • need of *ad hoc* delivery systems (rnai) • set-up of doses and suitable conditions for controlled release (rnai)
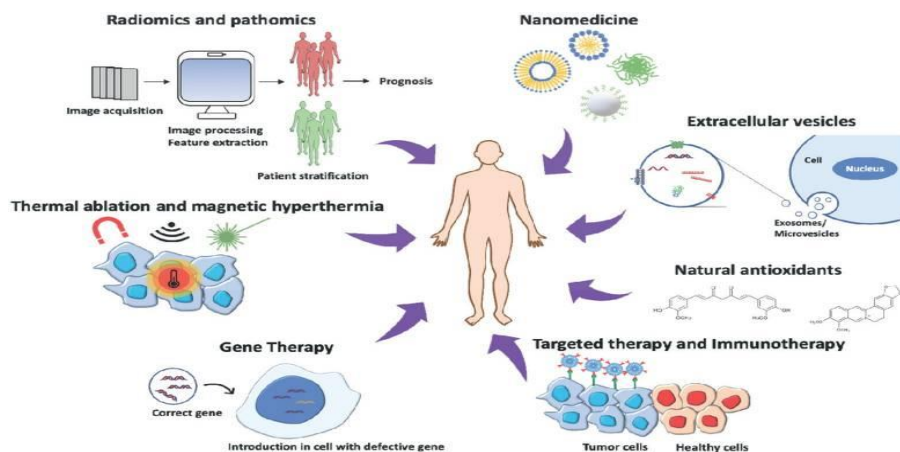
Conclusion: In recent years, research into cancer medicine has taken remarkable steps towards more effective, precise and less invasive cancer treatments. While nanomedicine, combined with targeted therapy, helped improving the biodistribution of new or already tested chemotherapeutic agents.

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Antibacterial activity of hand sanitizers against *bacillus subtilis*

Pooja Agarwal[1] and Shilpa Bhargava[2]

[1,2]Department of Biotechnology, Biyani Girls College, Jaipur-302039, Rajasthan, India

Abstract : Hand hygiene, especially hand disinfection, is criticalto reducing the spread of infectious diseases. Thehand sanitizer has been developed as a convenient methodfordisinfecting an individual's hands without soap and water to protect them from bacterial pathogens. This study aims to explore the true antibacterial activity of hand sanitizers against key clinical isolate i.e. *Bacillus subtilis*. Distilled water was used as a control while amoxicillin was used as a positive control. Bacterial species was identified by standard microbial approach which consist of gram staining and biochemical characterization. Antibacterial activity of sanitizers was determined by agar well diffusion method. The results depicted that five different sanitizer exhibit varying level of antibacterial activity. Magica hand rub has the highest zone of inhibition while dettol has the least zone of inhibition against *bacillus subtilis*. The control sample had no antibacterial effect. Variations in diffusion results highlight the impact of hand sanitizers, and point out the need to be properly monitor the products available in the market for disease prevention. However, regulatory agencies may need to focus on the texture of the product until it determines the effect of on activity.

Keywords: sanitizers, antimicrobial activity, *bacillus subtilis*, well diffusion method.

Introduction : The importance of hand washing in patient care was conceptualized in the early 19th century. Scientist provides the evidence that decontamination of hands cansignificantly reduce the incidence of puerperal fever and maternal mortality. In 1995, the hospital infection control practice advisory committee promoted the use of antibacterial soap or water-free disinfectant to wash hands

when leaving the rooms of patients infected with multidrug-resistant pathogens. In 2002, the cdc issued revised guidelines for hand hygiene. Animportant change in these guidelines is the recommendation to use alcohol-based hand sanitizer to disinfectyour hands between each CONTACTS with the patient and to use waterand liquid soap to clean your hands.on may 5, 2009, who emphasized the importance of hand hygiene and launched the hand hygiene guidelines and tool. Traditionally, the microbial habitat on the hands is divided into permanent flora and temporary flora. The resident flora involved are usually*staphylococcus aureus, staphylococcus epidermidis,*which colonize deeper layers of the skin and are resistant to mechanical removal. The temporary flora includes *bacillus subtilis*, *escherichia coli*, which colonize the surface of the skin in a short period of time [1].therefore, *bacillus subtilis* is selected to determine their sensitivity to the different hand sanitizers tested in this study.it is evident that infections in hospitals and communitis are increasing and constitute a serious public health problem in whichour hands are the prime mode of transmission of various microbes. Therefore, hand hygiene plays an important role in our day to day lifeto combat the spread of infectious diseases, reduce microbial load and its transmission [2]. Traditionally, regular hand washing with soap, water, and rubbing is an effective waytoreduce microbial load,but scientific researchshows that upto 80% of peoplewill retain some pathogenic bacteria on their hands after washing their hands. Hand washing removes the body's own fatty acids from the skin, which cancausethe skin to rupture and provide a gateway for pathogens to enter [3]. In order to overcome the limitations of simple hand washing, hand sanitizer wasintroduced, claiming to be effective against these pathogenic microorganisms which contains severalantibacterial chemicals, including chlorhexidine, iodophor, quaternary ammonium compounds and alcohol.

Experimental Methodology:

Media preparation and sterilization

The nutrient media were obtained in the dehydrated form and were prepared according to the manufacturer´s instructions. Specified quantity of powdered media were dissolved in specified volume of distilled water in a conical flask and mixed it properly by shaking and boiling till the agar completely dissolves. After then, the media were sterilized in autoclave at 121°c and 15psi for 15 minutes. Pour the media into sterile petridishes and allowed it to solidify. It is a general purpose media used for the growth of wide range of non-fastidious microorganisms.

Isolation of microorganism

Test microorganism was *b.subtilis*. Pure cultures of bacteria were obtained by culturing the test organism on nutrient agar plates and incubated the plates for 24 hours. After incubation morphological and biochemical characterization was performed for identification

Preparation of extract

1ml of each sanitizer sample is diluted with 1ml of ethanol and then 20µl, 40µl and 60µl of each sample was used for antibacterial assay.

Antibacterial activity assay

Antibacterial action of sanitizers were determined by using agar well diffusion method. The test microorganisms were uniformly swabbed on the nutrient agar plate with a sterile swab moistened with the bacterial suspension. Later, the gel was punctured to make wells on the agar surface using gel puncture and the different concentration: 20μl, 40μl and 60μl of each sanitizer sample was injected into the well. The plates were incubated at 37°c for 24 hr. Wells containing distilled water and amoxicillin served as controls. After incubation, zone of inhibition was measured in mm.

Hand Sanitizer				
Concentration	Dettol	Lifebuoy	Magica hand rub	Bacter shield
20μl	0.2	0.6	1.3	1.4
40μl	0.4	0.8	1.8	1.4
60 μl	0.6	1.0	2.1	1.7

Result and Discussion : When we compared the efficacy of the different hand sanitizers, magica hand rub found to be more potent than any other sanitizers against the test pathogens. It has the highest zone of inhibition against *b.subtilis* while dettol has least antibacterial activity against the *b.subtilis* with least zone of inhibition. The control sample i.e. Distilled water has no zone of inhibition against the *b.subtilis*. It was found that the active ingedient of all sanitzers was alcohol. It kills an organism by denaturing microbial proteins.

Conclusion : Proper hand hygiene plays vital role as it reduces the chances of infection. The use of alcohol areincreasingly common due to its rapid action and efficiency in killing microorganisms.

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Antibacterial activity of cinnamomum bark powder (dalchini) against *bacillus subtilis* and *Escherichia coli*

Gargi Dubey and Anita Mishra

Department of Science, Biyani Girls College, Jaipur, India

Abstract: Herbal medicine is the practise of using plants for medical purposes, and many herbs and spices that people use also contain medicinal components. Herbs and spices have been utilized for antimicrobial action against foodborne pathogens and food spoilage bacteria from ancient times, not only as antioxidants and flavouring agents, but also for their antimicrobial activity. The antibacterial activity of cinnamon (*cinnamomum zeylanicum*) bark powder methanolic extract on clinical isolates (*bacillus subtilis* and *escherichia coli*) was studied in this work. Cinnamon bark (spice) powder was used to extract the methanolic extract of cinnamon, and various standard quantities of cinnamon extract were aseptically poured into punctured wells.cinnamomum methanolic extract yielded the most bioactive chemicals. The agar well diffusion technique was used to assess the antibiotic susceptibility of the bacterial isolates in pure culture. This study's findings indicated at a concentration of 100ul, *e. Coli* (30.0±0.2) was the most sensitive to the cinnamon extract, whereas *b. Subtilis* (24.0±0.2) was the least susceptible. In comparison to other concentrations, the lowest concentration of cinnamon extract had minimal antibacterial action on both bacteria. Cinnamon was identified as an antibacterial agent in this study, and it serves as a guide for pharmaceutical companies in developing effective antibacterial drugs from plant sources.

Keywords: herbs,cinnamon, *bacillus subtilis*, *escherichia coli*, antibacterial activity.

Introduction: Plants are rich sources of diverse types of antimicrobial compounds that serve as defensive mechanisms to protect them from biotic (living) and abiotic (non-living) stressors(1). Polyphenols, terpenoids, alkaloids, lectins, polypeptides, and polyacetylenes are recognized as antibacterial agents among these secondary metabolites (2). A molecule's antibacterial or antiviral activity is entirely dependent on chemicals that selectively kill bacteria and viruses or halt their growth without being hazardous to adjacent tissue. *Cinnamomum zeylanicum* blume, a tropical evergreen tree endemic to sri lanka and india's malabar coast (3). Cinnamon has been utilized as a neuroprotective agent and for the treatment of diabetes in traditional chinese medicine for over 4000 years. Cinnamon has also been used to treat illnesses including inflammation, gastrointestinal problems, and urinary infections as a health-promoting agent (2). Cinnamon has been shown to contain a variety of chemicals. Cinnamon contains a lot of essential oils and derivatives including cinnamic acid, cinnamaldehyde, and cinnamate. Cinnamaldehyde, cinnamyl acetate, -thujene, terpineol, -cubebene, eugenol, and coumarin are some of the chemical constituents found in cinnamon, and some of these compounds have been shown to have antibacterial action.

Experimental/METHODOLOGY:

Collection of samples : The readymade powder of *cinnamomum zeylanicum* (dalchini) was collected from local market of vidhyadhar nagar, sector 3, jaipur (raj), india.

Preparation of extract : For the extraction process, methanol was used as a solvent. Approximately 15gm of sample were mixed in 150ml of methanolic solvent in the ratio of 1:10 and shaken on rotatory shaker for 24 hrs. At room temperature. After 24 hrs. These extracts were filtered by using whatman filter paper of and the filtrate were evaporated by using hot plate then crude extract of solvent of dalchini powder were obtained, collected in an eppendorf and stored at -20°C.

Antibacterial activity : Antimicrobial activity of plant extract was evaluated by using agar well diffusion method against *bacillus subtilis* and *escherichiacoli* on muller-hinton agar(4).

Result and discussion:

Total extraction yield: Total extraction yield of the extract depends on the resolving power of the solvents. From the extractions, methanolic extract of dalchini powder produced 6.0% total extraction yield.

Antimicrobial analysis of methanolic extract of cinnamomum (dalchini): Cinnamon has a higher resistance against *e. Coli* in both bacteria. For both bacteria, the maximum inhibitory zone was seen at a concentration of 100ul, table 1 and photograph 1 show all of the possible outcomes.

Photograph 1: antimicrobial activity of cinnamomum extract against *b. Subtilis* (a, b and c) and *e. Coli* (d, e and f) at different concentrations (50ul, 100ul and 150 ul).

Table 1: antibacterial activity of methanolic cinnamomum extracts

Test pathogen	Zone of inhibition (mm)				
Concentration	**50ul**	**100ul**	**150ul**	**Control**	**Amoxicillin**
Bacillus subtilis	21.0±0.1	24.0±0.2	22.6±0.3	-	24±0.01
Escherichia coli	23.3±0.9	30.0±0.2	26.0±0.6	-	22±0.03

Conclusion: It was determined that methanolic cinnamon extract was the most powerful agent, with antibacterial activity that was even greater than the conventional antimicrobial medication amoxicillin.

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In-vitro and toxicological analysis of *citrus limon* peel mediated silver nanoparticle

Paridhi Nyati and Shilpa Bhargava

Department of Science, Biyani Girls College, Jaipur, India

Abstract :

The development of reliable and environmentally sustainable technologies for the production of nanoparticles is critical in the field of nanotechnology.nanoparticles are often generated by noble metals such as gold, silver, or platinum using a combination of chemical and physical processes.the utilization of medicinal plants in the green development of metal nanoparticles is rising.in the current study, silver nanoparticles were synthesised by reducing silver nitrate with *citrus limon* peel extract and then characterised by uv-vis spectroscopy with an absorption peak at 400 nm. Furthermore, the antibacterial activity of silver nanoparticles was found, with varying concentrations of the *citrus limon* induced silver nanoparticle demonstrating good antibacterial activity against e.coli bacteria. Green synthesised silver nanoparticle toxicity was also studied, with

an oral dosage fed to swiss albino mice after 14 days and no change in the animal's health and behaviour conveying the non-toxic behaviour of silvernanoparticle.

Keywords:silvernanoparticles,toxicity,*citruslimon*, antimicrobialactivity, swiss albino mice

Introduction : Nanotechnology is rapidly growing field with its application in science and technology.[1] nanoparticles hadbeen known to be used for various physical, biological and pharmaceutical applications.[2] silver nanoparticles had application in several fields such as molecularimaging,drugdelivery,and medicinal devices with antibacterial properties.[3]

Toxicological is a sub discipline of science that deals with toxins and poisons and their effect andtreatment.[4] an acute toxicological study is used to examine the toxic effects produced by a single dose exposure to toxicant which may result in severe biological effect to the organisms and also important in planning for chronic toxicological studies.[5].

Citrus limon had a colour range from greenish yellow to bright yellow whichhas medicinal values such as anticancer, antibacterial, insomnia, prevent kidney stone. [6]in this study the present work focuses on *citrus* mediated silver nanoparticlessynthesis and due to their various biomedical values and bioactive components present   whichare isolated for benefit of mankind the antimicrobial test was also studied and their acute toxicityeffectwas also studied on swiss albino mice.

Methodology:

1. **Collection of plant material :** *Citrus limon* peel was collected from differenthousehold. The plant materials *citrus limon* peel was washed, dried, and powdered. 25 g of the powderwas extracted successively with distilled water using soxhlet extractor and then crude extracts was stored at 4°c.

2. **Synthesis of nanoparticles and antimicrobial activity :** Green synthesis of silver nanoparticle involved addition of 1mm silver nitrate into250 ml distilled water and was stirred with magnetic stirrer at 60°c and the extractwasaddeddropby dropuntilthecolourchanges tobrowncolour.

   The microbial test was tested with the agar well diffusion method in which the plate with the nutrient agar was swabbed with the broth culture of bacteria e.coli. Wells were made in each of the plate and antimicrobial agent with the desired concentration was added into the well and was allowed to be diffused at room temperature. The plate has been incubated for 24 hour.

3. **Toxicity test :** Swiss albino mice (6-7 week old) weighing almost 25-30 gm were stored in polypropylene cages.The mice were divided into two sets including of 2 animals in separate group as follow:-

   Group i: - normal (control mice), fed with standard pellet diet and water.

Group ii: - silver nanoparticles were induced in mice in which the citrus mediated silver nanoparticle was induced in swiss albino mice by feeding 30mg/kg and 25 mg/kg body weight orally for 14 days.

Result :

1. Silvernanoparticlessynthesis:
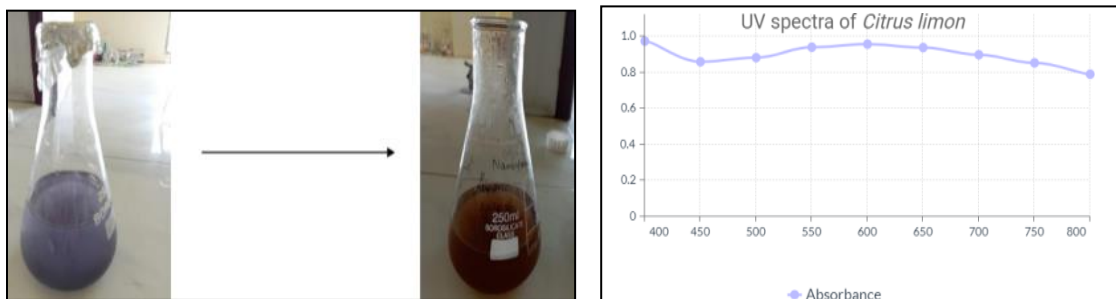
Figure 1 :   a   b

A. Silver nitrate solution turns into brown colour after the addition of plant extract

B. Characterizationby uv-vis spectroscopy graph between absorbancev/s wavelength of silver nanoparticle

2. Antimicrobial activity of silver nanoparticle

3. Toxicity effect of silver nanoparticle

Group 1: The Control Mice   Group 2: Silver Nanoparticle induced mice
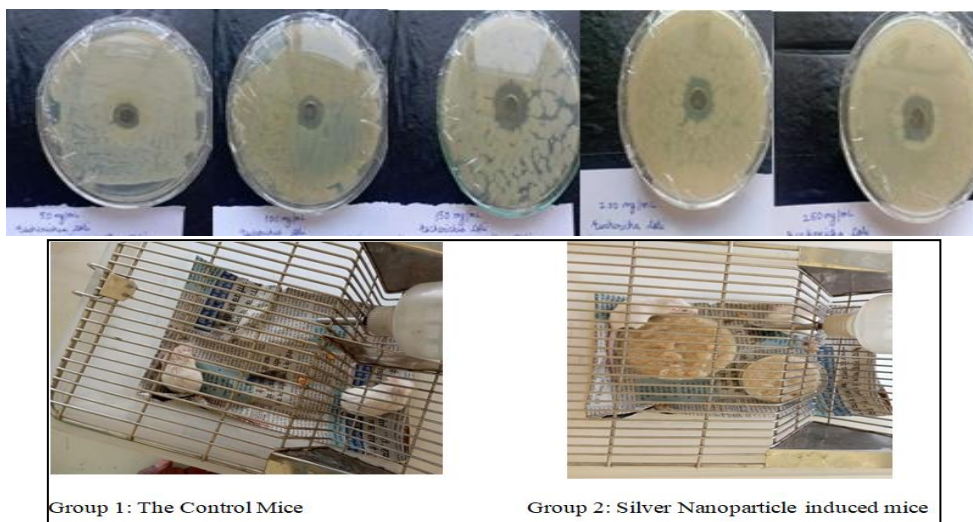
Figure 2 antimicrobial activity at concentration of 50 mg/ml; 100mg/ml; 150mg/ml; 200mg/ml; 250mg/ml

Figure 3the control mice and silver nanoparticlefeeded mice were healthy and normal after 14 days of feeding.

Conclusion : In this study *citrus limon* effectivelyproducessilvernanoparticle as well as showed antimicrobial activity against e.coli and no toxicity was observed in the mice.

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Moth bean: medicinal uses, biochemistry and industrial uses

Vishal Sharma and Kanchan Sharma

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India

Abstract :

A significant medicinal plant, moth bean [*vignaaconitifolia* (jacq.)Marechal] belongs to papilionaceae, is used to treat a variety of illnesses, including dermatological conditions. This plant has been shown to contain phytic acid, alkaloids, phenols, and flavonoids. *Vignaaconitifolia* also has anti-inflammatory, hypocholesterolemic, and anti-diabetic properties. The current review is an effort to gather all the prior information based on the phytochemistry, pharmacology, and purported medicinal applications in the earlier articles.

Keywords: *vignaaconitifolia*, medicinal uses, phytochemistry, pharmacology.

Introduction : A member of the fabaceae family and a draught-resistant legume, moth bean is a widespread cultivar in india's arid and semiarid regions. Minor legume crop: *vignaaconitifolia* (jacq) marechal native to india and pakistan, the vigna bean is cultivated for food production as well as for forage and cover crops [1, 2].

Macroscopy of Seeds: The tiny, oblong-shaped seed has a very pale yellow colour. Hilum is below the apex. The surface of the seed is covered in densely reticulate rugue patterns with sporadic drips of wax. The boundary of the hilum has a structure resembling a stringy net. The anterior end of the hilum is narrower and the posterior end is oval-shaped. Clearly delineated and slightly protruding, the hilum's border. The micropyle and the seed's anterior end are connected via a rod-like, extremely small slit [4]. White, linear hilum at (or about at) seed coat level; macrosclereids, height 372 m, lumen with an hourglass form, relatively small arils, and the presence of a funicle [5].

Traditional and medicinal uses : The ripe whole or split seeds of moth bean are eaten cooked or fried. Sprouted and cooked seeds are preferred as breakfast items in india whereas fried splits are consumed in the form of a ready to eat product. The seeds are sometimes ground into flour, which is mixed with other flours to make unleavened bread. The immature pods are sometimes eaten boiled

as a vegetable. In india the pod walls and residues left after the preparation of dhal are fed to animals. Moth bean is also grown for green manure, forage and hay and as a cover crop. Seeds are used medicinally in diets to treat fevers while roots are said to be narcotic [3].

Phytochemistry : Albumin, globulin [2, 10], condensed tannins [2, 10], flavonoids, phenolic acids [2], phytic acid [2, 10], and trypsin and chymotrypsin inhibitor [2, 15, 16] were all identified in the phytochemical literature review of *v. Aconitifolia*.

Conclusion : Future investigations and research may benefit from the traditional applications, pharmacology, and phytochemistry of *v. Aconitifolia* discussed in this article. The plant has a promising future in terms of the identification of novel compounds and pharmacological actions.

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In vitro evaluation of anthelmintic activity of aloe vera plant extracts

Bhumika Jangid and Shilpa Bhargava

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India

Abstract: Many pharmacological actions were powerfully sourced from medicinal herbs. The ability of the plant and its chemical to treat a disease that results in significant financial loss and decreased livestock production for livestock owners is one of the things that has attracted a lot of attention in plants with anthelmintic action. Due to the development of anthelmintic resistance in the host organism, the pathogenic infection has a severe impact on mortality and other issues that could not be handled. Despite the fact that numerous synthetic medications have been produced, their adverse effects outweigh the effectiveness of the treatment. This article provides a list of a few

medicinal plants that were capable of lowering symptoms, demonstrating the necessity for more research into plants' potential as treatments.the development of anthelmintic resistance and the high cost of conventional anthelmintic drugs led to the evaluation of medicinal plants as an alternative source of anthelmintics. In this study, in- vitro experiments were conducted to determine the possible anthelmintic effects of crude aqueous and alcoholic extracts of leaves of aloe vera on adult Indian earthworm.

Keywords : anthelmintic activity, aloe vera extracts, earthworm, phytochemical screening.

Introduction: One of the most significant animal diseases that causes significant output losses is helminthiasis. The most prevalent infectious agents for humans in impoverished nations are helminths, which also increase the prevalence of pneumonia, anaemia, and malnutrition. Helminth infections are a common ailment among the poor in developing nations; these illnesses more commonly physically harm their hosts than kill them. Even while the bulk of worm-related diseases are often restricted to tropical areas, some of them can arise in warm climates[1]. However, growing issues with helminth resistance to anthelmintics have prompted the suggestion of testing medicinal herbs for their anthelmintic action.

People living in poverty in developing countries often suffer from helminth infections, which more often physically impair their hosts than kill them. Although the majority of infections due to worms are generally limited to tropical regions, they can occur to travellers who have visited those areas and some of them can develop in temperate Climate. [1]

Anthelmintic drugs are used to treat Infections with parasitic worms. Parasitic worms also infect livestock and crops, affecting food Production with a resultant economic impact. [2]

Aloe vera is a member of the lily family, and is a succulent plant that contains a lot of liquid in its think, spiny leaves[2].it gives so many medicinal activities and pharmacological effects for human beings and animal. It acts as a natural fighter against all classes of infection, an important effective anti-oxidant, helps in treating all digestion related problems, heartburns, arthritis, stress, kidney-stone, skin-burns [3].

Methodology:

Collection of plant: the plant material aloe vera collected from smriti van.

Preparation of extracts: 20 gm of grinded powder of aloe vera leaves were suspended in 200 ml distilled water. The extraction using hot water was performed at 80°c for half an hour in water bath. After extraction, the obtained extracts were decanted and with the help of a whatmann filter paper, the extracts were then filtered. The filtrate was evaporated to dehydration at 45°c for one hour in hot air oven. Collect the extract and were kept in refrigerator at the temperature of 4°c.

Observation:

Test	Aqueous extract
Alkaloids	Presence
Flavonoids	Presence
Steroids	Absence
Tannins	Presence
Proteins	Presence
Glycosides	Presence
Carbohydrates	Presence
Terpenoids	Absence
Phenol	Presence
Saponin	Presence

Conclusion: Mainly secondary metabolites are present in aloe vera. It has good property of anthelmic activity.

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Anti-inflammatory activity of ethanolic leaves extract of *aegle marmelos* (bel patra)

Chandresh Kanwar and Deepika Pareek

Department of Science, Biyani Girls College, Jaipur

Abstract: Inflammation is a good example of innate immunity because it is the body's natural response to many harmful stimuli. Inflammation is a common feature of many diseases, including rheumatoid arthritis, atherosclerosis, obesity, and even cancer. Many diseases linked to inflammation are treated with a natural chemical that comes from medicinal plants. Medicinal plants and their secondary metabolites are increasingly being used to treat disease as a kind of supplementary medicine. In the current study, *aegle marmelos* was employed as an anti-inflammatory.We tested the activity of the ethanolic extract of *aegle marmelos* with the common anti-inflammatory medication acetyl salicylic acid in the current investigation to support the effects of low concentrations of *a. Marmelos* extract on the heat-induced hemolysis. Comparatively, acetyl salicylic acid had a maximum inhibitory impact of 92% at a level of 2 mg/ml while a. Marmelos had a maximum inhibitory effect of 75% at a concentration of 500 mg/ml. These results show that membrane stabilisation is feasible. The evidence demonstrates that another mechanism behind the extract's anti-inflammatory effect is membrane stability.

Keywords: inflammation, *aegle marmelos*, membrane stabilisation, acetyl salicylic acid

Introduction : Inflammation is a defense response of our body to hazardous stimuli such as allergens or injury to the tissues.[1]the term anti-inflammatory refers to the attribute of a chemical substance alongside a treatment that can reduce inflammation.[2]. *Aegle marmelos* also known as bel has various medicinal properties such as in inflammation, respiratory problems, heart disorders, dysentery, and diarrhoea.[3] in our present study we had used *aegle marmelos* for in vitro analysis of human rbc membrane stabilisation for the analysis of the anti-inflammatory activity.

Material and Methodology : The plant leaves were dried and powder was formed for the preparation of ethanolic leaves extract. After extract formation, it transferred into petri plate and placed into hot air oven for 2-3 days for crude formation the blood sample was collected from a healthy person. Rbcs stock was formed. The crude extract of different concentrations was mixed with isotonic buffer in centrifuge tubes. They were then filled with 50 µl of rbc suspension and carefully stirred. The sample was heated to 54°c in a water bath for 20 minutes before cooling to room temperature. The reaction mixture was centrifuged at 3000 rpm for 5 minutes, and the absorbance of the supernatant was measured with a uv spectrophotometer at 540nm.

Different test were performed to identity the presence of bioactive compound in the leaves of *a. Marmelos*

Observation and Result :

In the present study of ethanolic leaves extract of *aegle marmelos* showed significant inhibition of hemolysis and presence of many bioactive compounds.

Table 1: effect of crude of *a. Marmelos on* hemolysis

Concentration (mg/ml)	Absorbance (560nm)	Percentage of inhibition
50mg/ml	0.484	8.85%
100mg/ml	0.602	13.37%
200mg/ml	0.647	21.84%
300mg/ml	0.764	43.87%
400mg/ml	0.907	70.80%
500mg/ml	0.930	75.14%
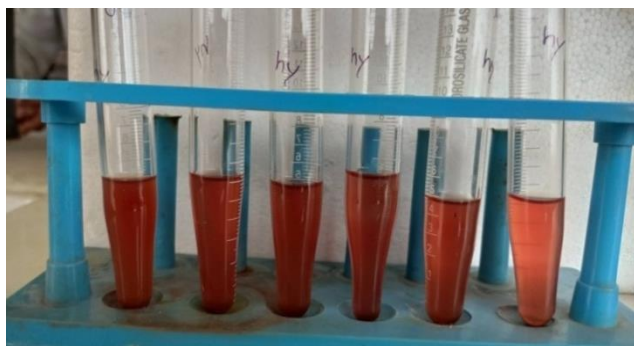
fig 1: blood sample in buffer   fig 2: ethanolic crude of leaves

Table 2:   phytochemical analysis of crude extract of *a. Marmelos*

Constituents	Test	Result
Alkaloids	Wagner test	+
	Mayer's test	+
	Dragendroff test	-
Flavanoids	Lead acetate test	+
	Alkaline reagent test	-

Glycosides	Libermann test	+
	Salkowski test	+
Carbohydrate	Fehling test	+
	Molish test	+
	Benedict test	+
Protein	Million test	+
	Biuret test	-
	Xanthoprotein test	+
Phenol and tannin	Ferric chloride test	+
	Lead acetate test	+
Saponins	Form test	+

Conclusion : These results show that ethanol extract of *aegle marmelos* has anti-inflammatory properties and can reduce inflammatory injury and have many secondary metabolites

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Review: Spiroheterocycles and their Biological Activities

Barkha Shrivastava[1], Poonam Hariyani[2], Rekha Vijay[3], Avani Pareek[4]

[1,3,4] *Jaipur Engineering College & Research Centre, Jaipur, India*
[2] *JECRC University, Jaipur, India*

Abstract : Defined as cyclic compounds containing ring member atoms of carbon and at least one other element (such as nitrogen, oxygen and sulfur), heterocyclic are common in biology, featuring in a wide range of structures from enzyme co-factors through to amino acids and proteins. They play a vital role in the metabolism of all living things, and are utilized at almost every stage of the many bio-chemical processes necessary to sustain life. Their prevalence is partly down to the broad range of interactions these structures are involved with, made possible due to the physicochemical properties of their heteroatom that can behave as either acids or bases, depending on the ph of their environment.

Given the significance of sulfur in biological systems, sulfur-containing heterocycles have received much attention in the development of anti-cancer drugs, much like their oxygen-and nitrogen-based counter parts. For instance, in a recent screening study, thiophene derivatives were assessed for their anti proliferative activity against human breast adenocarcinoma cells, with a number of compounds found to show promising inhibitory effects.

Sulfur is a key component in several vitamin co-factors, sugars and nucleic acids, and plays an important role in regulating translation via the sulfuration of transfer rna. The researchers reported that their findings could provide a basisby which future tyrosine kinase inhibitors may be designed, with fewerside-effects.

Keywords: heterocyclic compounds, drugs, biological activities, anti-fungal, anti-inflammatory, anti-bacterial

Introduction : Heterocyclic chemistry offers an example for the lack of distinct demarcations; in fact, it pervades the plurality of the other chemical disciplines. Heterocycles are inextricably woven into the life processes. More than 90% of new drugs contain heterocycles and the interface between chemistry and biology, at which so much new scientific insight, discovery and application is taking place is crossed by heterocyclic compounds. This review article covers the most active heterocycles that have shown considerable biological actions as antifungal, anti-inflammatory, antibacterial, anticonvulsant, and antiallergic, herbicidal, anticancer activity

Their chief commercial interest lies in their conversion to other substances, chiefly dyestuffs and drugs. Pyridine is used also as a solvent, a waterproofing agent, a rubber additive, an alcohol denaturant, and adyeingadjunct2.

Furan is an oxygen-containing heterocyclic employed primarily for conversion to other substances (including pyrrole). Furfural, a close chemical relative of furan, is obtained from oat hulls and corncobs and is used in the production of intermediates fornyl on thiophene a sulfur heterocycle, resembles benzene in its chemical and physical properties. It is a frequent contaminant of the benzene obtained from natural sources and was first discovered during the purification of benzene. Like the other compounds, it is used primarily for conversion to other substances. Furan and thiophene were both discovered in the latter part of the 19thcentury 3.

In general, the physical and chemical   properties of heterocyclic compounds are best understood by comparing them with ordinary organic compounds that do not contain hetero atoms.

Heterocyclic chemistry deals with heterocyclic compounds which constitute about sixty-five percent to organic chemistry literature4. Heterocyclic compounds are widely distributed in nature and essential to life; they play a vital role in the metabolism of all living cells. Genetic material dna is also composed of heterocyclic bases-pyrimidines and purines. A large number of heterocyclic compounds, both synthetic and natural, are pharmacologically active and are in clinical use.

Heterocyclic compounds have a wide range of application: they are predominant among the type of compounds used as pharmaceuticals5, as agrochemicals and as veterinary products. They also find applications as sanitizers, developers, antioxidants, as corrosion inhibitors, as copolymers, dyestuff 6.they are used as vehicles in the synthesis of other organiccompounds.

Some of the natural products e.g. Antibiotics such as penicillin's, cephalosporin; alkaloids such as vinblastine, morphine, reserpine etc. Have heterocyclicmoietyexperimental biological activitiesAntifungal activity fungi are heterotrophic microorganisms that are distinguished from algae by lack of photosynthetic ability. Fungi include both yeast and moulds. The former are spherical, oval and mucosid colonies in agar medium and the latter consists of elongated cells that usually reproduce by budding and forming branches of cells.

- F.russoetalhavesynthesizedthiadiazolopyrimidines (i) andtheirhydrazines (ii) r=cf3c6h4, 2 oetc6h4and4-no2c6h4.

- Ahluwalia et al have synthesized 5-(3',4'-dihydro-2',2',8'-trimethyl-2'h-1'-benzopyran-7-yloxymethyl)-4-phenyl-1,3,4-triazole-3(4h)-thiol (iii)which shows significant antifungal activity.r=c6h5,mcl-c6h4, pcl-c6h4,m-or pch3- c6h4, pch3o- c6h4.r1=ch3,c6h5,r2=h,ch3.

Anti-inflammatory: anti-inflammatory refers to the property of a substance or treatment that reduces inflammation. Anti-inflammatory drugs make up about half of analgesics, remedying pain by reducing inflammation as opposed to opioids, which affect the central nervous system. Non-steroidal anti-inflammatory drugs (nsaids), some common examples of nsaids are: aspirin, ibuprofen, and naproxen.

Antibacterial: bacteria are the simplest and smallest unicellular organisms found individually or in

clusters. The multitude of highly effective and relatively non-toxic drugs available for the treatment of bacterial infections has provided tough competition for the medicinal chemist, attempting synthesis of new antibacterial agents.

Sen gupta et al have synthesized (xviii), some triazine derivatives and found antibacterial agents.

Antiallergic: a number of heterocyclic compounds have shown the antiallergic activity.

Musser et al have synthesized 2-(2, 3-dihydro-2-oxo-1, 3 ,4-oxadiazol-5-yl) benzoheterocycles (xxix), (xxx). In compound xxix x=o, nme, ccl, ch, cme; x'=n, s, ch2, nh; r=h, ac, co$_2$et, me etc. R'=h, 5-cl', 5-(co$_2$me), 5-co$_2$et and in compound xxx r2=h, co$_2$et

Results and Discussion :

Due to their prevalence in nature as well as their structural and chemical diversity, heterocycles play an immensely important role in anti-cancer drug discovery. Their inclusion in approximately two-thirds of the anticancer drugs approved by the fda in the first half of this decade highlights the iron going importance in cancer research, with research demonstrating time and again the central role they have to play in the fight against cancer.

The use of compound screening collections with a strong focus on heterocyclic-based structures cannot only lead to the identification of a wide number of potentially successful drug candidates, but can also fast-track the drug development process, ultimately saving time, money and resources.
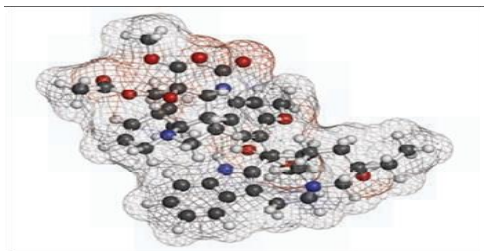
the molecular structure of olaparib
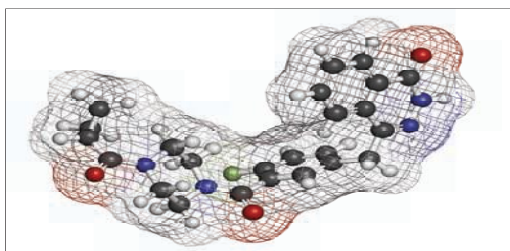
the molecular structure of vincri

Conclusion : The rate at which heterocyclic compounds continue to be invented testifies to the strength and vitality of this area of organic chemistry. The challenges of discovering new heterocyclic systems and of understanding their properties also continue to stimulate research in the area.

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Smartphone-based cn⁻ ion sensing in electroplating wastewater and food samples in a simple, economical and rapid manner

Lalita Yadav[a], Manish Sharma[d], Madhu Agarwal[c] and Ragini Gupta[a,d*]

[A]*Department of Chemistry, Malaviya National Institute of Technology, Jaipur*
[C]*Department of Chemical Engineering, Malaviya National Institute of Technology, Jaipur*
[D]*Materials Research Centre, Malaviya National Institute of Technology, Jaipur*

Abstract: Cyanide is one of the most toxic detrimental ion and pernicious poison to human health. Due to its toxicity, there is an urgent need to detect cyanide ion in a simple and rapid way. In this context, a novel chalcone an, have been synthesized, which can act as a naked eye colorimetric sensor with tremendous color variation from yellow to green towards cn⁻ ion which was further validated by uv-visible spectroscopy, dft/td-dft and ^{1}h nmr titration studies. The value of lod of an towards cn⁻ ions was found to be 0.04 ppm. Instantaneous yellow-to-green colorimetric response was also coupled with smartphone. Electroplating wastewater, apple seeds, and cherry kernels revealed the presence of cn⁻ content in them.

Keywords: chalcone; naked eye detection of cyanide; smartphone; electroplating wastewater; td-dft

Introduction: Electroplating and metal extraction from mines are the potential sources that cause a drastic increase in cyanide contamination in water and soil. Cyanide is used in electroplating industries as it provides a high-grade electroplated material because cyanide has high coordination tendency with several heavy metals like silver, zinc, gold, and iron [1]. Despite having high toxicity, cyanide is frequently used in a number of chemical industries for the synthesis of acrylic plastics, nylon, herbicides, synthetic fibers, rubber, dyes, resins, and pesticides [2]. Wastewater from such industries poses a serious threat to human health safety; therefore, this contaminated water must be

properly analyzed for the amount of cn– before its discharging to water sources. Currently, numerous evolutionary techniques play a pivotal role in the efficient and selective quantification of hazardous ions from environmental, biological, and industrial perspectives. Park et al. Synthesized a chalcone-based colorimetric and fluorometric sensor to detect cyanide ions in acetonitrile [3]. Shan et al. Reported a chalcone-based colorimetric chemosensor that detects cn⁻ ion in acetonitrile [4]. However, no practical utility of these sensors has been reported. Recently smartphone-coupled colorimetric sensors for cations and anions have enticed the attention of researchers due to their minimal requirement of analytical techniques, handiness, and cost-effectiveness. Designing a smartphone-based platform supports on-site testing of cyanide in distant localities without skilled personnel and sophisticated instruments. In this sequence, we have synthesized a novel, simple chalcone-based chemosensor having an optical response towards cyanide ion by using internal charge transfer (ict) as a signaling mechanism for the visual recognition of cn⁻ ion with high sensitivity and selectivity.

Experimental Detail
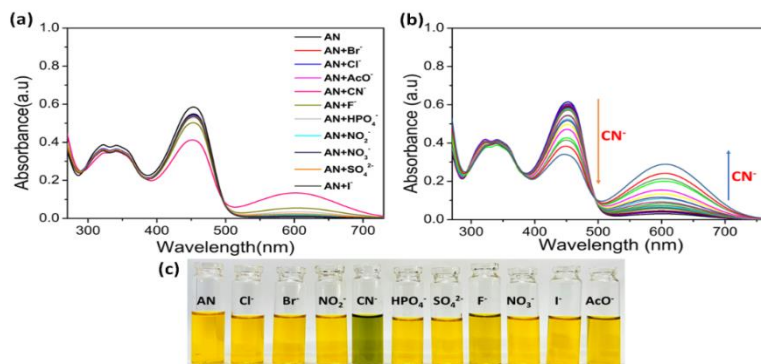
Fig.1. (a) uv-visible spectra of chemosensor an (5×10^{-5} m) in the presence of various anions in ch$_3$cn; (b) uv-visible spectra of receptor an (5×10^{-5} m) upon regular addition of cn⁻ ion (0.01 to 10 ppm) in ch$_3$cn; (c) optical response of the receptor an (1×10^{-3} m) towards anions (5 ppm)
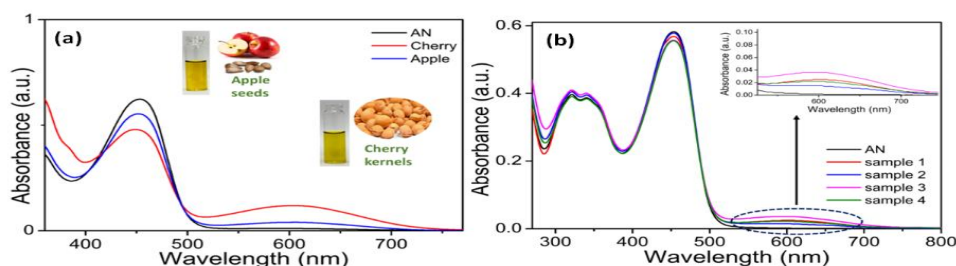
Fig.2. Uv-vis response of chemosensor an in the presence of (a) cherry and apple seeds; (b) various electroplating wastewater samples (1 to 4)

Conclusion : A new chemosensor an, based on chalcone, was synthesized that sensitively and selectively analyse cn⁻ ion in ch$_3$cn. Chemosensor an exhibits visual color variation from yellow to green with the appearance of a new peak with red shift at 601 nm in uv-vis spectra with cn⁻ ion, which is stimulated by an increased intramolecular charge transfer (ict) process. Fascinatingly, the optical response of an was also coupled with a smartphone that resolved the dilemma of requiring skilled personnel for instrument handling during cn⁻ ion sensing. Chemosensor an binds cn⁻ ion in 1:1 complexation stoichiometry with a low detection limit of 0.04 ppm. Further, the real sample implication results indicates that the chemosensor an could be potentially applied in cn⁻ quantification in food and electroplating wastewater samples.

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Organic Agriculture for Environmental Sustainability

Pradeep Soni

Assistant Professor, Department of Science, Biyani Girls College, Jaipur

Abstract: modern chemical based agricultural practices, deforestation, urbanization and other factors have degraded the most important part of soil i.e. Topsoil at alarming rates. On a global scale more than half of agricultural land is already degraded. Increased use of chemicals under intensive cultivation has disturbed the harmony existing among soil, plant, animal and human health. If this continues soon the whole planet will face various kinds of crisis in terms of food availability both in terms of quantity and quality, water scarcity, loos of biodiversity, climate change, livelihood losses and many other problems.

Organic agriculture is a broad term which is composed of production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity conservation, animal husbandryand agricultural practiceswhich are adapted to local conditions, rather than the use of inputs which causes adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all life involved. Compared to chemical based farming products, organic products have many advantages such as lesser requirement of water, reserve higher nutrient density, higher minerals and vitamins such as iron and magnesium, vitamin c and antioxidants, are more balanced with essential amino acids. It is evident that, compared to conventional farming, the largest beneficial effect of organic farming is associated with the lack of pesticides leaching and soil biology (bacteria, fungi, springtails, mites, earthworms), the higher level of biological activity being driven by the use of versatile crop rotations and the reduced use of nutrients in the organic system. At the ecosystem level, organic farming also benefits arable land by promotinggreater densities and species biodiversity, lower concentrations of aphids, greater numbers of beneficial insects and bigger populations of birds etc.

Keywords: topsoil, organic agriculture, chemical pesticides, livestock and ecosystem

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A coalescence of chemistry and biosciences: a commingle of kinetics, covalent modifications and thermodynamics of protein stability and folding; a theoretical approach

Sneha Chauhan

Assistant Professor, Department of Science, Biyani Girls College, Jaipur, India

Abstract: Hsp70 family of 70-kd proteins and chaperoninare two major classes of molecular chaperons. Chaperons constitute a class of proteins that aid in correct folding of other proteins in vivo, bacterial groel system (hsp60), trigger factor (tf) and dnak (hsp70) assists the de novo folding of proteins. The tric/cct chaperonin complex is present in eukaryotes.protein folding is a co-translational process mainly guided by hydrophobic interactions, formation of intramolecular hydrogen bonds and london dispersion forces; although the conformational entropy opposes the process. The amino acids' sequence in a protein affects its folding irrespective of its composition. The initiation of protein folding starts in its secondary structure and ends in quaternary structure. This paper focuses on the theoretical approach to address the biochemical aspects of protein folding dynamics. The process of protein folding is achieved through optimum chemical conditions and assistance of the prominent bio-molecular entities including cofactors and chaperones.the formation of secondary structures such as alpha helices, beta sheets, turn, coil and loops are stabilised by the intramolecular hydrogen bonds. The protein folding occurs simultaneously with translation where the c-terminus of the protein is still being synthesised by the ribosome and the n-terminus begins to fold.the assumption of negative gibbs free energy value by the protein adds up to the spontaneity of the folding process. The favouring kinetics is achieved by decreasing the number of hydrophobic side-chains exposed to water and this holds the scope for further studies and related research work.

Keywords: protein folding, chaperons, hsp70, groel system, secondary structures

Introduction: Proteins are molecules of functional significance. Dna is the store-house of genetic information and to pass this information, it needs to be transcribed into mrna which undergoes the process of translation to form proteins. Amino acids are building blocks of a polypeptide and its sequence forms the primary structure of protein. The protein needs to be folded into a tertiary structure to be functional and hence the alpha helices and beta sheets transforms into tertiary structure and in some cases the tertiary structures of some proteins come together to form the quaternary structure of the protein. This forms the basis for the process of protein folding which is assisted by molecular entities known as chaperones. [1]thermodynamics of protein folding refers to the spectroscopic or calorimetric techniques used to estimate the stability measurements including the structural changes of a given protein in the presence of a denaturing agent and this constitutes the thermodynamics of protein folding. The ratio of the population of its unfolded state to that of folded one in equilibrium condition represents protein stability. [2]protein has a peculiar structure and the positioning of each atom in these macromolecules is unique relative to its neighbouring

atoms. This concerns the thermodynamics of formation of their structure. Newly translated proteins are assisted by an integrated network of molecular chaperones in facilitating their efficient folding, post-translational targeting, or even degradation. [7]

Forces which contribute to the protein folding can be long or short range and the interactions can be local or nonlocal. The long range forces include ion-ion, ion-dipole, or dipole-dipole, the short range forces are van der waals repulsive and attractive forces. The local interactions occur between adjacent amino acids in the linear sequence and non-local interactions are present between sequences separated in the linear sequence. At low temperatures, enthalpy predominates and helix formation in solution is favoured. At high temperatures, the helix is disfavored entropically. [3]as there is increase in the residing temperature, there are some covalent modifications which are made in the sequence of proteins.a study by szilagyi and zavodszky on93 structures of 25 proteins, 64 from animals who live at nominal temperatures (mesophiles)and 29 from organisms that live at elevated temperatures (thermophiles). The result and CONCLUSION of the study is mentioned under the result of this paper.[5]

Another study carried out by berezovsky and shakhnovich included the analysis of proteins from hyperthermophilic archaebacteria and compared them to analogous proteins from mesophilic bacteria.[6]they found the two types of stabilizations of hyperthermophilic bacteria which will be discussed below.

Result and Discussion:

The investigatory and diagnostic methods to study the protein folding includes the usage of isothermal titration calorimetry, uv–vis spectroscopy and fluorescence spectroscopy, in the refolding of membrane protein bacteriorhodopsin (br) , the behaviour of atp-dependent chaperonin groel–groes, a paradigmatic chaperone of soluble protein folding was investigated. Other experimental techniques to study the protein folding include x-ray crystallography, fluorescence spectroscopy and circular dichroism. The bacteriorhodopsin bound asymmetrically to the double-ring groel hence affecting its refolding. This work provides important information on the convergence of folding of membrane and soluble proteins in light of folding pathways and the role of molecular chaperones.[8]the predictions after the theoretical studies on helix-coil transitions are as follows:[3]

The stability of the helix increases as the chain length increases.there is a decrease in the stability of the helix as there is increase in the charge of the molecule.solvent assisted protonation of the carbonyl oxygen destabilises the helix.destabilisation of the helix is guided through solvents that form strong h bonds. On contrary, nonprotic solvents, chcl3 and dimethylformamide stabilize the helix. Stabilisation of helix is achieved by no or weaker h bonds to the peptide than water which in turn is aided by -chloroethanol and trifluoroethanol.according to these helix-coil studies, for the stabilization of protein h bonds are important.[3]unfolded substrate proteins bind to a hydrophobic binding patch on the interior rim of the open cavity of groel. Binding of substrate protein in this manner, in addition to binding of atp, induces a conformational change that allows association of the

binary complex with a separate lid structure, groes. Atp is hydrolysed and releases the groes which promote folding of protein. [9]
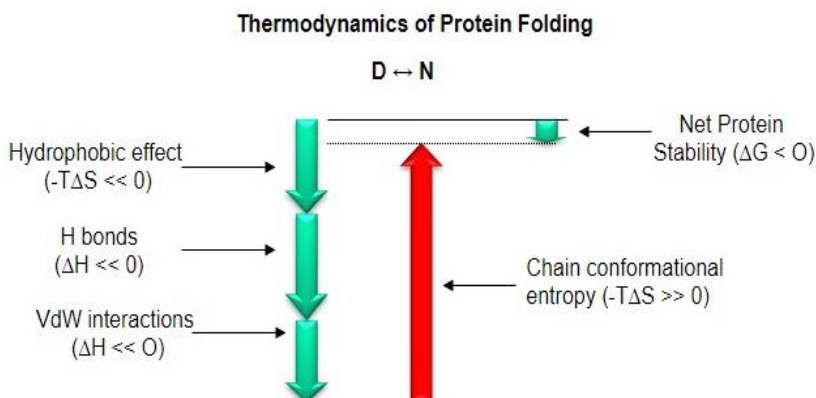
Fig.1. Relative contributions to δg for protein folding [4]

Anfinsen experiment: denaturation of ribonuclease a with 8 m urea conting β- mercaptoethanol, leads to random coil and no activity. Denaturation of ribonuclease a with 8 m urea conting β-mercaptoethanol, leads to random coil and no activity. After renaturation, the refolded protein has native activity despite 105 ways to renature the protein. [9]
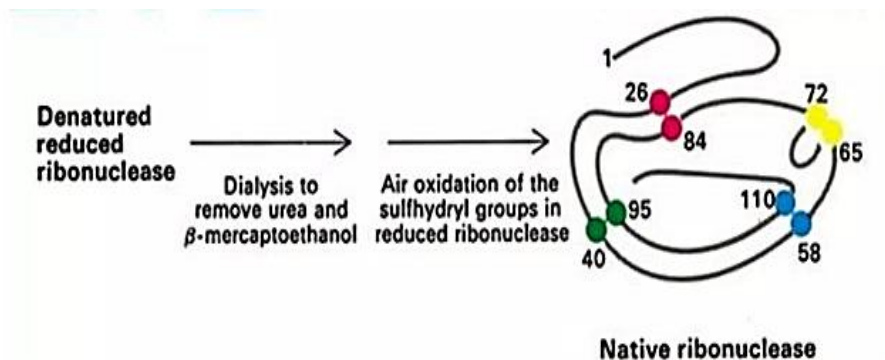
Fig.2. Steps in anfinsen experiment.[9]

The results of the study carried out by szilagyi and zavodszky showed that there is no correlation of the number of h-bonds and secondary structure with temperature, but with the number of salt bridges. [5]

The study carried out by berezovsky and shakhnovich included the analysis of proteins from hyperthermophilic archaebacteria and compared them to analogous proteins from mesophilic bacteria. The observations showed that proteins from cells that evolved in elevated temperature conditions were very compact but did not use specific structural stabilizing interactions and contrary

to it, proteins from cells that evolved under mesophilic conditions and later adapted to hyperthermophilic conditions had proteins that evolved specific sequences features that stabilized electrostatic interactions. [6] the framework model suggests that folding start with the formation of secondary structure which then interacts to form a more advanced folding intermediate. The molten globule state is an intermediate conformational state between the native and fully unfold states of globular protein. There are other proteins folding models viz. Collapse model, nucleation condensation model.[9]

Conclusion: In the summary, itcan be inferred that in bacteria, the folding of newly-synthesized proteins is carried out by three highly conserved molecular chaperones viz.groel,trigger factor (tf) and dnak. These major chaperones are strongly involved in protein translocation pathways as well. The other molecular chaperones and targeting factors include the redox enzyme maturation proteins (remps, secb, seca and the signal recognition particle (srp).[7]

And the results of anfinsen experiment showed that all the information necessary for folding into native structure is contained in the amino acid sequence of the protein.[9]the tric/cct chaperonin complex is present in eukaryotes.we have studied the impact of the bacterial chaperonin groel–groes on the foldingand the underlying mechanisms. We found that br binds asymmetrically to groel. This explains why the chaperonin system can drive the folding reaction. By considering together all the results, it can be proposed that groel with the help of atp and groes can mediate cycles of binding, unfolding, release, and refolding of bacteriorhodopsin.[8]

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Kinetics and mechanism of oxidation of l- menthol by chromium (vi) in acid aqueous medium

Priyanka Jain, Chandani mathur

IIS University, Jaipur, India

Abstract : The kinetics of oxidation of l- menthol by chromium (vi) in acid aqueous medium has been studied. The stoichiometry of the reaction based on spectral analysis of the products corresponds to the reaction as represented by eqn (1)

$$2Cr\,(VI)\;+\;3 \quad \longrightarrow \quad 2Cr\,(III)\;+ \quad +\;6H^+ \qquad (1)$$
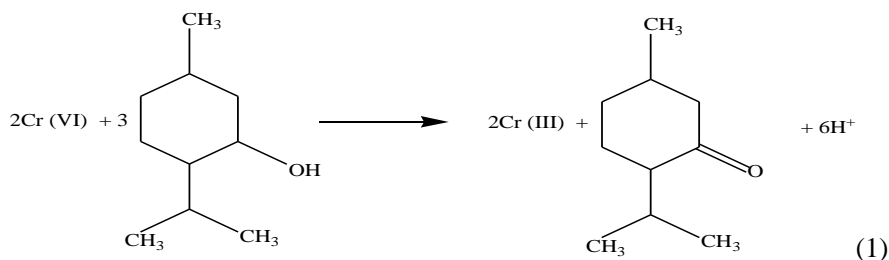
The reaction is first order in chromium (vi) but complex dependence with respect to the substrate is indicated. Also, the hydrogen ion dependence is also complex. A plausible reaction mechanism had been suggested from which rate law (2) was derived to account for experimental observations.

$$-\frac{2}{3}\frac{d[Cr(VI)]}{dt} = \frac{[Cr(VI)][M.ol](k_1 K_1 + k_2 K_2 K[H^+])}{1 + K_1[M.ol]}$$

Where [m.ol] is the concentration of l-menthol.

Keywords: oxidation, menthol, chromium (vi), kinetics

Comparative study of magnetic properties of co thin films deposited on-to self-assembled polystyrene nanospheres of different diameter

Y. Kumar[1, 2*], R. Maheshwari[2], J. Tripathi[3], and A. Sharma[1]

[1]*Dept. of Physics, Manipal University Jaipur, Jaipur, India*
[2]*Biyani Girls College, Jaipur,* [3]*Dept. of Physics, ISLE, IPS Academy, Indore, India*

Abstract : The morphological and magnetic properties of coo/co nanocaps prepared by ion beam sputtering and electron beam evaporation technique of co thickness (100nm) films are presented. These films were deposited on ps (polystyrene) nanospheres (800nm and 600nm diameter) using self-assemble don si (100) substrate through nanosphere lithography. For a comparative study, these films were also deposited on flat si substrate under same deposition conditions. While scanning electron microscopy showed the morphology and uniform distribution of nanospheres. Magnetic properties were investigated at room temperature using vibrating scanning magnetometer which show enhancement in coercivity when the bead size (diameter of polystyrene nanospheres) decreases.

Keywords: polystyrene, magnetic nanocaps, vsm.

Introduction : Advances in magnetism are strongly depending on the development of new realization techniques for magnetic nanostructures. Magnetic nanostructures are highly interesting scientific objects that have strong capabilities to develop the next-generation dynamic magnetic devices at nanoscale such as structures and materials for spin electronics, sensors, magnetic recording media, soft magnets and permanent magnets [1]. Such nanostructures have attracted new interesting magnetic characteristics including enhanced coercivity, large magnetic anisotropy and exchange bias and super-paramgnetism which are not present in their corresponding bulks. Pattern media based on magnetic-nanostructure have been extensively studied and have been a breakthrough technology for storage of high-density information.

Due to their novel properties resulting from the curved shape and nano-scale size of the underlying nanospheres, magnetic nanostructure based on isolated nanocaps have been attracting significant interest over the past ten years depending on technological requirements. These nanospheres can modify their properties to increase both their speed and storage capacity (200 tb/in.^{2}) [2]. In order to prepare magnetic nanostructures, there has been continuing developments in lithographic methods which enable precise control/adjustment of geometric factors including growth morphology, magnetic domain orientation, crystallite size and many more. Merits of the new nanosphere lithography technique over other conventional lithographic techniques such as dip coating, ion beam lithography, and photolithography, has attracted attention of scientific community over past years. Some of the merits of this new method includes uniform nanosphere coating over large surfaces, fast preparation process and easy fabrication method [3]. This technique enables fabrication of

″magnetic caps″ that are defined as "special type of magnetic nanostructures consisting of isolated nano magnets with limited dipole and exchange interaction among nearest neighbours". These nanostructured films exhibit significantly different properties from the films (same thickness and material) deposited on flat surface, which has been primarily been attributed to the curved nature of the nanosphere [4-5].

These interesting magnetic nanostructures and their properties have motivated the present work and therefore, we have reported the synthesis andcharacterization of thin films of coo/co deposited on curved surface of self-assembled polystyrene nanospheres, which were prepared using self-assembled nanosphere lithographic technique. The results showed that the curvature morphology played an important action in the modification of the magnetic properties. Magnetic films on curved surface are compared with the same thickness of the films deposited on reference plane si substrate. The observed changes in structure and magnetic properties are attributed to the curvature induced modifications occurring in these structures [6-7].

Experiments : To synthesize uniform nanosphere array on si (100) substrate, the substrate was overall cleaned by chemical cleaning method using ultrasonic cleaning followed by acetone and methanol washing. Then the solution containing the polystyrene (ps) nanospheres of 600 and 800 nm diameter was drop coated on this cleaned si substrate and kept for drying in air. After drying, a visible a 2d mono-dispersed layer of these nanospheres was seen on the substrate. These spheres arrays were then characterized using scanning electron microscopy and then used as template for further deposition of co films using different techniques. For the present study, the thickness of co thin film (100 nm) wasdeposited on 600nm and 800 nm diameter of ps nanospheres coated si (100) substrate using by ion beam sputtering and electron beam evaporation techniques respectively. For reference, the films were simultaneously depositedon planebare si (100) substrates under identicaldeposition conditions and with same synthesis parameters.after deposition, high purity oxygen gas was introduced in the evaporation chamber to oxidize the co film which makes coo layer on top of these co films. This oxidation was purposely performed to study the exchange bias properties of these films, which are beyond the scope of the present work. The thickness of the so formed coo was ~ 3nm as estimated from xrr measurement on plane film. Figure 1 shows a schematic of surface morphology of co film on ps arrays and on plane si substrate. It shows how the growth of co film is different on both the substrates and in case of polystyrene substrate; the thickness of co film seem to vary along the curvature.
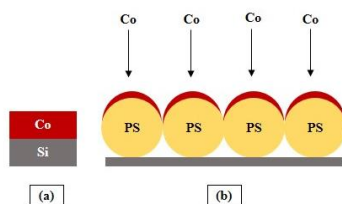
Figure 1. A model showing different growth of the co film on (a) plane and (b) polystyrene substrate.

However, in case of plane substrate, film thickness is uniform throughout the substrate surface. The magnetic properties of these thin film structures were measured at room temperatures using by "mpms 7t squid-vsm, quantum design" at ugc dae csr, indore for the present work.

Results and Discussion :

Room Temperature Measurement : Magnetic hysteresis loops of patterned (curved and isolated) co/coo thin films deposited on ps nanospheres and simultaneously on plane si substrate are depicted in figure 2.for room temperature hysteresis loop recording, vsm instrument was used. To record the hysteresis loops during room temperature measurements, the magnetic field was applied in parallel direction with respect to the sample surface and the hysteresis was recorded till the complete saturation of magnetic moment was achieved. The co thin films exhibit a square shaped loop with switching action as reflected in fig. 2 (magnetization loop of co films on plane substrates).however, when curved under layer is introduced, the square shape changes to an "s" type shape, magnetization loop of co films on ps substrates for both 800 nm and 600 nm diameters. For the reference films show similar remanance. Compared to these, the films on ps substrate show reduction in remanance values, which are roughness dependent and decrease drastically in thicker film (co 100nm).

The coercivity values show significant increment as compared to plane samples, becoming 54 oe and 106 oe for the 800 nm and 600 nm diameter of ps substrates respectively. It is well known that in plane co/si films, the magnetization reversal process takes place through domain wall propagation, which overcomes nucleation barriers at low coordination sites; like defects or grain boundaries [8-9]. In patterned films like in the present case of films on ps, the magnetization reversal process is not well understood yet, as further complexity is introduced by the nanostructure (thin film) formation. In such systems, each nanocaps behaves as a tiny magnet containing a domain.
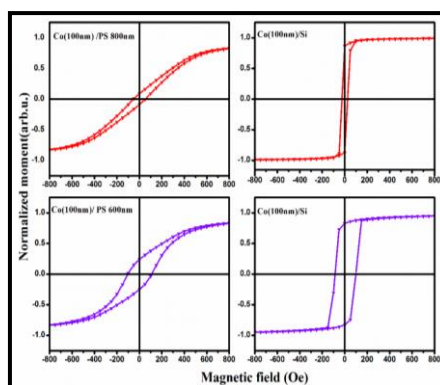
Figure 2. Room temperature magnetization measurements done on coo/ co (100 nm)/ thin films deposited on ps (800 nm and 600 nm) and coo/ co (100 nm)/ thin films deposited on plane si substrates.

Table 1: calculated coercivity from hysteresis loops recorded at room temperature.

Diameter	sample	Coercivity (oe)
800 nm	coo/co/ps(800nm)	54
	coo/co/si	25
600nm	coo/co/ps(600nm)	106
	coo/co/si	93

The switching of the individual domains results in an increment in coercivity. An interesting observation was seen that the coercivity in this case was found to be 51% higher (in ps case) than that of the film deposited on 800 nm diameter ps and apart from the selection of different deposition method. The coercivity value h_c increased when the bead size (diameter of ps) decreased for the curved bilayer with the same thickness. The smaller beads meant the larger curvature and the larger interfacial roughness [10].

Conclusion: The magnetic measurements were carried out on co (100 nm) films deposited by ion beam and electron beam evaporation technique. These films were deposited on self-assembled polystyrene nanosphere with different diameters (800nm and 600nm) arrays drop coated by nanosphere lithography method and were simultaneously synthesized on plane si substrate. The hexagonal symmetry of ps nanospheres deposited on si substrate is clearly observed by sem measurements (result not included here) the room temperature measurements (vsm) carried out on these samples show higher coercivity in the films deposited on ps than that on plane substrate for both the diameters. These hysteresis loops suggested that, with the increasing surface/interface roughness, the magnetization reversal changed gradually from magnetization rotation dominated for the smoothest films (co/si) to domain-wall motion dominated for the roughest films (co/ps). Also an interesting thing found that when the beads of the different sizes were used as the substrate, coercivity increased when the bead size decreased.

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Physics of deformation at microstructural length scale of biomedical materials

Sangeeta Rawal[1*], Anoop Kumar Mukhopadhyay[1]

[1]Department of Physics, Sharda School of Basic Sciences and Research, Sharda University, Greater Noida-201310, Uttar pradesh, India.

Abstract : Metallic materials are considered as the most sought after material for almost all conceivable kinds of applications e.g., structural, functional, load bearing, impact bearing and biomedical. Hence, for all such applications to be successful the structural integrity of the metals must be ensured at the microstructural length scale. Thus, the nano indentation technique is the only technique that can measure the nanoscale mechanical properties of metals quickly and reliably. Here we present an overview of the basic aspects of the nano indentation technique for the metallic materials including those important for biomedical applications.

Keywords: metals, nano indentation, load, deformation, biomedical, application

Introduction: Metallic materials are considered as the most sought after material for almost all conceivable kinds of applications e.g., structural, functional, load bearing, impact bearing, biomedical, and almost anything that comes in between. Additionally, metals have a large number of slip systems available to be operative at room temperature. So, they can very easily deform by

plastic deformation. Nominally speaking the nanoindentation technique provides experimental evaluation of the nanoscale/microstructural length scale mechanical properties of thin films and coatings as well as bulk samples of metals, ceramics, polymers and composites. Many other important mechanical properties e.g., fracture toughness (k_{ic}), residual stress etc., also can be evaluated by the nanoindentation technique [1].one of the most celebrated and globally accepted models utilized for evaluation of (h) and (e) is due to the famous work of oliver and pharr [2]. Due to the large number of slip systems available, the metals can always deform by plastic deformation and nanoindentation technique can be used to analyse these deformations.

Materials and Methods: With the help of the nanoindentation test, the phase transformations, dislocation source activation, hardness, young's modulus, fracture toughness, nanoindentation fatigue resistance, creep resistance etc. can be found out by using a standard nanoindenter. Particularly for metals and metallic alloys which are important for biomedical application, the nanomechanical properties measured at nm/mm depth are of paramounting importance. An experimental load (p) versus depth (h) plot for single-crystal pt (100), is given in the figure below [3]. This is a metal useful for biomedical application where the highest amount of purity is to be ensured.
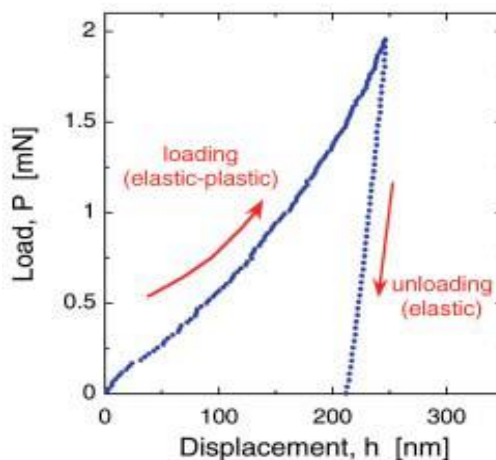
Figure 1: example of a typical load-displacement curve (p-h curve) obtained from nanoindentation experiment of single-crystal pt (100), an elastic-plastic material [3].

Results and discussions:

In these experiments a continuous record of the applied load (p) versus depth (h) of penetration produced by (p) is recorded by using appropriate dedicated transducers. Since the tip typically has a radius of e.g., about 10-300 nm, the local stress is high enough to cause elastic and plastic deformation in a given metal. The experiments can be conducted in a conventional nanoindenter [3-6]. The nanohardness (h) is estimated as the ratio of load to the corresponding CONTACTS area.

Similarly, from the experimental measurement of the stiffness of the sample and the nanoindenter which forms a series, the young's modulus (e) of the sample is estimated utilizing the known values of poisson's ratio of the sample as well as the nanoindenter and the young's modulus of the nanoindenter. Finally, one of the most important emerging areas of research focus is the application of nanoindentation to characterize the additively manufactured (am) 316l stents for biomedical application [4].thus, the application of the nanoindentation technique to biomedical metallic implant materials is going to grow further in days to come.

Conclusion: This paper reviews the physics of deformation at the micro structural length scale related to nanoindentation response of metallic materials for biomedical applications.

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Recent advances in the synthesis of thiazole derivatives by microwave method

Ritu Sharma, Nikki Goel and Jyoti Singh
Department of Science, Biyani Girls College, Jaipur, India

Abstract: A microwave assisted synthesis of thiazole derivatives has been reported. Microwave reactions are supposed to synthesize organic molecules with excellent yields and reduced reaction times to only a few minutes. Microwave reactions are also easy to operate and do not heat the reaction vessel. Thiazoles are reported to have a large no. Of biological activities and wide

pharmaceutical applications. In vitro and in vivo studies have been done and molecular docking studies have been done to evaluate the functions of the synthesized novel compounds. Many have come out to promising. Here in this review we are going to report the synthesis of thiazole derivatives having a large no. of biological applications by microwave method. On water synthesis of microwaves has also been done.

Introduction : Thiazole heterocycles have got a wide range of biological activities such as antibacterial, antifungal, anti-inflammatory etc. Through microwave a large no. Heterocycles has been preparedby different techniques and through different mechanisms under microwave irradiation. Synthesis of heterocyclic compounds under surrounding pleasant conditions is a challenging task. From the decade of 80s microwave irradiation has laid a new foundation for the synthesis of several organic moieties and it has been an area of interest for the synthesis of various medicinally important compounds. Microwave irradiations are electromagnetic waves that generate heat energy by the interaction with the charged particles. They require synthesizing the organic moieties in a time span of a few minutes in contrast to long hour running reactions thus saving time and energy[1].

Thiazoles are five membered n and s containing heterocycles. Ebuxostat is a urate lowering drug and inhibitor of xanthine oxidase used for the treatment of hyperuricemia and chronic gout[2], and fatostatin is a srebp inhibitor.[3] similarly, nizatidine is a useful drug used for the treatment of peptic ulcers and gastroesophageal reflux disease.[4] the thiazole moiety is also found in vitamin b1 as well as various other bioactive molecules. Thus, the plan and development of novel and environment friendly methods for synthesizing such compounds are of great interest.
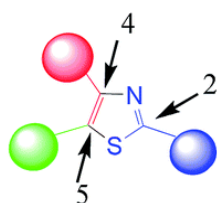
Trisubstituted thiazole mentioning the positions of substituents
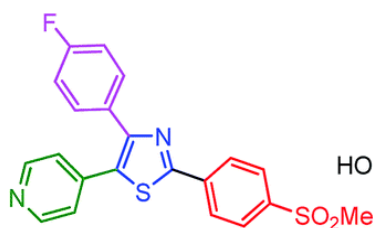
p38 MAP kinase inhibitor
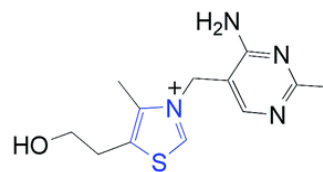
Vitamine B1
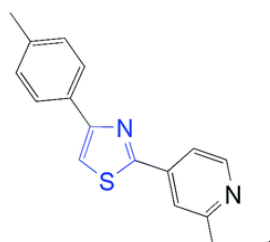
Fatostatin
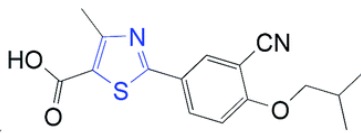
Febuxostat
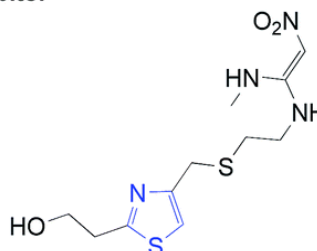
Nizatidine

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Role of Nanodrug Delivery Systemsin Various CancerTreatments

Ruchi Singh

Department of Chemistry, IIS University, Jaipur

Abstract: Nanotechnology has enabled the development of novel therapeutic and diagnostic strategies, such as advances in targeted drug delivery systems, versatile molecular imaging modalities, stimulus responsive components for fabrication, and potential thermostatic agents in cancer therapy. Nanoparticle modifications such as conjugation with polyethylene glycol have been used to increase the duration of nanoparticles in blood circulation and reduce renal clearance rates. Such modifications to nanoparticle fabrication are the initial steps toward clinical translation of nanoparticles. Additionally, the development of targeted drug delivery systems has substantially contributed to the therapeutic efficacy of anti-cancer drugs and cancer gene therapies compared with nontargeted conventional delivery systems. Although multifunctional nanoparticles offer numerous advantages, their complex nature imparts challenges in reproducibility and concerns of toxicity.

A thorough understanding of the biological behavior of nanoparticle systems is strongly warranted prior to testing such systems in a clinical setting. Translation of novel nanodrug delivery systems from the bench to the bedside will require a collective approach. The present article focuses on recent research efforts citing relevant examples of advanced nanodrug delivery and imaging systems developed for cancer therapy. Additionally, this work highlights the newest technologies such as microfluidics and biomimetics that can aid in the development and speedy translation of nanodrug delivery systems to the clinic. The field of nanomedicine has already made significant advancements, including the clinical approval of a number of nanodrug and imaging delivery systems in cancer therapy. However, challenges of complexity and toxicity bottleneck the translation of a large group of novel nanodrug delivery systems. It is important to note that multiple

barriers exist before a nanodrug delivery system can enter into the clinical setting. The nanoparticle carriers should qualify all the routine standards for a pharmaceutical system such as safety, quality, stability, and bioavailability.

Keywords: cancer therapy, toxicity, nanodrug delivery systems, nanomedicine, polymer nanoparticles.

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Mycogenic extracellular amylases enabled silver nanoparticle synthesis: NewNano agents for suppression of plant pathogenic fungi

Juhi Saxena and Tanya Gupta

Department of Biotechnology, University Institute of Biotechnology,
Chandigarh University, Mohali, Punjab, India.

Abstract: Plant pathogens like*Sclerotinia sclerotiorum* MTCC8785, have been identified as a serious threat to modern agro-economy. Silver nanoparticles (AgNPs), being antifungal and eco-friendly in nature, have drawn attention to overcome these problems. The present study has been designed to synthesize amylases-capped AgNPs from the bio control fungus *Aspergillus flavus MTCC 3107* followed by characterization with UV-vis spectroscopy, transmission electron microscopy as well as evaluation of its antifungal properties. Data obtained confirmed, the role of extracellular amylases secreted by selected fungus as reducing, capping, and stabilizing agents for the production of new nanomaterials. UV-vis spectroscopy clearly showed a peak at 420 nm corresponding to AgNPs. Furthermore, TEM analysis demonstrated AgNPs of 40 nm in size and spherical in shape. The findings were supported by FTIR and XRD results. Furthermore, these AgNPs showed growth inhibition against the phytopathogen *S. sclerotiorum* MTCC 8785. This notorious phytopathogen causes white mold disease, which is a serious threat to modern agriculture and is rapidly evolving to acquire new forms of resistance. Therefore, we advocate that using stable AgNPs from already known biocontrol fungi is a smart step to prevent an unexpected outbreak of plant diseases.

Keywords: Fungi, Nanoparticles, Plant pathogens

Introduction: Fungi are excellent secretors of enzymes which can be utilized for bio reduction and capping process of silver nanoparticles. These enzymes like amylases play crucial role in stabilizing nanoparticles and enhance their antimicrobial action. Plant pathogens are harming agricultural

sector therefore suitable alternatives are prerequisite to combat new forms of resistant pathogens. *Aspergillus flavus MTCC 3107 is biocontrol fungus and therefore the extracellular amylases from these fungi catalyzed silver nanoparticles synthesis which has shown antifungal effect against plant pathogen S.sclerotiorum* MTCC 8785.

Experimental/Methodology: Various techniques like UV-Vis spectroscopy, Transmission Electron Microscopy, FTIR and XRD have been utilized to characterized silver nanoparticles. Radial growth Inhibition assay has been employed to evaluate antifungal role of amylase capped silver nanoparticles.

Result and discussion: The results exhibited the spherical silver nanoparticles of size 40nm with characteristic FTIR spectra. These nano agents have shown increasing antifungal activities with increasing concentration against *Sclerotinia sclerotiorum* MTCC 8785.

Conclusion: The study highlights the significance of biological nanoparticles against plant pathogenic fungi. The significance of biological nanoparticles against plant pathogenic fungi.

Result and Discussion: The results exhibited the spherical silver nanoparticles of size 40nm with characteristic FTIR spectra. These nano agents have shown increasing antifungal activities with increasing concentration against Sclerotinia sclerotiorum MTCC 8785.

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Development of an Herbal Hair Dye from Culinary substances

Shakshi Sharma and Shilpa Bhargava
Department of Science, Biyani Girls College, Jaipur, India

Abstract: Herbal-based hair colors are becoming increasingly popular owing to the numerous benefits they provide in comparison to chemical-based hair dyes. Natural herbal dye contains antioxidants, which improve in hair coloring without causing harm. Hair color loss is caused by a variety of factors, including hereditary influence, the impact of environmental variables, the use of alcoholic beverages, and so on. The rise in environmental and health risks associated with dye manufacturing and use across the world is a major source of worry.Herbal products are recommended because of their benefits over synthetic products, which have negative effects on human health owing to harsh ingredients such as paraphenylene diamine. Thus, the current study aimed to manufacture herbal hair dye utilizing herbal extract from various herbal powders such as *Lawsoniainermis, Indigoferatinctoria, Camella sinensis, Coffea arabica, Phyllanthus emblica, Azadirachta indica, and Nigella sativa.* The dye's organoleptic, physicochemical, rheological, and stability properties were assessed. The formulation produces a dark brown to black colour.

Keywords: herbal hair color, herbal dye, henna dye, Hair colorants

Introduction: The influence of synthetic pigments on humans has become a big issue, with some of them being identified as carcinogenic and having a negative impact on the environment. Natural dyes provide several advantages, including no side effects, a high safety factor, biodegradability, and environmental friendliness.[1] Synthetic hair dyes contain chemicals such as 1-3% phenylene-diamine, ammonia, peroxide, and coal tar, as well as inorganic salts such as aluminium sulphate, copper sulphate, lead acetate, and potassium dichromate [2]. Tannins increase dye pigment and fastness by creating adhesion between colors and hair[3]. The present study is to create a hair dye based on crude herbal medicinal plant that has good coloring qualities and is both safe and ready to use.

Materials and methodology:

Plant collection: The source of plant material such as, Henna, indigo, Amla, Coffee, Neem, Tea, Kalonji were collected from nursery.

Preparation of plant extraction: The fresh leaves of henna and other plant source are dried and grinded to make a fine powder. Each herbal powder was given 25 gm and boiled in 150 ml of distilled water for 3 hours before being filtered and evaporated to dryness.

Formulation: The proper amount of ingredients was then properly stirred to create an uniform mixture for each formulation. A suitable amount of water is added to form a paste. The powdered pack should be applied to moist hair once a week, making a paste of perfect consistency in water. It should be applied evenly to the hair using a brush, from the roots to the hair tip.

Observation:

S.No	pH	Moisture content	Ash value	Bulk density	Tapped density	Hausner's ratio	Carr's index	Patch	Stability
Herbal dye	7.0	93.66%	7.66%	0.50	0.51	1.02	0.51	Negative	No change

Conclusion: The dye composition is good in terms of colour, odour, and texture. physiochemical. There is no discomfort to the scalp and no change in stability.

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A review on wastewater management options viable for breweries sector

Manishita Das Mukherji

Amity Institute of Biotechnology, Amity University Rajasthan, Jaipur, INDIA

Abstract: The concept of sustainable development makes us aware towards many issues including wastewater management and reclamation. Industries worldwide consume and emanate huge quantities of water and wastewater respectively. Breweries are one of the largest water consuming and effluent generating industries. The effluent emanated from this industry has high organic load and if discharged without treatment can lead to water pollution and other related issues. This review will focus on the economically viable wastewater reclamation options available for the breweries industrial sector.

Keywords: Breweries, Wastewater Management.

Introduction : The breweries industry is a water intensive unit as the brewing process involves the use of huge quantities of water. The production is a batch process whereinwashing, cleaning and sterilizing of all equipments is carried out after every batch [1]. The quantity of effluent generated is nearly same as that of the water consumed. This huge amount of effluent is characterized bysoluble starch, sugars, ethanol, leading to high biological oxygen demand (BOD), chemical oxygen demand (COD) and total suspended solids(TSS) and volatile fatty acids (VFAs) [2]. The effluent if not treated properly will lead to not only water scarcity but also other environmental concerns. Therefore, the huge water requirement as well as the high polluting capability of the effluent requires the breweries industrial sector to look upon wastewater reclamation options as sustainability is the key to survival.

Effluent Characteristics of Breweries : Table 1 provides us with the effluent characteristics of the breweries. The nutrient content of effluent is determined by the raw material used for brewing.

Parameters	Concentrations	Indian Effluent Discharge standards as per CPCB (Inland surface water)
COD (mg/L)	1800-50,000	250
BOD (mg/L)	1005-38,000	30
TS (mg/L)	50-6000	
TDS (mg/L)	2020-5940	2100
TSS (mg/L)	550-3000	100
TP (mg/L)	4-103	5
TKN (mg/L)	20-600	100
SO4-2 (mg/L)	20-50	
VFA (mg/L)	1000-2500	

Table 1: Effluent characteristics and discharge standards of breweries industry [3,4,5,6]

Treatment of Effluent from Breweries: The physico chemical methods used for the treatment of breweries effluent include screening, flow equalization, grit removal, coagulation and flocculation, and, sedimentation. This is followed by both aerobic and anaerobic treatment which includes activated sludge process, aerobic lagoons, upflow anaerobic sludge blanket or fluidized bed reactor [1]. The immense amount of water required in the breweries needs the water to be reclaimed. The common techniques which are used are photosynthetic bacteria-membrane bioreactor (PSB-MBR), advanced oxidation technique, membrane bioreactors, membrane filteration, and, micro algae treatment [1]. These techniques can effectively reduce the pollutant load by upto 99%, therefore the water can be reused for other purposes [1].

Conclusion: The physico-chemical treatment methods followed by the biological methods are the conventional methods for the treatment of breweries effluent. However, membrane technology is the best suited method which if employed can be helpful in reclamation of water and achieve the sustainable development goal number 6.

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Adjuvant Chemotherapy in Resected Colon Cancer: When, How and How Long?

Surya Prakash Meena, Sanju Meena, Sumita A. Jain

Department of General Surgery, S.M.S. Medical College, Jaipur, Rajasthan, India

Abstract: Colorectal cancer (CRC) is the third most common cancer and the second leading cause of cancer related death worldwide. Thus, after surgery more effective and less toxic treatments are required to prevent recurrence and prolong survival of the resected CRC patients. In this study we present and analyze the available data on efficacy and toxicity of the combination regimen approved for treatment of resected colon cancer,and discuss the questions of when, how and how long we need to treat such patients

Method: This is prospective study conducted on patients of colorectal cancer.

Result: A number of trials in adjuvant setting have analyzed the efficacy of multiple agent combinations, including irinotecan, oxaliplatin, bevacizumab and cetuximab. Only oxaliplatin has demonstrated a significant benefit in the adjuvant setting.

Conclusion: Data from this study demonstrated that patients with stage III colon cancer should be considered at low risk for recurrence and may be treated with a 3-mo oxaliplatin based regimen as compared with the standard 6-mo regimen. Infect the shorter course was associated with a dramatic reduction in neurotoxicity, without compromising DFS at 3years.

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Interpretation of ground water quality parameters with special reference to fluoride in different sampling sites of Malpura Block, Tonk District, Rajasthan, India.

Girja Shanker Tailor, Meenu Mangal, C.P.S. Chandel & Sunil Mangal

[*1]*Assistant Professor, Department of Chemistry, Poddar International College, Mansarovar, Jaipur*
[1]*Professor, Department of Chemistry, Poddar International College, Jaipur-302020, Rajasthan*
[2]*Former -Head, Department of Chemistry University of Rajasthan Jaipur, Rajasthan, India*
[3]*Department of Prosthodontics, Crown and Bridge and Implantology, Jaipur Dental College, Dhand, Tehsil-Amer, Jaipur-302028, Rajasthan, India*

Abstract :

The present study was carried out to analysis of various physico-chemical parameters with special reference to Fluoride to examine the major suitability of water for drinking, irrigation and domestic use, the chemical characteristics of ground water in Malpura Tehsil (Tonk district, Rajasthan). Water is essential natural resources for sustaining life and environment that we have always thought to be available in abundance and free gift of nature.Fluoride concentration in the study area varied from 0.5mg/L to 6.90mg/L with an average of 3.17mg/L. The presence of excessive quantity of fluoride in drinking water is accompanied by a characteristic sequence of changes in teeth and bone. Fluoride is attracted by positively charged calcium ions in teeth and bones and can result in pathological changes in teeth and bones, such as mottling of teeth or dental fluorosis followed by skeletal fluorosis. Groundwater is a major source of human intake of fluoride. The main source of fluoride in groundwater is considered to be fluoride- bearing minerals such as fluorapatite[$Ca_5(PO_4)_3F$], fluorspar (CaF_2), cryolite and hydroxyl apatite in rocks.

Keywords: Groundwater, Dental and skeletal fluorosis, Environment, Fluoride, Natural resources.

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Physical- ChemicalAnalysis of Water samples in different areas of Jaipur District Rajasthan

Rohit Kumar Dhaked[#], Kapil Kumawat[#], Surendrapal Solanki[#] Akram Khan[#] and Meenu Mangal*

* Vice Principal and Professor, Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, Rajasthan, India
[#]M.Sc.Final Student, Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, Rajasthan, India

Abstract: Ground water is among the Nation's most precious natural resources. Groundwater is the mostimportant basis for municipal and rural India. India is heading concerning a freshwater menacemainly due to inappropriate controlling of water assets and environmental decomposition, due tothis safe water are not easily access by lots of persons. In order to assess the various parameters of ground water, ten samples were collected from open wells, hand pumps and bore wells.Ten samples of groundwater were collected and evaluated for domestic purposes in the adjacent locations of Jaipur, Rajasthan. The Physical and chemical parameters of ground water quality are studied in terms of sources, impacts, definition, effects, and measuring methods.

Keywords: Jaipur district, Groundwater, Physical and chemical parameters.

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A certain study of Fractional Integral operator involving with Incomplete Elliptic integral, generalized Bessel's Maitland function and Incomplete Aleph function

Beena Bundela[1] , Swati Kharabe[2] ,Manish Bansal[3],
JECRC University, Jaipur (Raj.) India
JECRC University, Jaipur (Raj.) India
JIIT, Noida, India

ABSTRACT

In this article we introduce a new fractional integration operators associated with the incomplete Elliptic integral, Generalized Bessel's Maitland function and incomplete Aleph function in its kernels. Further we obtain the Parseval-Goldstein theorem related to these operators.

KEY WORDS: Fractional operators, Incomplete Elliptic Integrals, Generalized Bessel's Maitland, function, Incomplete Aleph function, Integral transforms.

INTRODUCTION

INCOMPLETE ELLIPTIC INTEGRAL

The family of **incomplete elliptic integrals** used in this paper is defined and represented in the following form [1, pp.1178-1179, eqs. (1.12&2.6)]:

$$H\left(\phi,k;\gamma\right)=\int_{0}^{\phi}\left(1-k^2\sin^2\theta\right)^{\gamma-\frac{1}{2}}d\theta=\sin\phi\,F_1\left[\frac{1}{2},\frac{1}{2}-\gamma,\frac{1}{2};\frac{3}{2};k^2\sin^2\phi,\sin^2\phi\right]$$

$$=\frac{\sin\phi}{2\sqrt{\pi}\Gamma\left(1/2-\gamma\right)}\frac{1}{\left(2\pi\omega\right)^2}\int\int_{L_1\,L_2}\frac{\Gamma\left(1/2+\xi_1+\xi_2\right)\Gamma\left(1/2-\gamma+\xi_1\right)\Gamma\left(1/2+\xi_2\right)\Gamma\left(-\xi_1\right)\Gamma\left(-\xi_2\right)}{\Gamma\left(3/2+\xi_1+\xi_2\right)}$$

$$\left(-k^2\sin^2\phi\right)^{\xi_1}\left(-\sin^2\phi\right)^{\xi_2}d\xi_1 d\xi_2 \tag{1}$$

where

$$\left(\left|k^2\right|<1;0\leq\phi\leq\frac{\pi}{2};\left(\frac{1}{2}-\gamma\right)\neq0,-1,-2\ldots;\gamma\in C\right)$$

.

We mention below three special cases of this integral:

1.   If in the above result we put $\varphi=\dfrac{\pi}{2}$, then we get

$$H\left(\frac{\pi}{2}, k; \gamma\right) = H(k; \gamma) = \int_0^1 \frac{\left(1 - k^2 t^2\right)^{\gamma - \frac{1}{2}}}{\sqrt{\left(1 - t^2\right)}} dt \quad ,$$

$$= \frac{\pi}{2} {}_2F_1\left(\frac{1}{2}, \frac{1}{2} - \gamma; 1; k^2\right), \quad \left(\left|k^2\right| < 1; \gamma \in C\right) \tag{2}$$

2. By putting $\varphi = \frac{\pi}{2}, \gamma = 0$ in eq. (3.1.1), we arrive at the following result after making some obvious changes in parameters:

$$H\left(\frac{\pi}{2}, k; 0\right) = K(k) = \int_0^1 \frac{dt}{\sqrt{\left(1 - t^2\right)\left(1 - k^2 t^2\right)}},$$

$$= \frac{\pi}{2} {}_2F_1\left(\frac{1}{2}, \frac{1}{2}; 1; k^2\right), \quad \left(\left|k^2\right| < 1\right) \tag{3}$$

3. In eq.(3.1.1), we take $\varphi = \frac{\pi}{2}, \gamma = 1$ we get the following form:

$$H\left(\frac{\pi}{2}, k; 1\right) = E(k) = \int_0^1 \sqrt{\frac{\left(1 - k^2 t^2\right)}{\left(1 - t^2\right)}} dt$$

$$= \frac{\pi}{2} {}_2F_1\left(\frac{1}{2}, -\frac{1}{2}; 1; k^2\right), \quad \left(\left|k^2\right| < 1\right) \tag{4}$$

The Incomplete Aleph function

Recently Bansal et. al [2] introduced and investigate the incomplete Aleph function $(\Gamma)\aleph_{p_i, q_i, \rho_i, r}^{m,n}(z)$ and $(\gamma)\aleph_{p_i, q_i, \rho_i, r}^{m,n}(z)$

$$(\Gamma)\aleph_{p_i, q_i, \rho_i, r}^{m,n}(z) = {}^{(\Gamma)}(\aleph)_{p_i, q_i, \rho_i, r}^{m,n}\left[z \left| \begin{array}{l} (a_1, A_1, y), (a_j, A_j)_{2,n}, [\rho_j(a_{ji}, A_{ji})]_{n+1, p_1} \\ (b_j, B_j)_{1,m}, [\rho_j(b_{ji}, B_{ji})]_{m+1, q_1} \end{array} \right.\right]$$

$$= \frac{1}{2\pi i} \int_{\mathbb{C}} K(\xi, y)(z)^{-\xi} d\xi, \tag{5}$$

where $z \neq 0$, and

$$K(\xi,y) = \frac{\Gamma(1 - a_1 - A_1\xi,y)\prod_{j=1}^{m}\Gamma(b_j + B_j\xi)\prod_{j=2}^{n}\Gamma(1 - b_1 - B_1\xi,y)}{\sum_{i=1}^{r}\rho_i\left[\prod_{j=m+1}^{q_i}\Gamma(1 - b_{ji} + B_{ji}\xi)\prod_{j=n+1}^{p_i}\Gamma(a_{ji} - A_{ji}\xi)\right]} \quad (6)$$

and

$$(\gamma)\aleph_{p_i,q_i,\rho_i,r}^{m,n}(z) = {}^{(\gamma)}(\aleph)_{p_i,q_i,\rho_i,r}^{m,n}\left[z\left|\begin{array}{l}(a_1,A_1,y),(a_j,A_j)_{2,n},[\rho_j(a_{ji},A_{ji})]_{n+1,p_1}\\(b_j,B_j)_{1,m},[\rho_j(b_{ji},B_{ji})]_{m+1,q_1}\end{array}\right.\right]$$

$$= \frac{1}{2\pi i}\int_{\mathbb{C}} L(\xi,y)(z)^{-\xi}d\xi, \quad (7)$$

where $z \neq 0$, and

$$L(\xi,y) = \frac{\gamma(1 - a_1 - A_1\xi,y)\prod_{j=1}^{m}\Gamma(b_j + B_j\xi)\prod_{j=2}^{n}\Gamma(1 - b_1 - B_1\xi,y)}{\sum_{i=1}^{r}\rho_i\left[\prod_{j=m+1}^{q_i}\Gamma(1 - b_{ji} + B_{ji}\xi)\prod_{j=n+1}^{p_i}\Gamma(a_{ji} - A_{ji}\xi)\right]} \quad (8)$$

The incomplete Aleph function given in (8) and (10)   exist for all y>=0 under the same contour and the same set of conditions as stated in [2](see also [1]).A complete details of (5) and (7) can be found in [2].

Generalized Multiindex Bessel-Maitland function

Khan [ ] explored and invented generalized Multiindex Bessel-Maitland function as follows:

$$J_{(\beta_j),q}^{(\alpha_i),\gamma}(x) = \sum_{m=0}^{\infty}\frac{(\gamma)_{qm}(-x)^m}{\prod_{j=1}^{n}\Gamma(\alpha_j m + \beta_j + 1)m!} \quad (9)$$

where

$j = 1,2,\ldots,n;\ \Re(\gamma) > 0, \Re(\beta_j) > 1, \Re[\sum_{j=1}^{n}\alpha_j] > \max\{0, q-1\}, q\epsilon(0,1)\ U\mathbb{N}\ and\ n\epsilon\mathbb{N}$

and $(\gamma)_{qm}$ is the Pochhammer symbol, which can be written in terms of gamma function as

$$(\gamma)_{qm} = \frac{\Gamma(\gamma + mq)}{\Gamma(\gamma)} \quad (10)$$

a number of researchers have looked at the applications in the various field of physics, engineering mathematics and sciences.

FRACTIONAL INTEGRAL OPERATORS

Now we present the following two unified fractional integral operators involving incomplete elliptic integral, Incomplete Aleph function and generalized Multi-index Bessel's Maitland function having general arguments defined and represented in the following manner:

$$I_x^{\nu,\lambda}\left[f(t)\right] = I_x^{\nu,\lambda:\nu_0,\lambda_0:\nu_1,\lambda_1:\nu_2,\lambda_2}_{:z_0,\phi,\gamma:z_1,P:z_2,\rho,\alpha,\beta}\,[f(t)] =$$

$$x^{-\nu-\lambda-1}\int_0^x t^\nu (x-t)^\lambda\, H\left(\phi, z_0 \left(\frac{t}{x}\right)^{\nu_0}\left(1-\frac{t}{x}\right)^{\lambda_0};\gamma\right)$$

$$J_{(\beta_j),q}^{(\alpha_i),\gamma}\left(z_1\left(\frac{t}{x}\right)^{\nu_2}\left(1-\frac{t}{x}\right)^{\lambda_2}\right) f(t)\,dt \qquad (11)$$

where $f(t) \in A$ and A denotes the class of functions for which

$$f(t) = \begin{cases} O\left\{|t|^\varsigma\right\}, & \max\{|t|\} \to 0 \\ O\left\{|t|^{w_1} e^{-w_2|t|}\right\}, & \min\{|t|\} \to \infty \end{cases} \qquad (12)$$

provided that

$$\left.\begin{array}{l} \operatorname{Re}[\nu+\varsigma+\nu_1] > -1, \gamma \in \mathbb{C}, \alpha > 0, \operatorname{Re}[\lambda+\lambda_1] > -1 \\ \min[(\lambda_0,\lambda_2,\nu_0,\nu_2)] \geq 0, (\text{not all simultaneously zero}) \end{array}\right\} \qquad (13)$$

$$J_x^{\nu,\lambda}\left[f(t)\right] = J_x^{\nu,\lambda:\nu_0,\lambda_0:\nu_1,\lambda_1:\nu_2,\lambda_2}_{:z_0,\phi,\gamma:z_1,P:z_2,\rho,\alpha,\beta}\,[f(t)] =$$

$$x^\nu \int_x^\infty t^{-\nu-\lambda-1} (t-x)^\lambda\, H\left(\phi, z_0 \left(\frac{x}{t}\right)^{\nu_0}\left(1-\frac{x}{t}\right)^{\lambda_0};\gamma\right)$$

$$J_{(\beta_j),q}^{(\alpha_i),\gamma}\left(z_1\left(\frac{x}{t}\right)^{\nu_1}\left(1-\frac{x}{t}\right)^{\lambda_1}\right) f(t)\,dt \qquad (14)$$

where

$$\left.\begin{array}{l} \operatorname{Re}(w_2) > 0 \text{ or } \operatorname{Re}(w_2) = 0 \text{ and } \operatorname{Re}(\nu-w_1+\nu_1) > 0, \gamma \in \mathbb{C}, \alpha > 0 \\ \operatorname{Re}(\lambda+\lambda_1) > -1, \min(\lambda_0,\lambda_2,\nu_0,\nu_2) \geq 0, (\text{not all simultaneously zero}) \end{array}\right\} \qquad (15)$$

IMAGES

In this section, we willfind the images of some usefulfunctions in our operators defined by (11) and (14). We have:

Image-1:

$$I_x^{v,\lambda}\left[t^\mu \Gamma_{(\aleph)_{p_i,q_i,\rho_i,r}^{m,n}}\left(z^1(t)^{U_1}(x-t)^{V_1}\right)\right] = \frac{x^\mu \; sin\phi}{2\sqrt{\pi}\,\Gamma\left(\frac{1}{2}-\gamma\right)}\sum_{m=0}^{\infty}\frac{(\gamma)_{qm}(-z)^m}{\prod_{j=1}^{n}\Gamma(\alpha_j m+\beta_j m+1)m!}$$

$$\sum_{a=0}^{\infty}\sum_{b=0}^{\infty}\frac{\left(\frac{1}{2}\right)_{a+b}\left(\frac{1}{2}-\gamma\right)_a\left(\frac{1}{2}\right)_b (z_0 k^2 sin^2\varphi)^a(sin^2\varphi)^b}{\left(\frac{3}{2}\right)_{a+b}a!\,b!}$$

$$^{(\Gamma)}(\aleph)_{p_i+2,q_i+1,\rho_i,r}^{m,n+2}\left[z^{(1)}x^{U_1+V_1}\;\middle|\;\begin{array}{l}(a_1,A_1,y),(a_j,A_j)_{2,n}\,,(-v-\mu-v_1 m-2v_0 a,\,U_1)\\(b_j,B_j)_{1,m}\,,(-1-v-\mu-\lambda-(v_1+\lambda_1)m-(2v_0+2\lambda_0)a,\,U_1\\,(-\lambda-\lambda_1 m-2\lambda_0 a,\,V_1),\\,[\rho_j(b_{ji},B_{ji})]_{m+1,q_1}\end{array}\right]$$

$$(16)$$

where $Re(v+\mu) > -1, \gamma\epsilon\mathbb{C}, \alpha > 0;\; Re(\lambda) > -1, \min(\lambda_0, v_0, \lambda_1, v_1) \geq 0$

also let $A_1>0$, argz$| <\pi/2, A_1\,(i=1.....r)$. Then the fractional integral formula holds for the image of an arbitrary incomplete Aleph function.

3. In this section we shall present a theorem analogous to the Parseval Goldstein theorem for the operator of our study.

Theorem

If $\quad\quad\quad \psi_1(x) = I_x^{v,\lambda}[f_1(t)]$ $\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad$ (17)

and $\quad\quad\quad \psi_2(x) = J_x^{v,\lambda}[f_2(t)]$

(18)

then $\quad \int_0^\infty \psi_1(x)f_2(x)dx = \int_0^\infty \psi_2(x)f_1(x)dx$

(19)

provided that the integrals involved in (17), (18) and (19) are absolutely convergent.

Proof: To prove the above theorem, we substitute the value of $\psi_1(x)$ from (18) in the left hand side of (19) and obtain the following form, using the definition (11) of the I-operator:

$$\int_0^\infty \psi_1(x)f_2(x)dx = \int_0^\infty \left\{ x^{-\nu-\lambda-1} \int_0^x t^\nu (x-t)^\lambda \, H\left(\phi, z_0 \left(\frac{t}{x}\right)^{\nu_0} \left(1-\frac{t}{x}\right)^{\lambda_0} ; \gamma_0 \right) \right.$$

$$\left. J_{(\beta_j),q}^{(\alpha_i),\gamma}\left(z_1 \left(\frac{t}{x}\right)^{\nu_2}\left(1-\frac{t}{x}\right)^{\lambda_2}\right) f_1(t)dt \right\} f_2(x)dx \qquad (23)$$

Now we interchange the order of x- and t- integrals (which is permissible under given conditions) and get:

$$= \int_0^\infty t^\nu f_1(t) \left\{ \int_x^t x^{-\nu-\lambda-1}(x-t)^\lambda \, H\left(\phi, z_0 \left(\frac{t}{x}\right)^{\nu_0}\left(1-\frac{t}{x}\right)^{\lambda_0} ; \gamma \right) \right.$$

$$\left. J_{(\beta_j),q}^{(\alpha_i),\gamma}\left(z_1 \left(\frac{t}{x}\right)^{\nu_2}\left(1-\frac{t}{x}\right)^{\lambda_2}\right) f_2(x)dx \right\} dt$$

$$(24)$$

Now on interpreting the expression thus obtained in the form of J-operator with the help of (14), we arrive at the desired result by (19) after a little simplification.

CONCLUSION:- In this article, we have investigated the image related with incomplete elliptic integral,Bessel's Mait-land function and incomplete ℵ-function. Further, we have established Parseval Goldstein theorem for the operator of our study.

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Analysis the ground water quality of sampling sites of Malpura Block – Tonk –Rajasthan-India

Manisha Saini*, Lokesh Khandelwal*, Himani Saini*, Renu Yadav*, Khushboo Dixit* and Dr. Girja Shankar Tailor[#]

[#]*Associate Professor, Department of Chemistry, Poddar International College, Mansarovar, Jaipur*
**M.Sc. Pre Chemistry Students, Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, Rajasthan, India*

Abstract: Water is important for the livelihood of life on Earth. It could be present as surface or groundwater. Water is nature's most useful, abundant and wonderful compound and it is the basis of all lives. Water is a vital natural resource, which is needed for multiplicity of Purposes. Ground water quality valuation for drinking and irrigation has become a necessary and significant task for present and future groundwater quality management and sustainability of groundwater. This study was directed for the analysis of groundwater Malpura Block (Tonk-Rajasthan-India)Calcium (Ca^{2+}), Magnesium (Mg^{2+}), Chloride (Cl^-), were analysed by volumetric titration methods; Nitrate ($NO_3{}^-$) using by spectrophotometer; while Fluoride (F^-) by ion selective electrode method and; Sodium (Na^+) and Potassium (K^+) by flame photometry. Biochemical Oxygen Demand and Chemical Oxygen Demand are determined by volumetric titration methods. All the parameters were analyzed as per APHA standard methods.

Keywords: Ground water, Chemical Oxygen Demand, flame photometry

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Elucidation of various Physico- Chemical Water Quality Parameters of Jaipur (Raj.) Sampling Sites for Fluorosis Concern

Anjali Sharma[#], Pragati Gupta[#], Shivani Meena[#], Surendra Saini[#], Yogita Prajapati[#] and Meenu Mangal*

* Vice Principal and Professor, Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, Rajasthan, India*
[#]*M.Sc. Pre Student, Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, Rajasthan, India*

Abstract: The present study is aimed to evaluate the hydro chemical characteristics and quality ofgroundwater. Groundwater samples were collected from selected sampling sites like Shivdaspura,

Mansarovar, Tonk Phatak and Chandpole in Jaipur District, Rajasthan and analyzed formajor physico-chemical parameters Such as Color vis, Chemical Oxygen Demand(COD), Bio-Chemical Oxygen Demand(BOD), Lead, Cadmium, Chloride, Fluoride, Dissolved Oxygen(DO),Total Hardness(TH), Total Alkalinity, Total Solids, Total Dissolve Solids(TDS), Total Suspended Solids, Taste and Odour, Turbidity, Electrical Conductivity(EC), Magnesium, pH, Nitrate, Calcium, Sulphate were analysed for a period from March 2021 to December 2021. Fluoride content in the water samplesof study area varied from 0.57 mg/l to 7.97 mg/l. Due to the higher fluoride levels in drinking water of Shivdaspura area showing dental fluorosis in which the teeth of the children were damaged andCharacterized by brown and black stains.

Keywords: Dental fluorosis, Water quality index, Total Hardness, Hydro chemical.

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Crucial role of Extracellular Polymeric Substances in biosorption and sequestration of toxic heavy metal contaminants: an overview

Ravneet Chug

Amity University Rajasthan, Jaipur

Abstract: Heavy metal pollution has been considered as a serious public health hazard, as these are non-biodegradable and persistent which cause threat to natural environment and lead tovarious toxicological manifestations. Conventional physico-chemical methods, like fltration, ion exchange, membrane separation and many more which have been used since ages for heavy metal removal have many side effects as these are expensive, less efficient and also are able to do only partial removal which also causes great secondary pollution potential. Looking into these limitations, microorganism-mediated bioremediation has gained impetus due to its higher removal potential, less operating cost and more efficiency. Several studies have been reported which cite the biosorption potential of wide variety of different bacterial species for heavy metal removal. Enhanced tolerance to toxic pollutants and increased degradation potential of the bacterial biofilm is often linked to the matrix of extracellular polymeric substances (EPS). The sequestration potential of biofilm forming bacteria and role of EPS in bioremediation have been highlighted which will further help in developing technologies for pilot-scale applications.

Keywords: EPS, Heavy Metal Removal, Biofilm

Introduction: More than 99% of the microbial population is found to be in aggregates within biopolymers, called as biofilms. [1,2] During the biofilm development, microbes grow and secrete extracellular polymeric substances (EPSs) [3] Bacterial biofilms are able to give better removal efficiencies as they provide different mechanisms for interaction with heavy metal contaminants.

[1,3]. The EPS is composed of carbohydrates, proteins and various other functional groups which aid in heavy metal removal. The negatively charged anioinic functional groups on bacterial surface bind the toxic cationic heavy metal ion via electrostatic interaction which efficiently aid in biosorption under multimetal conditions.[4]. The interaction mechanism of EPS with pollutants is via various mechanisms including binding, complexation, ion exchange and many more. Thus, bioremediation aided by EPS is an ecofriendly, sustainable, and cheaper approach to restore the polluted environment. The use of bacterial biofilm-EPS for pollutant eradication is a complex process involving different regulatory factors which need to be undersood.[1,5,6]. This review highlights the role of EPS and biological mechanism of heavy metal removal.

Methodology: EPS produced by different microorganisms has varied composition of biomolecules including proteins, carbohydrates and lipids. Microbes are found in mixed cultures in waste water and are able to sequester many different heavy metal ions using EPS. EPS extraction methods helps to differentiate the EPS produced by specific microorganisms [1,7] So, it may be concluded that EPS composition and biomolecule distribution may not be species specific but can be differentiated by function. The major components of EPS have been reported to include proteins, polysaccharides, humic-like substances, uronic acids, and nucleic acids. Current review analyzes the relationship between chemical properties of EPS with formation of microbial colonies and EPS production. EPS plays a key role wastewater treatment, dye degradation, heavy metal removal and reclamation. Further studies are needed for analyzing the potential of field applications of EPS on large scale.

Result and discussion: Various EPS producing bacteria which are involved in removal of different metal ions are summarizedin table **:**

Metal ion	EPS producing bacteria
Pb	*Bacillus subtilis*
	Bacillus firmus
Cu	*Bacillus firmus*
	Bacillus sp.
	Pseudomonas putida X4
	Klebsiella sp.
Zn	*Bacillus firmus*
Cr	*Arthrobacter sp.*
	A. viscosus
	Pseudomonas aeruginosa

	Micrococcus sp.
	Ochrobactrum
Ni	*Cloacibacterium sp.*
	Pseudomonas sp.

Conclusion: Biosorption plays a key role in the development of better cleanup technologies, such as biosorption, waste water and heavy metals sequestration. An imperative role. EPS plays a major role in the metal biosorption owing to its potential to chelate heavy metals. Functional groups like carboxyl, phosphoryl, sulfhydryl, phenolic and hydroxyl are able to form organometallic complexes. Current study highlightsthe role and significance of EPS in heavy metal adsorption, the limitations in the knowledge gap are outlined and the research needs as well as future.

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Function Oriented Synthesis and Drug Designing

Komal Dhakar, Nikita Kumari and Rashmi Khandelwal

Department of Zoology, Biyani Girls College Jaipur, Rajasthan, India

Abstract: This literature provides an overview and an illustration of function-oriented synthesis (FOS) and discusses its growing significance in the generation of stepwise economically feasible therapeutic approaches. Leads from biologically active natural products frequently have a number of shortcomings. Many are rare or challenging to find through natural sources. This literature offered effective tools for examining biological systems and became a fresh impetus for the development of synthetic organic chemistry. De novo drug design actively looks for ways to use chemical rules to quickly and effectively identify structurally novel chemo types with the appropriate set of biological qualities. Tools for de novo fragment-based design have been effectively used to find noncovalent inhibitors. In order to optimise the structure, computer-assisted molecular design suggests innovative chemotype and compound alterations. A number of viable options are explored, and the significance of scoring systems that can be used to forecast compound reactivity and potency is emphasised. Combinatorial chemistry has become a very effective method in the ongoing search for tiny compounds that modify protein function and ultimately may lead to novel medications. It is a thriving area of research, with the most alluring techniques being structure-based drug design, lead optimization, biochemical route, and drug design. Correct posture and affinity prediction are two essential components of an effective docking experiment. A broad CONCLUSION cannot be formed because each software has unique benefits and disadvantages in terms of docking accuracy, ranking accuracy, and time consumption. Additionally, users frequently fail to take into account enough diversity in their test sets, which causes some systems to perform better than others. The challenges of docking and troubleshooters in existing programmes, the algorithmic background of docking, pREFERENCES regarding the use of docking programmes for the best results, which are illustrated with examples, and a comparison of performance for existing programmes have all received the most attention in this review.

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Observational Study on Clinical and Pathological Outcomes to Neoadjuvant Chemotherapy in Locally Advanced Breast Cancer

Manisha Solanki

Junior Resident, Department of General Surgery, SMS Medical College & Hospital, Jaipur, India

Abstract: Locally advanced breast cancer (LABC) is a subset of breast cancer characterized by the most advanced breast tumours in the absence of distant metastasis. Treatment of LABC has evolved from a single modality treatment to multimodality management. Neoadjuvant chemotherapy (NACT) is increasingly being used to treat patients with LABC. This study assessed tumour response after NACT using clinical changes, Response Evaluation Criteria in Solid Tumors (RECIST) criteria and pathological report.

Keywords: Locally advanced breast cancer, neoadjuvant chemotherapy, downstaging.

Methodology: This study was a prospective as well as retrospective observational study carried out in the department of general surgery, SMS Medical College, Jaipur. All the patients admitted with stage III (IIIA, IIIB, IIIC) were included in the study after obtaining approval from the institutional ethical committee. Clinical response was assessed by RECIST criteria (clinical complete response (cCR), clinical partial response (cPR), clinical progressive disease (cPD), and clinical stable disease (cSD)) and pathological response by histopathological report (pCR). Response of various molecular subtypes was noted.

Results: Among 31 patients included in the study, cCR observed in 22.58% cases, cPR observed in 61.29% cases while cPD and cSD seen in 3.22% and 12.90% cases, respectively. Pathological complete response (pCR) observed in 19.35% cases. Favourable response seen with human epidermal growth factor receptor 2 (HER2) overexpression (cCR = 50%, pCR = 37.50%) followed by triple negative (cCR = 25%, pCR = 25%) molecular subtypes.

Conclusions: It can be concluded that molecular subtype determination helps in deciding treatment protocol in patients with LABC with HER2 over expression and triple-negative breast cancers having a better clinicopathological response to NACT than luminal subtypes. NACT results in down staging of tumours, thus, help in achieving surgically clear margins and elimination of micrometastases which decreases the recurrence rates and morbidity/mortality of patients.

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New Challenges for Discovery of New Drugs for Cancer

Rashmi Khandelwal & Anisha Sharma

Assistant Professor-Zoology, Department of Science, Biyani Girls College, Jaipur

Abstract: The goal of drug development is to discover novel chemicals with certain chemical properties for the treatment of diseases. The method utilized in this search has become increasingly significant in computer science in recent years as a result of the democratization of machine learning techniques and their exponential growth. It is vital to construct reliable, standardized, and reproducible computational approaches in order to accomplish the goals established by the Precision Medicine effort and the new problems they have created. Predictive models built using machine learning have recently become quite important in the phase before preclinical studies. In this stage, new pharmaceuticals are discovered at significantly lower costs and with shorter research times.These studies aim to simultaneously improve safety, pharmacodynamic, and physicochemical aspects & this literature focuses on the current research that has employed these innovative approaches.

Keywords: Toxicity, ChemicalDevelopmentKit, Physicochemical, Pharmaceuticals, Diseases.

Introduction: To that goal, various experimental assessments of the discovered substances that are essential to the research disease are conducted. The prevalence of cancer has been steadily rising in Rajasthan, with breast cancer in women and head and neck cancer in males emerging as the most common types of the disease there. Both are characterized by the growth of abnormal cells, patterns were found An International Classification of Diseases-coded Registry of Cancer, newly constructed by a cancer specialty hospital here, has shown the patterns of cancer. Along with highlighting the trend in the two genders, the Registry of Cancer has identified the top five cancers in both men and women. The most common types of cancer among men in the State are those of the lip, oral cavity, and pharynx, the digestive system, the respiratory and intrathoracic systems, the lymphoid, haematopoietic and associated tissues, and the sexual organs. Breast, vaginal, stomach, and benign neoplasm cancers are the most common malignancies in women.While the state's healthcare providers are concerned about the rising prevalence of cancer, according to rajasthanthere are no solid statistics to help with treatment planning or free medication distribution. It is vital to construct reliable, standardised, and reproducible computational approaches in order to accomplish the goals established by the Precision Medicine effort and the new problems they have created In his words, "reliable comprehensive statistics of the disease will not be available unless the State government makes cancer a notifiable sickness. In Rajasthan, the percentage of cancer cases remained stable throughout the past five years for which ICD-coded statistics were available. The representative sample of 9,181 patients treated at BhagwanMahaveer Cancer Hospital in 2018 provides a reasonably realistic representation of the disease because the hospital sees patients from all over the State.

Methodology:

1. A qualitative evaluation of program creation and implementation was conducted by evaluators using the Practical Robust Implementation and Sustainability Model as their guiding framework.

2. Statistical analyses are adjusted for multiple testing is one of their features.

Result: We find compounds with a high potential to become therapeutic candidates, research facilities that can conduct experimental and computational investigations to assess pharmacodynamics and pharmacokinetics are urgently needed.

Conclusion: The subject of drug development is continually changing as new scientific advancements and technological innovations are applied. The process by which an initial hit is transformed into a marketable medicine has evolved significantly as a result of more effective organic synthesis techniques, chemical biology theories, and bio- and chemo-informatics tactics.Asmoking cessation programme can find and treat eligible patients in specialist clinics by employing a team-based strategy that makes use of individual expertise and interprofessional teamwork to provide patient-centered care.

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Fundamental Understanding of Probing the Dynamics of Molecular Process

Afshan Fazal

Assistant Professor, Department of Science, Biyani Girls College, Jaipur

Abstract: The impact of molecular dynamics (MD) simulations in molecular biology and drug discovery has expanded dramatically in recent years. These simulations capture the behaviour of proteins and other biomolecules in full atomic detail and at very fine temporal resolution. Major improvements in simulation speed, accuracy, and accessibility, together with the proliferation of experimental structural data, have increased the appeal of biomolecular simulation to experimentalists a trend particularly noticeable in, though certainly not limited to, neuroscience. Here we describe in practical terms the types of information MD simulations can provide and the ways in which they typically motivate further experimental work.

Keywords: biomolecules, molecular dynamics, proteins, molecular biology, neuroscience

Introduction: Molecular dynamics (MD) simulations predict how every atom in a protein or other molecular system will move over time, based on a general model of the physics governing interatomic interaction. These simulations can capture a wide variety of important biomolecular processes, including conformational change, ligand binding, and protein folding, revealing the positions of all the atoms at femtosecond temporal resolution. Importantly, such simulations can also predict how biomolecules will respond—at an atomic level—to perturbations such as mutation, phosphorylation, protonation, or the addition or removal of a ligand. MD simulations are often used in combination with a wide variety of experimental structural biology techniques, including x-ray crystallography, cryo-electron microscopy (cryo-EM), nuclear magnetic resonance (NMR), electron paramagnetic resonance (EPR), and Förster resonance energy transfer (FRET).

Experimental/method: Our goal in this review is to explain how MD may be useful from the perspective of an experimental structural or molecular biologist. We explain the types of studies one can undertake by simulation, and the types of information they are likely to yield. We also discuss how simulations can generate new experimentally testable hypotheses and thus influence further experimental work.

Result and discussion:
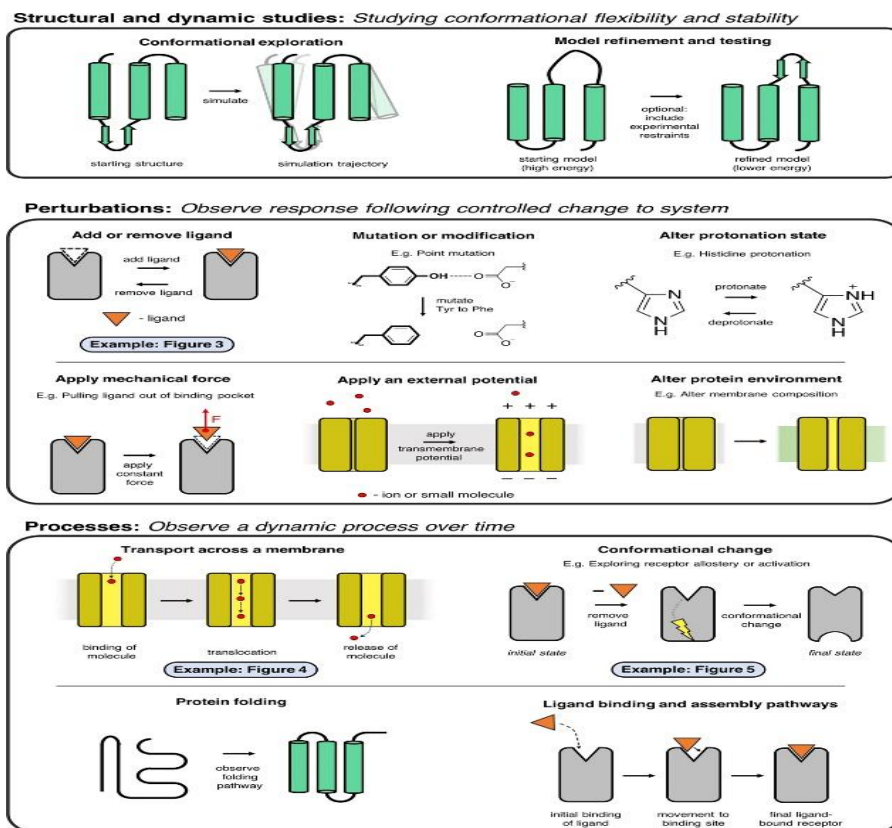
Conclusion: We believe that the careful application of MD simulations in concert with complementary experimental methods currently represents an area of great opportunity in neuroscience and beyond. This opportunity will only grow as simulations become faster, cheaper, more widely accessible, and more accurate.

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Graphitic carbon nitride (g-C3N4): Ideal Material for Photoelectrochemical Splitting of Water

Deepak Singh Rajawat, Lav Varma

Department of Chemistry, IIS (Deemed to be University), Jaipur

Email- drdeepaksr@gmail.com

Abstract : As an analog of graphite, graphitic carbon nitride (g-C3N4) has been the hot spot in the material science for its unique electronic structure. With medium band gap as well as thermal and chemical stability in ambient environment, it becomes one of the most promising photocatalytic materials. Intensive investigation has been focus on its photocatalytic performance for various reactions to date. What is more, controllable modulation of its electronic structure via doping or chemical functionalization is available. The fundamental study of g-C3N4 and their application potential are wide in scope. The special electronic structure of the material endows their potential applications as catalyst for Friedel-crafts reactions, oxygen reduction reaction and water splitting. At the same time, the way to enhance its photocatalytic efficiency is also not a tedious task. As for photoelectronic application, there is no specific application model with g-C3N4. However, the basic photoelectronic properties such as photoluminescence and photocurrent properties have been investigated and arouse growing interest. To date, the modification pathways to enhance g-C3N4 performance on photocatalyst normally focus on reducing its bandgap to increase light absorption in visible light region or enhancing the separation of photogenerated electrons and holes thus reduce the excitons recombination.

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Antimicrobial properties of *Pongamia pinnata*

Akshita Patwal and Shilpa Bhargava

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India

Abstract: Antimicrobial compounds are commonly found in plants. We conducted this study to check for antibacterial activity in *Pongamia pinnata Linn* leaf extracts. From lab samples, E. coli, B. subtilis, S. aureus, Aspergillus niger, and Aspergillus flavus were isolated and cultured. Solvents such as ethanol, methanol, and distilled water were used to create the extracts. Agar well diffusion method was used to assess a fixed inhibitory concentration of 50, 250, and 500 µg/mlof leaf extract. *Pongamia pinnata* (PPM) extracts had more antibacterial activity than ethanol extracts of the plant

(PPE). The greatest activity was demonstrated on Bacillus subtilis with a zone of inhibition of 2.5 cm by methanol extract and 2.4 cm Bacillus subtilis on in ethanol extract, demonstrating the strong bactericidal activity of *Pongamia pinnata* against the chosen hospitalized pathogens.

Keywords: Antibacterial activity, Ethanol extract,*Pongamia pinnata Linn*, Methanol extract.

Introduction: *Pongamia pinnata (L.)* Pierre (Fabaceae), different parts of this plant have been recommended as a remedy for various ailments. seed and seed oil of this plant have been used for treating various inflammatory and infectious diseases such as leucoderma, leprosy, lumbago, muscular and articular rheumatism.[1] Antibacterial activity of plant extracts was measured by agar well diffusion method. They could be used as alternatives to common antimicrobial agents for treatment of bacterial infections.[2]

Material and methodology: The dried leaves were collected and converted into powder form for the preparation of leaves Extract. Prepared three types of leaves extract to shown the antibacterial and antifungal properties Of Pongamia pinnata.25gm of leaves powder extracted with 250ml of distilled water , 80% methanol and 80% ethanol. Then Extraction was filtered through wattmann filter paper. Filtered leaves extract of different solution placed in Petri plate and Kept it in hot oven for 5-6 days then the crude was prepared. The bacterial strains such as Escherichia coli, Bacillus subtilis, S.aureus and fungal strains Aspergillus niger , Aspergillus flavus were used for antimicrobial assay. Agar well diffusion method was used to screen the antibacterial and antifungal activities of different solvent extract.

Result : In the present aqueous, methanolic, ethanolic leaves extract of Pongamia pinnata showed significant inhibitory against Escherichia coli, Bacillus subtilis, S.aureus, Aspergillus niger and Aspergillus flavus.

	Zone of inhibition in (cm)				
Concentration of different solvents	Escherichia coli	Bacillus subtilis	S. aureus	Aspergillus niger	Aspergillus flavus
Aqueous extract	2.4	2.5	2.0	2.1	2.2
Methanolic extract (50µg/ml)	1.1	1.1	1.1	1.6	1.4
Methanolic extract(250 µg/ml)	1.3	1.5	1.5	1.0	1.0
Methanolic extract(500 µg/ml)	1.7	1.8	1.6	1.2	1.1
Ethanolic Extract(50 µg/ml)	1.1	1.1	1.1	1.6	1.5
Ethanolic Extract(250 µg/ml)	1.2	1.5	1.5	1.2	1.0
Ethanolic Extract(500 µg/ml)	1.5	1.8	1.6	1.5	1.5

Conclusion : The results of this study suggest that P. pinnata mediated organic extracts could be a source of natural antimicrobial agents for use in food or pharmaceutical industries to control food-borne pathogenic bacteria

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Evaluation of the safety and efficiency of complete oral Herbal care in controlling dental plaque

Akshita Jangid and Shilpa Bhargava

Department of Science, Biyani Girls College, Jaipur, India

Abstract : All users may find it difficult to maintain proper dental and oral hygiene, but elderly adults and young children may find it particularly difficult due to their poor motor abilities.From thousands of years, oral health has been an integral aspect of all populations and cultures. Controlling the microorganisms that cause dental plaque and bad breath is essential for maintaining good oral health. To maintain and enhance oral health and appearance, toothpaste, a paste or gel that is applied to the teeth with a toothbrush. The need for commercially available oral care products with natural ingredients has increased due to a recent shift in preferences toward herbal substances in oral care procedures. These days, there is a large market for herbal-based products so Customers believed that toothpaste made from herbs was safer, more efficient, and less hazardous than toothpaste made from synthetic materials because fewer and safer chemicals were utilised.Sothe current study's goal is to develop herbal toothpaste using natural ingredientswhich were previously employed to clean teeth.Herbal toothpaste used in the current study was assessed for its physical and organoleptic qualities, including colour, flavour, potential of hydrogen, spread ability, moisture content, fineness, and foamability.

Keywords : Dental Plaque, Foamability, pH, Toothpaste

Introduction : For the body's overall health and to prevent dental problems, it's critical to practise regular oral hygiene[1]Since the beginning of time, plants have had a therapeutic effect that has improved oral health all across the world. [2] So in today world also, using herbal toothpaste with

natural ingredients is preferable than using synthetic toothpaste with a chemical foundation. [3] because herbal toothpaste was more efficient and less hazardous.

Material and Methodology : Collection of plant such as Neem Leaves, clove, peppermint, guava betel leaves, turmeric.

All herbal ingredient were dried and grounded using domestic mixer. Then Neem extract was prepared and Calcium carbonate, Sodium lauryl sulphate, sodium benzoate, honey and glycerine were mixed in water. Acacia was added into the above mixture. This solution was added drop wise into mortar containing herbal ingredients and triturated well until a paste consistency is formed

Observation/Result : Formulated toothpaste was evaluated for its colour. The visually colour was checked. Odour was found by smelling the product.

pH : pH of formulated herbal toothpaste was determined by using pH strip. The pH of formulated toothpaste obtained is 7.2.

Homogeneity : The toothpaste shall extrude a homogenous mass from the collapsible tube or any suitable container by applying of normal force at 27±20C. in addition bulk of contents shall extrude from the crimp of container and then rolled it gradually. The formulated toothpaste show homogeneity.

Determination of sharp and edge abrasive particles : Extrude the content 15-20 cm long on the butter paper, repeat the same process for at least ten collapsible tubes. Press with the contents of the entire length with fingertip for the presence of sharp- and hard-edged abrasive particles. Formulated Toothpaste not contain such particles

Foamability : The foamability of formulated toothpaste evaluated by taking small amount of formulation with water in measuring cylinder initial volume was noted and then shaken for 10 times. Final volume of foam was noted. The foam of formulated toothpaste obtained is 13

Determination of moisture and volatile matter :

5 g of formulation placed in a porcelain dish containing 6-8 cm in diameter and 2-4 cm depth in it.

Dry the sample in an oven at 1050C.

Calculation

% by mass = 100MI/M MI-Loss of mass(g) on drying

M- Mass (g) of the material taken for the test.

Loss of mass on drying of formulated toothpaste is 31.4%

Conclusion : The study found that herbal toothpaste is safer and has fewer negative effects than synthetic preparations, and it is more accepted in dentistry research.

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Choriocarcinoma

Sanju Meena, Surya Prakash Meena, Hanslata Gehlot

Department of Obstetrics and Gynaecology,
S. N. medical College, Umaid hospital, Jodhpur, Rajasthan, India

Abstract:

Objective: Geatational trophoblastic disease is a group of rare disease in which abnormal trophoblast cells grow inside the uterus after conception. In GTD, a tumour develops inside the uterus from tissue that forms after conception.It occurs once in every 20,000 to 40,000 pregnancies.

Result: A low risk and stage I to III choriocarcinoma can be treated with a single agent either methotrxate or actinomycin D chemotherapy. High riskand stage II to IV disease are treated with multi agent chemotherapy, adjuvant radiation and surgery.

Conclusion: Choriocarcinoma is a carcinoma of the chorionic epithelium. This case highlighted the need for high level of suspicion of this rare entity. High clinical suspicion should be maintained for chriocarcinoma in women with hemoptysis and molar pregnancy, current or recent pregnancy or irregular vaginal bleeding.These patients need good counselling and regular follow up.

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Role of Plasma D- Dimer Levels in Breast Cancer Patients and its Correlation

Siddharth Kushwaha

Senior Resident, Department of General Surgery, SMS Medical College & Hospital, Jaipur, India

Abstract: haBreast cancer, the most common female malignancy, represents a heterogeneous group of tumors, which presen both varied behaviors and response to therapy. This study was done with an attempt to evaluate the role of D-dimer in patients of carcinoma breast, in predicting lymph node metastasis in carcinoma patients and to look for relationship of these markers with histopathologic parameters. Clinical data was obtained from clinical examination of patients admitted in the Department of Surgery with history of breast lump and confirmed with fine needle aspiration cytology (FNAC). Clinical staging was done using TNM staging. D-dimer level was measured prior to commencement of treatment, i.e., modified radical mastectomy (MRM) or neoadjuvant chemotherapy and finally 6 months after surgery or completion of 6 cycles of chemotherapy. The characteristics of the study population Out of 60 study cases minimum age of the patient being 30 years and maximum being 74 years. Of all histopathologic variables examined, D-dimer levels directly correlated with extent of lymph node involvement and lymphovascular invasion, D-dimer levels correlated strongest with the number of positive lymph nodes, but not with tumor size, estrogen receptor status, and progesterone receptor status. This study clearly shows that plasma D-Dimer levels are elevated in carcinoma breast patients. Increased D-Dimer levels are an important marker of clinical stage, lymphovascular invasion, lymph node involvement, and tumor metastasis.

Keywords: Bloom-Richardson grading; Breast cancer; D-Dimer; Early breast cancer; Metastasis.

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A Study to Compare the Tumour Size and Site with the Axillary Lymph Node Involvement in Breast Cancer

Siddharth Kushwaha

Senior Resident, Department of General Surgery, SMS Medical College & Hospital, Jaipur, India

Abstract: Breast cancer is the leading cancer in women. The most common histologic type of breast cancer is infiltrating ductal carcinoma. The mainstay of the treatment of breast cancer is surgery when the tumor is localized, followed by chemotherapy as well as radiotherapy (when indicated) and in estrogen receptor and progesterone receptor positive tumors, adjuvant hormonal therapy.

The aim of this study is to correlate tumor site and size with the level of axillary lymph node involvement (ALNI) in early and locally advanced breast cancer.

Materials and methods: This prospective and observational study was conducted on fifty female patients of carcinoma breast with early and locally advanced breast cancer. Results: The age distribution showed two peaks at 41–50 years and 51–60 years with 42 and 24 patients, respectively, in both the age groups. Preoperative lymph node positivity by ultrasonography matched with postoperative histopathological examination (HPE) report. Preoperative ultrasonographically determined tumor size was similar to the final histopathological T stage.

Conclusion: As size of tumor increases, there is an increase in ALNI which suggests that nodal metastasis is indicative of tumor chronology. Ultrasonography is a good tool to objectively measure tumor size and lymph node involvement preoperatively. Quadrant of involvement can emerge as a clinically useful prognostic cancer in breast cancer as there is a higher incidence of lymph node positivity with increasing size of the breast tumor and for tumors located at the upper outer quadrant of the breast.

Keywords: Breast cancer, lymph node, tumor size and site.

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Is carcino-embryonic antigen useful in the follow-up management of patients with colorectal liver metastases?

Neeraj D

SMS Medical College and Hospital, Jaipur, Rajasthan

Abstract : The role of carcino-embryonic antigen (CEA) in monitoring early detection of recurrent or metastatic colorectal cancer, and its impact on resectability rate and patient survival remains controversial. Our objective was to determine any association between the preoperative level of CEA and prognosis, and the resectability and survival by method of diagnosis of colorectal hepatic metastases.

Methods: We analyzed patients who underwent exploration for hepatic resection for metastatic colorectal cancer over a 15-year period. The patient population consisted of those patients who had undergone primary colon or rectal resection and were followed up with serial CEA levels and of patients who were followed up with physical examination, liver function tests (LFTs) or computed tomography (CT) of the abdomen and pelvis that led to the diagnosis of liver metastases. Also included in the study were patients who were diagnosed with liver metastases at the time of the primary colon or rectal resection and underwent planned hepatic resection at a later time.

Results: Three hundred and one (301) patients who underwent a total of 345 planned hepatic resections for metastatic colorectal cancer between January 1978 and December 1993 were included in this analysis. The median preoperative CEA level was 24.8 ng/mL in the resected group, 53.0 ng/mL in the incomplete resection group, and 49.1 ng/mL in the nonresected group (P = 0.02). More of the patients who had a preoperative CEA < or =30 ng/mL were in the resected group, while those who had a preoperative CEA >30 ng/mL were likely to be in the nonresected group (P = 0.002). The median survival was 25 months for patients with a preoperative CEA level < or =30 ng/mL and 17 months for patients with a preoperative CEA >30 ng/mL (P = 0.0005). The resectability rate and the survival of patients by method of diagnosing liver metastases-rising CEA versus history and physical, elevated LFTs, CT scan versus diagnosis at the time of primary resection-was not significant (P = 0.06 and P = 0.19, respectively). Given the nonstandardized retrospective nature of the study cohort and relative small groups of patients, the power to detect small differences in survival by method of diagnosis is limited. In the complete resection group of patients with unilobar liver disease (5-year survival of 28.8%) there was no difference in survival between those patients who had normal preoperative CEA and those who had elevated preoperative CEA, and approximately 90% of them had an abnormal preoperative serum CEA level.

Conclusions: CEA is useful in the preoperative evaluation of patients with hepatic colorectal metastases for assessing prognosis and is complimentary to history and physical examination in the diagnosis of liver metastases. Patients with colorectal liver metastases and preoperative CEA < or =30 ng/mL are more likely to be resectable, and they have the longest survival.

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Correlation of Serum CA-125 with Histopathological FIndings in Ovarian Tumours

Rajesh Kumar

Junior Resident, Department of General Surgery, SMS Medical College & Hospital, Jaipur, India

Abstract : Primary ovarian neoplasms exhibit a wide range of clinical and histopathological presentations. Tumours showing epithelial differentiation are the most frequent primary ovarian neoplasms. Among the malignant tumours, the most common histological sub-type corresponds to serous adenocarcinoma, whose diagnosis is established in advanced stages of the disease in approximately 75% of the patients in Indian population. Tumour marker CA 125 represents a glycoprotein synthesized mainly by neoplastic cells with epithelial differentiation, and its serum level seems to be associated with the biological potential of these lesions. Aim of this study is to find the correlation between CA125 and histopathology of ovarian tumours.

Objective: To estimate the correlation of serum CA-125 with histopathological subtypes of ovarian tumours.

Materials and methods: Fifty distinct cases of ovarian tumours were selected, from patients undergoing concomitant analysis of serum CA 125 levels. In each case, age, tumour size, histological type and serum CA 125 were determined. The correlation between preoperative CA125 and histopathological type of tumour were evaluated. Chi square analysis was done and p value <0.05 was considered to be statistically significant.

Results: 50 ovarian tumour patients were included in the study period. The mean age of presentation was 42.69±14.55 years. Highest levels of serum CA 125 were found in malignant serous tumours. Mean serum CA125 concentration in malignant serous adenocarcinoma patients (n = 26) was 635.36±386.05 IU/ml, showing increased serum levels with raised biologically aggressive behaviour and poor patient out come. A statistically non significant relationship between CA 125 levels and age (p = >0.05) and other clinico-pathological parameters were found. No relationship between CA 125 levels and tumour size is seen.

Conclusion: In our study we found 40 patients with greater than 35 IU/ml of CA 125 and maximum no n=34 (65.4%) belonged to malignant category. Association between malignant potential with CA 125 level (greater than 35 IU/ml) was found to be highly significant (p<0.001).

Keywords: CA125, Ovarian tumours.

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Skin Sparing Mastectomy in Breast Cancer Patients

Manisha Solanki

Junior Resident, Department of General Surgery, SMS Medical College & Hospital, Jaipur, India

Abstract: The cosmetic appearance of the reconstructed breast is largely dependent upon the quantity of breast skin which remains after mastectomy. Leaving behind as much skin as is possible significantly improves the natural appearance of the reconstruction and reduces procedures required on the contralateral breast to achieve symmetry. SSM with immediate reconstruction offers superior aesthetic results to NSSM, with similar LR rates. As most recurrences will occur in chest wall skin, the ability to detect local recurrence is not impaired. The incidence of local wound complications with SSM is comparable to NSSM. It has been demonstrated that sentinel lymph node biopsy and axillary dissection can be performed adequately in SSM. There is no contraindication to postoperative adjuvant chemotherapy and radiation therapy. There are some groups of patients for whom SSM is not indicated, such as patients with inflammatory carcinoma. SSM should be

considered for selected patients with breast cancer in conjunction with all types of immediate reconstruction. In CONCLUSION, numerous studies support the use of SSM on selected patients as an oncologically acceptable procedure with superior cosmetic results when compared with traditional NSSM.

Keywords: Bloom-Richardson grading; Breast cancer; D-Dimer; Early breast cancer; Metastasis.

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Prospects of Hydrogen and Fuel Cells Technologies

Nalinee Kumari[1*] and Tarun Kumar Kumawat[2]

[1]*DPG Degree College, Gurugram, Haryana, India*
[2]*Department of Botany, University of Rajasthan, Jaipur, Rajasthan, India*

Abstract: Global population expansion has resulted in an increase in energy consumption. Progress necessitates the use of energy at all times. Until recently, fossil fuels were used to meet energy demands, which resulted in increasing air pollution and the release of greenhouse gases into the atmosphere. Powering the world's economy with clean, efficient, and environmentally friendly energy is one of the most difficult problems facing engineers and scientists today. Nowadays, fuel cells provide a number of major benefits over other low-carbon heating technologies, and ongoing cost reductions due to innovation are bringing fuel cells closer to commercialization in a number of jurisdictions globally.Hydrogen has offered a lot of promise for speeding up the deployment of clean & renewable energy. Despite the fact that hydrogen is a commonly manufactured and utilized commodity, it is increasingly being employed as an energy carrier in stationary power and transportation sectors. Every year, tens of millions of tons of hydrogen are generated throughout the world, most of which is used for large-scale industrial applications. Fuel cells and hydrogen technology provide a superior decarbonized energy future alternative.A fuel cell is a galvanic cell or electrochemical converter that transforms the chemical reaction energy of a constantly supplied fuel (hydrogen) and an oxidizing agent (oxygen) into electrical energy. Energy solutions based on hydrogen and fuel cells are now generally considered as one of the most important energy solutions for the twenty-first century.

Keywords: Pollution, Greenhouse Gases, Hydrogen, Fuel Cells, Energy, Sustainable, Electricity

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Nanotechnology-Based Biosensors: An Emerging Smart Technology for Sustainable Agriculture

Ajay Jakhar[1*] and Tarun Kumar Kumawat[2]

[1]*SRP Govt PG College, Bandikui, Rajasthan, India*
[2]*Department of Botany, University of Rajasthan, Jaipur, Rajasthan, India*

Abstract: Crops, which are influenced by pests, viruses, and harmful agrochemicals, are the foundation of human health and prosperity. Nanotechnology is seen as a promising technology with enormous potential for developing new agricultural products. Nanotechnology is a rapidly developing field of science and technology that will impact every aspect of life with its astounding scientific breakthroughs and advances. Nanosensing is regarded as the most developing topic of nanotechnology application because of its technological improvement. Nanosensors are a very new and creative technology that is being employed in a variety of agricultural applications. Nanomaterials have been employed as "smarter sensing materials or biomolecules nanocarriers" in agricultural biotechnology to generate nanodiagnostics such as nanomaterial-based biosensors, or nanosensors for crop production and protection. Nanosensors are less expensive, faster, and more sensitive than traditional tools and techniques. These nanosensors have promise for detecting harmful bacteria in plants in a quick and precise manner. Enzyme-based biosensors, fluorescence resonance energy transfer-based nanosensors, whole-cell biosensors, carbon-based electrochemical nanosensors, aptamer-based biosensors, and antibody nanosensors are still in the early phases of development. These nanosensors track pathogenic microbial leftover metabolites using metabolic fluxes in plants. The development of smart nanosensors to detect mycotoxins has progressed. Mycosensor is an antibody-based assay that has been successfully released in the marketplace to monitor mycotoxins in crop plants. Nanosensors have also shown promise in smart agriculture and food security systems. This chapter focused on the recent advances and overall techniques involved in the development of smart sensor systems "nanosensors" for the diagnosis of diseases, pathogens, toxins&pesticides in crops.

Keywords: Nanotechnology, Nano-Biosensor, Agriculture, Diseases, Nanodiagnostics

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Potential of Plant Powered Nanomaterial as Anticancer Remedy

Tara Maheshwari*, Tarun Kumar Kumawat and Payal Lodha

Department of Botany, University of Rajasthan, Jaipur -302004

Abstract: Emerging green nanotechnology stimulates the use of natural resources in the synthesis of ecofriendly, sustainable nanomaterials. Human exposures to chemical nanomaterial have turned many folds due to their wide range application in cosmetics, pharmaceuticals and other products.Even though a lot of research has been done to prevent and reduce the risk of cancer, it is still the leading cause of death around the world. Nanomedicine is a game changer for developing strategies in cancer diagnostic and therapeutic methods.The potential anticancer activity, reducing and chelating activities of plants active biochemical make phytogenic products, a unique raw material for the synthesis of promising formulation of nanomedicine.The advantages of phytogenic nanomaterial asagent ofanti-cancer remedy over conventional agents includes theirsolubility, compatibility and resistibility.The ability of phytogenic nanomedicine in carrying thousands of molecules of drug with dynamic physiochemical properties to differentiate normal cell and targeted cell have pave its way in cancer therapeutics.A number of novel opportunities for the application of green nanomaterials have emerged as a result of their efficacy in site-specific drug delivery systems, biocompatibility, and safer approach in the next generation stage for anticancer therapies. The objective of decreasing the global illness burden might be achieved by more detailed research in green nanomedicine.

Keywords: Nanomedicine, Anticancer Remedy, Green Nanotechnology, Sustainable.

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Physico-Chemical Analysis of Textile Dye contaminated Soil and Water

Gaurav kaushik and Ruchi Seth

Department of Biotechnology, JECRC University, Jaipur, Rajasthan, India

Abstract : A variety of synthetic dyestuffs released by the textile industry pose a threat to environmental safety. Azo dyes account for the majority of all dyestuffs, produced because they are extensively used in the textile, paper, food, leather, cosmetics and pharmaceutical industries. Existing effluent treatment procedures are unable to remove recalcitrant azo dyes completely from effluents because of their colour fastness, stability and resistance to degradation. This Article mainly focuses on the effect of various physicochemical parameters and several physicochemical methods have been used for the removal of dyes from wastewater effluent.

Keywords: Textile industry, Dye, Heavy metals, Physicochemical parameters.

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Applications and Future Prospects of Genetic Engineering and Biotechnology

Maheshwari Sengar, Rajiv Singh Sengar

Under the Guidance of Gatika Makker, Department of Science, St. Edmund's School, Jaipur

Abstract: Genetic engineering comprises multiple techniques for the intentional manipulation of genetic material (primarily deoxyribonucleic acid, or DNA) to alter, repair, or enhance form or function. It implying to the manipulation and alteration of the genetic make -up of an organism through the introduction of certain traits of interest. This may involve changing a single base pair (A-T or C-G), deleting a region of DNA, or adding a new segment of DNA. For example, genetic engineering may involve adding a gene from one species to an organism from a different species to produce a desired trait It is a combination of techniques used for the identification, replication, modification, and transfer of genetic material. The techniques mentioned above are by and large in place since the 1970s and have found their applications in fields like agriculture, pharmaceuticals, health, environment, and industry. With the advancement of GE, its application area is also broadened which gives an advantage to humans as various genetic disorders are now curable through this technique which was not possible in the earlier period. The applications of GE in medical science include the production of vaccines, proteins, and growth hormones and the treatment of many diseases and genetic disorders such as Down's syndrome, cystic fibrosis, cancer, Alzheimer's disease, and Huntington's disease through gene therapy, animal breeds with superior traits and transgenic animals for biomedical research. GE is also taking strides in making the environment a better place for all living organisms by reducing toxic elements through various methods. Transgenic plants with desirable traits such as herbicide tolerance, resistance towards pests, stress tolerance (biotic and abiotic), and enhanced nutritional values. In agriculture, the applications of genetic engineering are most pronounced in producing genetically modified food (GMF) like Bt Crops, and Golden Rice. The techniques employed in genetic engineering have led to the production of medically important products, including human insulin, human growth hormone, and hepatitis B vaccine, as well as the development of genetically modified organisms such as disease-resistant plants.

Keywords: Genetic Engineering, Bt Crops, Ge Insulin, Transgenic Animals, Genetically Modified Organisms, Medical Science, Vaccine, Biotechnology.

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Microwave Chemistry as a Framework for Future Sustainability – A Green Approach

Priya Sharma, KratikaToliya

Under the Guidance of Vishal Singh, Department of Science, St. Edmund's School, Jaipur,

Abstract: The Chemical industry plays a fundamental role in sustaining the world economy and underpinning future technologies and scientific advances in new materials, less toxic products, renewable energy sources, environmental protection, industrial processes with energy efficiency and renewable raw materials. Green Chemistry (GC) or Sustainable Chemistry aims, under greater societal expectations, for a sustainable global future of the planet Earth, through the design of chemical products that eliminate the use of hazardous substances for man and the environment. The design of chemical products and processes that reduce or eliminate the generation of hazardous substances and protect our health are significant goals of green chemistry. It is likely a scientifically based natural evolution of pollution prevention initiatives. It leads to a cleaner, more sustainable, economically beneficial and other positive social impacts. This area of chemistry is a rapidly developing field providing the sustainable development of future science and technology. We can develop chemical processes and earth-friendly products that will prevent pollution in the first place. We can create alternatives to hazardous substances which are used as source materials and environmentally benign synthetic protocols to deliver life-saving medicines. The designing of chemical processes to reduce waste and reduce the demand for depleting resources must be fulfilled by using green chemistry.

Keywords: Green Chemistry, Sustainable Development, Environmentally Benign, Pollution Prevention, Minimizing the Impact of Chemical Synthesis, Earth- Friendly.

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PROGRAMME AT A GLANCE
Date: January 22, 2023; Sunday (Day-2)

Theme: Global Transformation of Healthcare Systems

Standard Time	Schedule
Inaugural Session	
09:00AM-09:05AM	Lighting of the Lamp by Dignitaries
09:05AM-09:10AM	Ganesh Vandana
09:10AM-09:20AM	Floral Welcome of the Dignitaries
09:20AM-09:25AM	**Welcome address by Organizing Chair- BICON 2022-23** **Prof. Manish Biyani** Director (Research & Development) Biyani Group of Colleges, INDIA Professor (Research), JAIST, JAPAN
09:25AM-09:35AM	**Inaugural Address by Chief Guest** **Dr. Sudhir Bhandari,** Vice-Chancellor, RUHS, Jaipur
09:35AM-09:45AM	**Address by Special Guest** **Mr. Naveen Jain, IAS** Principal Secretary, Department of Panchayatiraj, Government of Rajasthan
09:45AM-09:55AM	**Address by Special Guest** **Dr. Shashikant Sharma** Registrar, Rajasthan Nursing Council
09:55AM-10:05AM	**Address by Guest of Honour** **Dr. Vishal Garg** Principal, School of Pharmacy, Maharaja Vinayak Global University, Rajasthan, INDIA
10:05AM-10:15AM	Address by **Dr. Sanjay Biyani** Director (Academics), Biyani Group of Colleges, INDIA
10:15AM-10:20AM	**Vote of Thanks** **Mrs Taravati Chaudhary** Principal Biyani School of Nursing & Paramedical Science, Jaipur, Rajasthan, INDIA
10:20AM-10:30AM	Group Photo

10:30AM-11:00AM	Tea Break

Technical Session – I **Chair:** Prof. Blessy Varghese & Ms. Laxmi Baghel	
11:00AM-11:30AM	**Dr. Ranjeet Bairwa,** Scientist E DSIR, New Delhi (Online) **Title:** *Funding Agencies and their Schemes for R&D Institution/ Innovators*
11:30AM-12:00PM	**Prof. Ayub Ali,** Principal, Santokba Durlabji College of Nursing, Jaipur **Title:** *Current Trends and Scope of Nursing*
12:00PM-12:30PM	**Prof. (Dr.) B. P Nagori,** Former Director, Lachoo Memorial College of Science & Technology (Pharmacy), Jodhpur **Title:** *Bringing Research to Mankind: Connecting Academia and Industry*
12:30PM-01:00PM	**Ms. Renu Nagar,** Principal, Nirwan University, Academic Head at CBS Publication, Nursing NEXT, Project Manager TNAI India. **Title:** *New Scenario in nursing about simulation teaching and OSCE training*

Special Session with Well Group, Japan	
01:00PM-01:30 PM	**Ms. Sarbani,** Well Group, Japan (Online) **Title:** *Nursing Care in Japan – How can Well Group Help*
01:30PM-01:40PM	**Ms. Neha Arvind** Alumni Biyani Nursing College (TITP Internship) *Experience In Japan*

01:40PM-02:30PM	**Lunch**

Technical Session – II **Chair:** Ms. Remya Renjan & Mr. Lalaram	
02:30PM-02:55PM	**Dr. Fumihiko Yokota,** Asso. Professor, Kyushu University, Japan **Title:** *Healthcare Transformation: A strategies approach to address the rapidly changing*
02:55 PM-03:20PM	**Mr. Nikunj Kanani,** Founder & CEO, Kanani Biologicals, Gujarat. *Industry Expert*
03:20 PM-03:45PM	**Prof. Blessy Varghese,** Professor, Jaipur Nursing College, Jaipur **Title:** *Innovation in Nursing Education practice and Research*

03:45PM-04:10PM	**Dr. Naveen Kumar Garg,** Technical Head & Assessor (Ayush Scheme) in IR Class System & Solution Pvt. Ltd. Jaipur **Title:** *Scope, Opportunities & Challenges in Industrial Pharmaceutical Career*
04:10 PM-04:35PM	**Oral Presentations**
04:35 PM-04:40PM	**Award Ceremony**
04:40 PM-05:00PM	**Closing remarks** Dr. Rambir Singh, Principal Biyani Institute of Pharmaceutical Sciences, Jaipur
05:00 PM-05:05PM	**Cultural performance by students**
05:05 PM-05:06PM	**National Anthem**
05:06 PM-05:30PM	**Tea and Adjourn for the Day**

TABLE OF CONTENTS

Invited Lecture 1

Funding Agencies and their Schemes for R&D Institutions / Innovators

Ranjeet Bairwa

Affiliation & Contact:

Scientist ′E′ at Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India, New Delhi.

Phone : 8447039391, Email : ranjeet.bairwa@nic.in

Research Interest:

Industrial Research and Development

Educational and professional carrier

- Doctorate and Master from Institute of Chemical Technology (Formerly UDCT), University of Mumbai, India.

- Scientist 'D' and Scientist 'C' in DSIR, GOI

- Principal at Mahrishi Arvind College of Pharmacy, Jaipur.

- Examiner for evaluation of doctoral thesis for various universities and evaluated 03 PHD thesis from RUHS.

- Expertise in Scientific and Technical Evaluation of the proposals of the corporate companies for their In House R&D Unit(s).

Abstract

Funding Agencies and their Schemes for R&D Institutions / Innovators

Ranjeet Bairwa

Sci. E DSIR, New Delhi

Abstract :

The Government of India has undertaken several initiatives and providing Grant / Funds to support research work in the field of S&T including Pharma, Medical & Biotechnology, Chemical, Agriculture, Engineering, Social Sciences etc. in the country. In India various Government and non-government funding agencies which are providing grants for a research in various fields and promote excellence in research in higher education. The objective of funding agencies to stimulate and encourage research and studies deemed necessary for achievement of the country's developmental, to fostering research capabilities and manpower development in institutions, to promote large scale interactions in various disciplines, to support talented science and engineering research scholars, to utilize the services of active retired scientists/engineers and technologists, who have been involved in high quality research in their specialized discipline etc. A national survey on the status of research and development in the country has shown that the Gross expenditure on R&D (GERD) in the country has been consistently increasing over the years and has nearly tripled from Rs. 39,437.77 crore in 2007- 08 to Rs. 1,13,825.03 crore in 2017-18 and Rs. 1,23,847.70 crore in 2018-19. Various funding schemes under various central government departments like Department of Science & Technology (DST); Department of Scientific and Industrial Research (DSIR); Department of Biotechnology (DBT), Min of Earth Sciences, MoEF, Min. of Ayush; UGC, AICTE, DRDO, ICMR etc. are providing financial support to R&D Institutions / Innovators to promote the research work in the field of S&T.

Keywords : Biotechnology,Bgriculture ,Ayush,Indusrial Research.

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Invited Lecture 2

Current Trends & Scope in Nursing

Ayub Ali

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Affiliation & Contact:

Principal Santokba Durlabji College of Nursing, Jaipur

Phone : 9461667730

Research Interest:

Nursing

Educational and professional carrier

- Vice Principal cum Academic Incharge in College of Nursing, SMS Hospital and Medical College Jaipur.

- Academic Counselor for Post Basic B.Sc. Nursing Course, IGNOU, New Delhi

- Member of Board of Studies (NSG) in RUHS, Jaipur

- Cordinator and Master Trainer –GFATM programme conducted by INC New Delhi.

- Convener- M.Sc. Nsg., Post Basic B.Sc. Nsg. enetrance exam conducted by Ruhs Jaipur since last 10 years.

- Examination Superintendent – M.Sc. Nsg. B.Sc. Nsg., Post Basic B.Sc. Nsg, Examination of RUHS, Jaipur.

- Inspector INC, RUHS, RNC for M.Sc. Nsg, B.Sc. Nsg., Post Basic B.Sc. Nsg., B.Sc. Nsg., GNM Courses

Abstract

Current Trends & Scope in Nursing

Ayub Ali

Principal Santokba Durlabji College of Nursing, Jaipur

Abstract :

Nursing health care trends will be led by the fallout of a momentous nursing shortage & growing technological changes. In 2023 should also brings a renewed focus on nurse's mental health, wearable Medical devices and rise of virtual medicine**.** Now integrated medical technologies are transforming the way in which hospitals, health care centers, and care providers communicate with each other & their patients. A significant trend in nursing will be to focus on restoring a safe working environment another focus will be developing staffing models based on patients care level and work competencies .Current trends in nursing & multifactorial including the increase in the aging population transition to informatics & an overarching emphasis on specific frameworks for the guiding of nursing practice. The covid-19 pandemic also has motivate nurse's to seek role in nonclinical setting. The scope of nursing practice is depend as the range of roles functions, responsibilities & activities which registered nurses are educated & competent Positions in nursing education include clinical instructor, Nursing Tutor, Senior Tutor, Lecturer, Assistant, Associate Professor, Professor in nursing, industrial nursing provides first aid, care during illness, health education about industrial hazards & prevention of accidents. A nurse assists the individual whether, ill or not to perform activities, that will contribute to health recovery or peaceful death. The board of scope of nursing practice encompasses all of the roles and activities carried out by registered nurses.

Keyword: covid-19, population, industrial hazards

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Invited Lecture 3

Bringing Research to Mankind: Connecting Academia and Industry

B. P. Nagori

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Affiliation and contact;

Pro-President, NIMS University & Director, NIMS Institute of Pharmacy, Jaipur.
Contact: 91-9829098077; Email; bpnagori48@gmail.com

Research Intrest :

Pharmacology

Educational and professional carrier :

B. Pharm.(Hons.), M.B.A.,M PHARMA, PHD.L.L.B

Quality Assurance, Pharmaceutical Chemistry, Pharmaceutical Management, Regulatory Affairs, IPR, Medicinal & Pharmaceutical Applications of various Gums, Institutional Management and Total Quality Management, Research on Desert Medicinal Plants**.**

- Felicitated by Indian Pharmacy Graduates' Association (IPGA) Rajasthan State Branch for immaculate service to the profession on 25 February, 2017.

- Received "Best Poster Award" at 2nd Mediterranean Symposium on Medicinal and Aromatic Plants (MESMAP-2) jointly organized by Association of Medicinal and Aromatic Plants of Mediterranean (AMAPMED) and Association of Pharmaceutical Teachers of India (APTI) during 22-25 April, 2015 at Antalya, Turkey.

- Honored with Principal of the Year 2010 Award for the determined contribution to the upliftment of the institution as well as pharmacy profession in the institution by the Association of Pharmaceutical Teachers of India (APTI) during its 15th Annual National Convention (APTICON 2010) held on 2nd -3rd November, 2010 at Hyderabad.

- Nominated as an Expert Member on the Selection Committee for Appointment/ Promotion (CAS) of Professor/ Associate Professor/ Assistant Professor or equivalent in Faculty of Science & Technology in the Sub./ Dept.: Pharmaceutical Sciences Specialization : Pharmaceutical Chemistry by RTM Nagpur University, Nagpur.

- Nominated as member of the committee constituted for the purpose of revision of the syllabi of D.Pharm., B.Pharm. and M.Pharm. by All India Board of Pharmaceutical Education of AICTE.

- Editorial Board Member, Madridge Journal of Novel Drug Research (MJNDR), Madridge Publishers LLC, USA

- Member of Central Research Committee, Sumandeep Vidyapeeth Deemed University, Vadodara, Gujarat.

- Member, Institutional Ethics Committee, Dr. Sarvepalli Radhakrishnan Rajasthan Ayurved University, Jodhpur.

- Chairman of Board of Studies (BoS) in Pharmacy and member of Academic Council of Mewar University, Chittorgarh.

- Nominated as member of M. Pharm. Committee for framing of course syllabus, list of equipments and reference books etc. for various PG specializations by Pharmacy Council of India.

- Founder Dean, Faculty of Pharmacy, Rajasthan University of Health Sciences, Jaipur.

- Founder Dean, Faculty of Pharmacy, Rajasthan Technical University, Kota.

MAJOR PUBLICATION :

1. Foundations in Pharmaceutical Biotechnology
2. A Textbook of Pharmaceutical Chemistry-II
3. Pharmaceutical Quality Assurance"(Book released During Valedictory Function of 69th IPC held at Chitkara University, Rajpura)

Abstract

Bringing Research to Mankind: Connecting Academia and Industry

B. P. Nagori

Co-founder, Foundation for Promotion of Commercialization of Research (fpcrglobal.org)
Satori One Click Solutions LLP (satoriocs.com), Industry

Abstract :

Academia Interface has been a very important and much needed concept leading to unification of Goddess Laxmi and Goddess Saraswati. Academia is involved in Research for Academic Interest and most of the time Academicians are happy and satisfied with putting the prefix, Dr., before their

names; while Companies, most of the time, are involved in their routine Production and Marketing activities giving less emphasis to R&D activities. Research involves Resources, Man-hours, Money & Expertise and most of the time it remains confined in book shelves and libraries; with no or little commercial output. Researchers are not fully aware where their research could be of use or where their research could be used effectively; who may be in need of their research outcome; where their research outcome can get commercial value to them. On the other hand, industry is also not aware about the research that is being done globally and which it is in need of; industry is willing to engage researchers to cater to their needs but is not aware about the availability of such researchers in the World. Both, the researches and the industry do not have adequate access to each other's needs. Hence there is a dire need to move research 'from the shelf' to 'the one who needs that research' and also to promote research that is need-based / tailored / guided. There is a need to showcase research by research providers (academia) to research seekers (industry) who can commercialize it, thus, creating a win-win situation for both. Foundation for Promotion of Commercialization of Research (FPCR) has been conceptualized to bring together Research Providers (Individual / Group / R&D Organization) and Research Seekers (Industries/ Organization willing to engage a Research Provider) on a common platform to match their needs and to accomplish commercialization of all types of the research already done / being done, globally. The endeavor is not only to add value to the research but also help humanity by making the research available to mankind with generation of wealth. Research sectors include a total of 31 types of research areas including Engineering and Technology, IT and Computer, Medical Sciences, Pharmaceutical Sciences, Basic Sciences, Veterinary and Animal Sciences. FPCR is a specially designed unique, comprehensive, global web portal incorporating in-depth working of the research aspects that are not available to the one who actually needs them. Research Providers are required to register themselves with their Research brief (along with key words) and Research Seekers are required to register themselves with their Research needs (along with key words) at the FPCR. FPCR automatically matches to initiate communication between Researcher and Industry.

Keywords: Research Provider, Research Seeker, fpcr, Research, Commercialization

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Invited Lecture 4

Orientation to OSCE & Simulation -As innovative teaching methods

Renu Nagar

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Affiliation & Contact:

Principal, Nirwan University, Academic Head at CBS Publication, Nursing NEXT, Project Manager, TNAI, India
Phone : +91- 9222281939, Email **:** renunagar009@gmail

Research Interest: Nursing

Educational and professional carrier

- Worked as Lecturer after MSc Nursing to most popular esteemed institutions such as Bombay Hospital Mumbai and MGM University Navi Mumbai
- Worked as administrator in various capacities with CBS publications Nursing Next as Academic Head and Project Manager at Trained Nurses Association of India.
- Organized and attended more than 30 conferences and workshops.
- Conducted awareness program at Multinational company on Breast Cancer
- Conducted awareness program at Navi Mumbai Municipal Transportation bus driver on First Aid.

Major publication:

- Research Article "Shavasana: an approach to reduce postnatal stress" published in Nightingale Nursing Times feb 2016 issue pg no 54.
- "Bell's Palsy in pregnancy" accepted and to be published in In International journal of nursing Education;Vol7: January March 2019**.**

Scientific Paper Presentation:

1. "Awareness on breast cancer among working women" presented in national conference on interdisciplinary research collaboration by NRSI at Nainital.

2. "Shavasana: as approach to reduce postnatal stress" presented in national conference on Reinforcement of midwifery services held at Symbiosis College of Nursing Pune.

3. "Shift Handover among nurses" poster presentation in national conference health con 2017 held at choithram college of nursing Indore

4. "Impact of Anaemia among parturient mothers" paper presentation national Conference of NRSI 2018 at Kolkota.

5. Contributor for Target High 4th Edition**.**

Abstract

Orientation to OSCE & Simulation -As innovative teaching methods

Renu Nagar

Principal, Nirman University, Academic Head at CBS Publication, Nursing NEXT, Project Manager TNAI, India

Abstract :

OSCE Stands for Objective Structured Clinical Examination. It is a method to evaluate student proficiency in a variety of areas depending on certain goals or alteration in behaviour.The aim of OSCE assessments is to evaluate a candidate's skills and knowledge in a particular topic. It is the evaluation of a wide range of knowledge and skills that are logically connected to competency .Input from multiple evaluators, We can examine/assess multiple individual at the same time .Give a trustworthy and accurate evaluation.Rapid decision-making and grading. Unmanned OSCE Station – Examiner is not present throughout Answer submitted on paper either after the station or after the end of all the stations.The circle learning consists: Knowledge acquisition, Skill proficiency, Decision making, Simulation training, Clinical exposure. Simulation is the 4th cell in the circle of learning after knowledge acquisition, skill proficiency, and decision making. All others are very individualistic and simulation is a group activity interdisciplinary teams come together to learn. It is a technique, rather than just a technology that promotes experiential and reflective learning. Students can refine and apply their skills in realistic healthcare situations .Learning tailored to the educational needs of students .Allows unlimited creation of situations that might be too dangerous or expensive to perform live .Allows students repeated practice of procedures to reach proficiency .Allows adherence to standard guidelines by reinforcement .Allows evaluation of individual or group performance .Scenarios can be halted at any time to allow for discussion of management strategies .No issues of patient safety or confidentiality.

Keywords: OSCE, Simulation, clinical examination, decision making

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Invited Lecture 5

"Comparisons of COVID-19 Pandemic between India and Japan" -Epidemiological Perspectives-

Fumihiko Yokota

Affiliation & Contact:

Kyushu University Institute for Asian and Oceanian Studies
744 Mooka Nishi Fukuoka, Japan
Phone +81-092-802-2633; Email: yokota.fumihiko.785@m.kyushu-u.ac.jp

Research Interest:

Global Health, Public Health, Epidemiology

Education :

Tulane University, New Orleans, LA USA	08/02–5/07
Doctoral Program, School of Public Health and Tropical Medicine	
University of California, Los Angeles (UCLA), CA USA	09/99- 06/01
Master of Public Health, Community Health Sciences	
Saitama University, Saitama, Japan	04/94- 03/99
Bachelor of Art, Education	
Western Oregon University, OR USA	08/96- 09/97
Scholarship from Japan Ministry of Education, Culture, Sports, Science and Technology	

Professional Career:

Associate Professor	3/21 – Current
Kyushu University, Institute for Asian and Oceanian Studies, Fukuoka Japan	
Lecturer	04/15 – 03/21
Kyushu University, Institute of Decision Science for Sustainable Society, Fukuoka Japan	

Senior Program Manager for M&E and Operational Research   10/11 – 03/15
Clinton Health Access Initiative (CHAI), Indonesia and Papua New Guinea

Epidemiologist (Asian Development Bank Consultant)   **11/07 – 09/11**
Papua New Guinea, National Department of Health, HIV/AIDS

Surveillance Unit Research Assistant   10/02 – 12/06
Tulane University, Department of International Health, New Orleans, LA USA

Research Assistant   07/02 - 08/02
National Institute of Mental Health, Tokyo, Japan

Research Assistant   07/01 - 06/02
University of California, San Francisco, Center for AIDS Prevention Studies (CAPS), USA

Major Publications:

1. **Yokota F**, Biyani M, Islam R, Ahmed A, Nishikitani M, Kikuchi K, Nohara Y, and Nakashima N. Lessons learned from co-design and co-production in a portable health clinic research project in Jaipur District, India (2016-2018). Sustainability. 10 (11): 4148. 2018.

2. **Yokota F**, Ahmed A, Islam R, Nishikitani M, Kikuchi K, Nohara Y, Okajima H, Kitaoka H, Nakashima N. The relationship and risk factors associated with hypertension, diabetes, and proteinuria among adults from Bheramara Upazila, Bangladesh: Findings from Portable Health Clinic Data, 2013-2016. International Journal of Medical Research and Health Sciences. 7 (2): 1-12. 2018

3. Yokota F, Biyani M, Islam RM, Ahmed A, Nishikitani M, Kikuchi K, Izukura R, Nohara Y, Nakashima N. Co-design, co-production, and co-evaluation processes for a mobile health check-up research project in Jaipur India: Case study of the Portable Health Clinic, 2016-2020. Decision Science for Future Earth: Theory and Practice. Chapter 3, Springer. ISBN:9789811586316. 2021.

4. Yokota F, Biyani M, Hu Y, Kikuchi K, Shah F, Yasuoka J, Nanishi K, Alchoba R, Noureen A. PHC and case studies of remote healthcare services in Asian countries. Mobile Technologies for Delivering Healthcare in Remote, Rural or Developing Regions. Healthcare Technologies. Chapter 9. IET Book.ISBN-13: 978-1-83953-047-0. October 2020.

Abstract

Comparisons of anthropometric indicators for predicting hypertension among male factory workers in Rajasthan, India

-Results from Portable Health Clinic at Saras and Lotus Dairy-

Fumihiko Yokota[a], Rajshri Nagar[b], Deepak Tiwari[b], Manish Biyani[b], Mariko Nishikitani[a], Kimiyo Kikuchi[a], Ashir Ahmed[c], Rafiqul Islam Maruf[d], Yasunobu Nohara[d], Rieko Izukura[d], Naoki Nakashima[d]

a Institute of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan;
b Department of Nursing, Biyani Group of Colleges, Jaipur, Rajasthan, India;
c Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan;
d Medical Information Center, Kyushu University Hospital, Fukuoka, Japan

Abstract :

It is still largely unknown which anthropometric measure of obesity is the best predictor for hypertension in rural and urban India. This study compares four common anthropometric indices, namely body mass index (BMI), waist-to-height ratio (WHtR), waist circumference (WC), and waist-to-hip ratio (WHR) for predicting T2D among dairy milk factory workers in Rajasthan, India. Cross-sectional surveys, including health checkups and questionnaires were conducted for 179 Saras dairy and 200 Lotus dairy employees between 2018 and 2020. The participants included were randomly selected male factory and office workers who participated in health check-up services called Portable Health Clinic (PHC). The results and next steps for PHC in the post covid-19 era will be presented.

Keywords: Anthropometric indices, Hypertension, Mobile health check-ups, India, Post covid-19.

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Invited Lecture 6

Innovation in Nursing Education, Practice and Research

Blessy Varghese

Affiliation & Contact:

Professor and HOD in obstetrics and gynecology in Jaipur Hospital College of Nursing, Jaipur

Phone : 7597344229; Email : blessybg@gmail.com

Research Interest:
Nursing

Educational and professional carrier :

•   Rajasthan University of Health Science -Bachelor of Science in Nursing

•   Rajiv Gandhi University of Health Science - Master of Science in nursing

•   Acted as resource person in national seminar organized by SOMI & JIET college Jodhpur.

•   Acted as a reviewer of many books

•   Completed   capacity training of midwifery faculty organized by inc.

•   Guide for msc. nursing students

•   Conducting and supervising university examination.

•   Worked a center superintendent for university exam.

•   Member of society of midwives –India (SOMI).

•   Member of trained nurses association of India.

Major Publications:

•   Maternity case book (a clinical work book of maternal and new born child)

Abstract

Innovation in Nursing Education, Practice and Research

Blessy Varghese

Professor and HOD in Obstetrics and Gynecology in Jaipur Hospital College of Nursing, Jaipur

Abstract :

While innovation often is thought of in terms of high-cost, high-tech solutions, the need for innovation even the lower tech variety is evident worldwide. We can broadly classify innovation in nursing in 3 major categories as innovation in nursing education, innovation in nursing practice and innovation in nursing research. Innovations needed in nursing education are collaborative agreements between academia and practice & development of inter professional education which helps in building a new & stronger relationship between academia & practice. Experiential learning theory in which we apply knowledge and experience to real life situations. Increased use of technology in classroom like E-textbooks, E-learning, E-portfolio, Podcasts Use of YouTube videos, Center for Innovation and Simulation Technology. Various innovations in clinical practice are use of evidenced based practice, development of procedure manual, forensic nursing specialty, job description, infection control, triage that has become mandatory in the accident and emergency , computer assistance, use of robots, patient classification by activity and acuity of illness wireless technology and variation in traditional role of nurse as nurse practitioner, hospice nurse, informatics nurse specialist, quality manager, telephone triage nurse, flight nurse and many more Innovation in nursing research consists of evidenced based practice that requires integration of best research evidence with clinical expertise and patient values and needs in the delivery of quality, cost effective care. More focus on outcome research that is designed to assess and document the effectiveness of health care services.

Keywords: Innovation, Education, Practice, Research.

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Invited Lecture 7

"Scope, Opportunities & Challenges in Industrial Pharmaceutical Career"

Naveen Kumar Garg

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Affiliation & Contact:

Technical Head & Assessor (AYUSH Scheme) in IR Class Systems & Solutios Pvt. Ltd., Mumbai (Certification body) and scheme owner Quality Council of India and Ministry of AYUSH.

Phone : 9887125894, Email: naveen.garg@irclass.org

Research Interest:

Pharmacology

Educational and professional carrier :

- Worked as Pharmacognosist in Dravya Guna Department, National Institute of Ayurveda (Ministry of AYUSH), Jaipur, Rajasthan and Co-guided to MD scholars (more than 5) of Ayurveda.

- Worked as Analytical Chemist in M/S Ayushraj Enterprises Pvt. Ltd., Jaipur.

- Was worked as Assistant Professor in Sanjeevan College of Pharmacy, Dausa and Guided to B Pharm M. Pharm students (more than 5) for Project/Thesis.

- He is Inventor as well as Patent holder for Herbal Antihypertensive formulation and done the technology transfer to Industry.

- have Written a Book as entitled "A Testing Protocol for Quality Control- Ayurveda, Unani, Siddha (Herbal) Products"; and Main author of this book. Its very relevant to Acedemic, industries and recognised/recommended by Governer, Rajasthan.

- He is Qualified Lead auditor for ISO 9001 and ISO 22000 and Internal auditor for ISO 17025 (Requirements of NABL accreditation) and Faced more than 10 office assessment and witness audits.

- He is associated with different industries, universities and institutes as Advisor/consultant/ external examiner, internal auditor etc..

- He has developed a software "AYUWARE" as per requirements of schedule T under Drug & Cosmetic act for compliance in AYUSH sector of Industries and copyrighted and recognised by MINISTRY of AYUSH

Major publication:

- "A Testing Protocol for Quality Control- Ayurveda, Unani, Siddha (Herbal) Products";

- have Written a Book as entitled "A Testing Protocol for Quality Control

Abstract

"Scope, Opportunities & Challenges in Industrial Pharmaceutical Career"

Naveen Kumar Garg
Technical Head & Assessor (AYUSH Scheme)

Abstract :

In recent time, Focusing of world is diverted with respect to healthcare prospective; on traditional (Indian) system of medicines (TSM). TSM is recognized by WHO during the era of Pandemic COVID 19 as well its intellectual property of India. Now, Indian pharmaceutical industry has great opportunity to explore its knowledge and competency with respect to protect health of humanity. Its also a era to generate a scope for pharmacy professionals in the sector of AYUSH drugs (Herbal, Ayurveda, Unani, Siddha and homeopathy). Additionally, hidden scope is evidenced for Pharmacy professionals in the sector of Intellectual property rights and Certification/Inspections.

Keywords: pharmacology, ayush

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<u>**CONTRIBUTED PAPERS**</u>

Innovation in Nursing Education, Practice and research

Nisha Rathore

Department of Nursing, Biyani Nursing College, Jaipur

Abstract :

Nowadays, the importance of scientific knowledge has been increasing and healthcare applications are changing rapidly. In general, the concept of innovation in the healthcare sector, and in particular for nursing is new approaches, technologies, and ways of working are described as a process that has been developed. You probably know by now how dynamic it is - always changing, updating and improving. But some of the most important changes in healthcare today are implemented first by nurses.

I believe our most exciting next - generation movement in nursing has to do a lot with technology and providing a new kind of experience of healthcare. Innovation is a vital aspect of every profession to grow and develop so, we discuss how innovation takes place in the field of nursing education, practice, and research and also the need for innovation in the nursing profession.

Last but not least we will discuss how the pandemic gives a new turn to the nursing profession and how beneficial for the individual, group, and community.

Keywords: Innovation, Healthcare system, technologies, community, profession

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Health care transformation: A strategies approach to address the rapidly changing health system

Cheena Devatwal

Department of Nursing, Biyani Nursing College, Jaipur

Abstract :

This presentation discusses about "Health care transformation" it means rapidly change in the health system.

Develop society are facing an considerable increase in health and social care needs.

On the other hand developing society need to drastically improve medical care that they are providing for there citizens and improve their standard of living.

The lack of qualified staff, doctor and nurse specially pressing. This is where the technology provides new tools and solutions that allows us to introduce more efficient procedure. That is to say, correctly performing the task and work we phase without wasting either time or energy.

This is why we must innovate this situation become tragic when COVID pandemic has knocked.

Keywords: Health care , Technologies, Medical care , Transformation

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Current trends and scope in nursing

Manisha Shekhawat

Department of Nursing, Biyani Nursing College, Jaipur

Abstract :

The present study briefly investigate the current trends and scope in nursing practices. Health care is a constantly changing and updating field with advancement in technology, new care method and current world events. The trends hospital and nurses need to keep an eye on are changing years over years .The medical field, particularly nursing experience significant changes during the COVID 19 pandemic. As. The current field of nurse's become more educated they have an opportunity to take an expending roles and flies a drastic need in the year to come. The new trend will come alone with new scopes which would be beneficial for nursing practices and nursing education.

These would be including online education bilingual nurses , specialize course and increase use of telemedicine.There is a belief that nursing leads to a quality movement when it's comes to health care that cause nurses are the one who provide mostly care to patients thus it calls for empowering the nurses with preparation that are good improvement. We need to keep up with time and Better possibility not only for our improvement but for maintaining of quality patient care.

Keywords: Scope, Health, Trends, opportunity, care.

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Futuristic Nursing : A vision of the future nurse

Paridhi Sharma

Department of Nursing, Biyani Nursing College, Jaipur

Abstract :

As a nursing profession is a supportive pillar for the health care sector.

Many new trends in nursing are likely to develop in the near future. Some can be predicted with certainty whiles other may be unexpected. These future trends will result from rapid changes occurring in all areas of life. Aspects of futuristic nursing its future direction in role, responsibility, functions and trends towards future in nursing research. The purpose of futuristic nursing is that digital technologies increasingly affect nursing globally. So this is a big challenge for nursing. To respond to these challenges and prepare for the future, nursing must begin the immediate transformation in to a digitally enabled profession. It is hoped this study will help you to know that future of nursing if of great scope. The nurse can use it for their professional advancement and safeguard their lives.

Keywords: Futuristic, Transformation, Technology, Responsibility

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A Concept Analysis of Innovation in Nursing

Anupama Goyal

Associate Professor in Botany, Dr KN Modi University, Newai

Abstract :

Innovation in nursing is becoming an increasingly important concept in the nursing literature. Definitions of innovation in various fields and nursing were reviewed in the conceptual analysis. In order to use common terminology, the concept of innovation needs to be clarified, and nursing education programs and health professionals should pay close attention to the correct use of this term. This conceptual analysis provides a better understanding of the concept of innovation and thus helps its use in nursing. , it is possible to begin to look at how nursing can remain innovative and survive as a relevant profession. This use of the concept of innovation is a strong example of innovation being more than just something new (Rogers, 1992; Weberg, 2009). Innovation requires vision, structure, strategy, and the involvement of associated partners and stakeholders to evaluate the impact of care and services in order to improve care and services (McSherry & Doglas, 2011). Nursing innovators are opening access to care for the underserved, creating systems to support and

improve the health of older adults living independently, designing clinics for convenient access, improving maternal and child care, and transforming bedside care. To use common terminology, the concept of innovation needs to be clarified, and nursing education programs and health professionals should pay close attention to the correct use of the term. Accordingly, it should be maintained that nurses are able to participate in innovative actions in their professional lives and reflect them in their professional practices

Keywords : Innovation, Nursing, conceptual analysis, education programs

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Review on the Impact of Covid-19 on Routine Childhood Immunization Services

Ramesh Kumar Sharma

Associate Professor, Biyani Institute of Pharmaceutical Sciences, Jaipur

Abstract:

Globally, vaccination prevents between 2 and 3 million deaths every year. While vaccines save millions of lives each year, an estimated 1.5 million under-five children die from vaccine-preventable diseases (PVDs) due to low coverages in low- and middle-income countries in the globe. Although there has been unprecedented progress in preventing childhood mortality from infectious diseases through vaccination in this twenty-first century, the Corona Virus Disease 2019 (COVID-19) pandemic has disrupted routine childhood immunization for many vaccine-preventable diseases at the global, regional, and national levels. As reports indicated global vaccination coverage dropped from 86% in 2019 to 83% in 2020 and the proportion of children who completed the required childhood vaccinations was 69.21% in India.

Worldwide, national immunization programs are at risk of disruption due to the severe health system constraints caused by the ongoing COVID-19 pandemic. The COVID-19 pandemic caused the most widespread and largest global disruption of routine childhood immunization services in 2020. In addition, maternal, neonatal, child, and sexual and reproductive health services were all impacted by the restrictions imposed by the government in response to COVID-19 including childhood immunization. The ongoing COVID-19 impact on routine child immunization is higher in lower-income countries with limited health-care resources and fragile health systems. Disruption of immunization services, even for brief periods, will result in increased numbers of susceptible individuals and raise the likelihood of an outbreak of vaccine-preventable diseases (VPDs) such as measles. The reasons for disrupted services vary. Some parents are reluctant to leave home because of restrictions on movement, lack of information, or because they fear infection with the COVID-19

virus. In addition, many health workers are unavailable because of restrictions on travel, or redeployment to COVID response duties, as well as lack of personal protective equipment. The access to and supply for vaccination are more likely to have been affected by the lockdown measures. The possible factors for the effects on the coverages and supplies of childhood immunization during the COVID-19 pandemic are fear of contracting severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) infection by the population due to interruptions in public transport or economic difficulties; and reduction in the health-care workers due to lack of protective equipment or reassignment to the assistance and management of patients affected by COVID-19. COVID-19 has disrupted the availability of childhood vaccines in their respective health institutions.

Keywords: COVID-19, PVDs, VPDs, Immunization

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A Review on Phytochemical Investigations of the leaves of *ziziphus xylopyrus willd*

Sharma Ashok Kumar

Lecturer, Biyani Institute of Pharmaceutical Sciences, Champapura, Jaipur

Abstract :

This abstract deals with the estimation of the fresh, powdered and anatomical sections of the leaves of *Zizyphus xylopyrus* to establish the macro morphological, micro morphological, chemo microscopic, physiochemical and phytochemical and florescence analysis of drug. Macro and microscopical studies indicated presence of simple leaf alternate arrangement, and serrulate margin with obovate shape, obtuse apex and oblique, rounded base, pinnate venation, xylem, phloem, single layered upper epidermis, lower epidermis and collenchyma. Chemo microscopic characters present include glandular trichomes, pitted cells with vascular tissue and calcium oxalate crystals. The investigations furthermore integrated quantitative leaf microscopy of *Zizyphus xylopyrus* included vein islet and vein termination number. Physicochemical parameters such as total ash, acid insoluble ash, water soluble ash, moisture content, water soluble extractive value, alcohol soluble extractive value and ether soluble extractive value of *Zizyphus xylopyrus* have been calculated. Phytochemical evaluation have been performed which clearly reveals the occurrence of alkaloids, tannins, cardiac glycosides saponins and terpenoids. The results of the study possibly will subsist positive in surroundings several diagnostic indices designed for the discovery and research of a monograph of the plant.

Keywords: Potent sedative**, *Zizyphus xylopyrus*, Rhamnaceae, Cyclopeptides, Xylopyrine

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Review article of Documentation in Quality Management System (QMS) Deviations and its CAPA in Pharmaceutical Industry

Baghel Laxmi

Asst. Professor, Biyani college of Pharmaceutical Sciences, Champapura, Jaipur

Abstract :

A QMS (Quality Management system) is the root of any quality and compliance process. It is a regulatory requirement that FDA / global regulatory inspectors and ISO auditors consider critical. An automated QMS system reduces audit time and findings, and a decreases risk of product recalls. It improves product quality and safety, increases customer satisfaction, and ensures FDA and ISO compliance. QMS documentation is required for pharmaceutical company to operate in compliance with regulatory requirements. Objective of documents in QMS is to established, monitor and record all activity of production and that define the "quality control" and "quality assurance" of product. The requirements of maintaining complete, accurate, truthful and verifiable data in all cGMP documents that are needed to be maintained as per regulatory requirements and various Governmental regulations, laws, rules and statutes/acts. In India many research works done for minimization of data integrity in pharmaceutical industry related to equipment, audit trial as well as on software of machine but any detail work on data integrity related to documentation and its practices as per regulatory requirement is not available and many in India many organization suffering batch rejection & 485 observation during audit, data integrity related to data and documentation of data is warm topic in pharmaceutical industry so that information about the data integrity on documentation must require for pharma field as well as another field.

In this study included all the documents of QMS of various departments with their case study and its regulatory guideline (USFDA & FDA) available for QMS documents and also include example of data integrity and 483 observations which help the organization for maintains the integrity of their data and documents. This work helps the organization to understand the requirement of regulatory for documentation and for its recording.

Keywords: USFDA, FDA, 483 observations, QMS, GMP, QA

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Review on Leaves Extract of Ziziphus Mauritiana for wound healing activity

Verma Ramesh Kumar

Assistant Professor, Biyani Institute of Pharmaceutical Sciences, Jaipur, Rajasthan

Abstract :

Various medicinal plants are used in traditional system of medicine to treat various diseases and many of these plants have been evaluated for their different pharmacological activities *Ziziphus mauritiana* one of them. The present work deals with the study of ethanolic extract of leaves of *ziziphus mauritiana* for its wound healing potency. The World Health Organization (WHO) estimated that approximately 80% of world population relies mainly on traditional medicines, mostly plant drugs in their health care. Today, Ayurveda coexists with modern system of medicine, and is still widely used and practiced. The leaves are reported to have protein, fibre, calcium, phosphorus, berberine, protein alkaloids, vitamin E, carotenoid, rutin, saponins, flavonoids like ziziphin and jujubasaponins. The crude extract showed the presence of alkaloids, steroids, triterpenoids and polysaccharides. The ZMLE and standard drug were applied daily to the wound area daily. The healing was assessed by physical parameters like percentage wound contraction, epithelisation and determination of hydroxyproline. The treatment with the ZMLE produced the anti-inflammatory activity against excision wound model and dead space wound model. The ZMLE showed anti-inflammatory activity against Excision wound when compared to the standard cipladine (povidine iodine 5%w/w). There were significant reduction in days required to healing and hydroxyproline and weight of wet and dry granuloma tissue were increased significantly by the treatment with ZMLE. Healing of excision wound were promoted significantly by treatment with ZMLE, ZMLE promoted the wound contraction and reduced the days required for epithelisation. ZMLE possesses significant anti-inflammatory and wound healing properties.

Keywords: Ziziphus mauritiana leaves extract (ZMLE), World Health Organization (WHO), Hydroxyproline (HP)

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A Review on Synthesis and Biological Activity of 1,2,4-Triazole Derivative

Lala Ram Jat[1*], Vandana Sharma,[2] Richa Agarwal[3]

[1,3]Associate Professor, Biyani Institute of Pharmaceutical Sciences, Jaipur
[2]Principal, Arya College of Pharmacy, Jaipur

Abstract:

Recently, the chemistry of 1, 2, 4-triazoles and their fused heterocycles has got considerable attention due to their synthetic utility and broad-spectrum biological activity. 1,2,4-Triazole moiety has been incorporated into a number of therapeutically important agents. Itraconazole, fluconazole, voriconazole, triazolam, alprazolam, etizolam, ribavirin, hexaconazole, triadimefon, myclobutanil, rizatriptan, and fluotrimazole are known drugs containing 1,2,4-triazole ring.

The biochemical mechanism of their antifungal effect is based on the inhibition of ergosterol biosynthesis thereby interfering with fungal cell-wall formation. They also inhibit sterol 14 – demethylase and hence considered steroid demethylation inhibitor. The 1,2,4-triazole nucleus has a broad spectrum of pharmacological activities including antimicrobial, antiviral, antitumor, anticonvulsant, and antifungal. This article gives an overview of 1, 2, 4-triazole and its derivatives. In this review article we have reviewed various methods of synthesis derivatives of 1,2, 4-triiazole nucleus and evaluation of various biological activities. Thus, triazole acts as a promising chemical entity and can be helpful to develop new triazole compounds that could have better efficacy and lesser toxicity.

Keywords : Triazole, Heterocycles, antifungal activity, anticonvulsant activity, demethylase

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Road Safety Measures in Prevention of Road Traffic Accidents and Injuries

Vijay Choudhary and Monika Bari

Asst. Professor, Biyani Institute of Science & Management, Jaipur

Abstract :

Road Traffic Accident is one of the major preventable public health problems and is on the rise which can be attributed to increase in the number of vehicles and life style changes and risky attitudes. Injuries to RTA as one of the prime causes to the global burden of diseases. The findings of the study revealed that the structured teaching programme on knowledge regarding road safety measures was effective and the post test knowledge score on road safety measures was higher than the pretest score.

There found a significant association in the knowledge with family income per month The present study revealed that the majority of the students have poor knowledge towards road safety measures and the overall findings of the study revealed that there was a high significant increase in the knowledge of the students after the administration of structured teaching programme on road safety measures. Therefore it was concluded that the structured teaching programme was highly effective in improving the knowledge on road safety measures.

Keywords: RTA, ITI Students, Road Safety Measure.

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The effectiveness of laughter therapy reduction of stress

Rakesh Kumar Yadav[1], Keshav Sain[2]

[1]*Public Health Nurse, M.Sc Nursing, East Delhi Municipal Corporation, Delhi*
[2]*Nursing Tutor, Biyani Institute of Science & Management*

Abstract :

Reduction of stress effect Aging is a natural process. Old age is an inevitable one. Old age is a crucial phase where physiological, psychological and socio cultural changes make elderly to develop stress. Our pre historic ancestors probably had a Life span of 40 years. Stress is the factors which causes morepsychological problems in our life. The aims of study was to assess the level of stress among senior citizens. To assess the effectiveness of laughter therapy on stress among Senior citizens. Tofind out the association between the effectiveness of pre-test level of stress and selected

demographic variables such as Age, religion, marital status, educational status, occupation before coming in old age home, financial support.

Keywords: Level of stress, elderly people, reduction, laughter therapy

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Knowledge regarding Effect of Caffeinated Food on Foetus among Antenatal Mother at selected Hospitals, Jaipur

Madhu Bala & Laxmi Pharaswal

Abstract :

The story of the baby developing in womb is probably the nature's greatest gift to woman. The choice of food during pregnancy affects the health of the expectant mother as well as development of the fetus. The caffeinated foods are not good for pregnant mother and developing fetus. In order to educate and encourage the antenatal mothers a study was conducted to evaluate the effectiveness of Structured Teaching Program on knowledge regarding effect of caffeinated food on foetus at selected hospital, Jaipur.

The objectives of the study are assess the knowledge of antenatal mothers, evaluate the effectiveness of STP, find the association between pre test knowledge score and selected demographic variables. One group pre-test and post- test Pre-experimental design, with purposive sampling method was used. Information was collected from 60 antenatal mothers, using the structured knowledge questionnaire. STP was implemented and post-test was conducted after 7 days to find the effectiveness.

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Knowledge regarding prevention of cerebrovascular accident among hypertensive patients in selected hospitals at" Jaipur

Kishan Lal Choudhary[1], Remya Renjan[2]

[1] *Asst. Professor, Biyani Institute of Science & Management, Jaipur*
[2] *Asso. Professor, Biyani Institute of Science & Management,Jaipur.*

Abstract :

Cerebrovascular accident is a very serious condition in which the brain is not receiving enough oxygen to function properly. A cerebrovascular accident is also called CVA or brain attack, cerebrovascular disease, cerebral infarction or stroke. A cerebrovascular accident often results in permanent serious complications and disability and is a common cause of death. Cerebrovascular disease is the most disabling of all neurologic diseases. Approximately 50 percentage of survivor have a residual neurologic deficit and greater than 25 percent require chronic care. Stroke incidence and mortality are declining primarily due to the successful treatment of hypertension and control of risk factors. Modifiable risk factors include hypertension, smoking, heart diseases, Transient Ischemic Attacks, diabetes mellitus, high cholesterol, physical inactivity and obesity, alcohol and drug abuse, injury to brain. Non modifiable risk factors include age, sex and genetic factors. Prevention: Reducing the number of controllable risk factors is the best way to prevent a stroke. This can include: Quit smoking, Losing weight, Maintain normal blood pressure, Limit saturated fat and cholesterol intake, Refrain from smoking, and drink alcohol in moderation, Control diabetes, Maintain a healthy weight, Get regular exercise.

Keywords: stroke, cardiovascular, hypertension

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Department of Science
Establishment of New Relationships in Research
Date : January 21, 2023 (ISBN : 978-93-83462-67-4)

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Global Transformation of Healthcare Systems
Date : January 22, 2023 (ISBN : 978-93-83462-67-4)

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New Horizons for Future in Social Sciences
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DAY-5
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New Perspective in Education Industry
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Prof. Manish Biyani
Organizing Chair, BICON 2022-23

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Vol.-II

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Award presented on 11th April 2021

Dr. Amit Kumar Srivastava
Director (Student Development Cell)

Prof. Anil D. Sahasrabudhe
Chairman

This is a green initiative by AICTE, whereby a sapling has been
planted in honour of the awardee. Scanning this QR Code will
give a screenshot of the current status of the sapling.

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The University administration, on the auspicious occasion of the Independence Day Celebration on 15th August, 2019 is pleased to honour **Biyani Institute of Science & Management, Jaipur** with a **Certificate of Excellence**, for obtaining **Second Rank within Category-A** for the academic session 2019-20 in **Computer Application Program (M.C.A.)**.

The University wishes continuous progress of the institute to improve technical education in Rajasthan.

(Prof. Vivek Pandey)
Dean, Academic Affairs

(Prof. R. A. Gupta)
Vice-Chancellor

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The University wishes continuous progress of the institute to improve technical education in Rajasthan.

(Prof. Vivek Pandey)
Dean, Academic Affairs

(Prof. R. A. Gupta)
Vice-Chancellor

Minister for Foreign Affairs of Japan extends his deepest regards to **Biyani Group of Colleges**

in recognition of its distinguished services in promoting mutual relationship between Japan and India.
— **Fumio Kishida,** *Minister for Foreign Affairs of Japan*

The 17th Anniversary India-Japan Fest

BICON 2022-23

The Proceedings of Conference

Volume-II

ACADEMIA INDUSTRY INTERFACE MODEL : AVENUES FOR THE FUTURE

Day-3; Monday, 23 Jan., 2023 - **Department of Social Science & Law**
New Horizons for Future in Social Sciences

Day-4; Tuesday, 24 Jan., 2023 - **Dept. of Commerce & Management and Information Technology**
Integrating Innovative Business & IT Models

Day-5; Wednesday, 25 Jan., 2023 - **Department of Education**
New Perspective in Education Industry

ISBN : 978-93-83462-68-1

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Jaipur, India

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All papers of the present proceeding were peer reviewed by no less than two independent reviewers. Acceptance was granted when both reviewers's recommendation were positive.

Welcome to India-Japan Fest 2022-23 and Pink City Jaipur, India!

This year we are celebrating the 17th Anniversary of India-Japan Fest at Biyani Group of Colleges, Jaipur. Since, the first conference in 2006, it has become an annual feature of our institution and has continued to grow. The institution is leaving no stone unturned in encouraging the spirit of research and innovations and strengthening the bilateral academic relationship between India and Japan. Every year, this event receives increasing number of participants from both the countries, India and Japan, and we continue to evolve, adapt and develop new collaborative programs between various institutions in India and Japan.

Biyani Group of Colleges is organizing this mega event in collaboration with partner institutes from Japan **BioSeeds, Japan Advanced Institute of Science and Technology, Akita Prefectural University, Saitama University, Kyushu University, Well Group and Kyoto University**.

The theme of **BICON 2022-23** is **Academia Industry Interface Model : Avenues for the Future** guided by different departments including Science, Pharmacy, Nursing, Commerce & Management, Information Technology, Social Science, Law and Education based on 'multidisciplinary-to-interdisciplinary' approach.

We are proud to announce that Biyani Shikshan Samiti has been empanelled as a SENDING ORGANIZATION by NSDC, MSDE, New Delhi. This program will provide opportunity to our technically qualified youth in enhancing their skills as well as getting placed in the top organizations of JAPAN. We are welcoming "WELL GROUP" as the placement partner for Technical Internship Training Program (TITP).

BICON 2022-23 has decided to call for Abstract of the paper to be published in the conference proceedings with ISBN numbers. The Technical Program Committee is charged with reviewing all abstracts to accommodate the growing number of paper submissions. In a rigorous and time-consuming review process, the committee members worked hard to ensure the continued high quality of accepted papers. There are 42 invited talks (06 Japan + 36 India) in BICON 2022-23.

The months of planning, hard work and team effort by dedicated staff has culminated into the success of this event for which we would like to thank the management committee who trusted us to organize this conference and contributed significant funds to support the event. We would also like to thank the Technical Program Committee and the reviewers for their excellent work

in reviewing the abstracts as well as their valuable input and advice. We would also like to express our sincere thanks to all the dedicated BICON-Team members for their active role and support in all aspects of this conference from collecting abstracts, assisting in coordination, helping to plan the agenda, recruiting sponsors and assisting in organizing the conference. I want to thank all the conveners of each symposium : Dr. Shilpa Bhargav, Ms. Kanchan Sharma (Science), Dr. Rambir Singh (Pharmacy), Ms. Jishu B. George (Nursing), Ms. Malti Saxena (Humanities), Ms. Madhuri Sharma (Law), Dr. Pawan Patodiya (Commerce & Management), Mr. Sachin Bagoria (Information Technology), Dr. Ekta Pareek (Education), Dr. Ajeet Kumar Jain (Education) and Graphic designer Mr. Nilesh Sharma, Mr. Shubham Gautam and team for editing the conference proceeding in the last running moments and beautifully designing the brochure and other conference materials.

Finally, we want to express our sincere thanks to all the invited speakers, offline and online, who have joined us from India, Japan and other countires, for taking out time from their busy schedule to participate in this conference. It has been a great pleasure to interact with them and receiving their interest in collaborating in the future.

The venue of this conference is located in Pink City Jaipur and we have tried to promote a sense of the local culture and North-Indian cuisine to the attendees during this conference. We hope that this conference is intellectually stimulating, enjoyable, professionally satisfying and memorable for all the attendees.

With warmest regards,

Dr. Manish Biyani
Organizing Chair
• Director (Reseach & Development),
  Biyani Group of Colleges, India
• Professor (Research), JAIST, Japan

Dr. Neha Pandey
Conference Convener
Principal,
Biyani Girls College, Jaipur

Dr. Tarun K. Kumawat
Conference Secretary,
Research Scientist

CHIEF MINISTER
RAJASTHAN

CM/Message/PRO/2023
Jaipur, 19 January, 2023

Message

I am glad to know that the Biyani Girls College, Jaipur is going to organise the 17th Biyani International Conference (BICON: 2022-23) on the theme 'Academia Industry Interface Model: Avenues for the Future', in Jaipur from January 21 to 25, 2023.

I hope that the theme of the conference will encourage collaboration between Industry and Academia by using futuristic pedagogies and practices in teaching, learning and assessment, as well as deeper engagement between higher education and the industrial ecosystem.

Academicians, industrialists, scientists, and research scholars will get an opportunity to exchange their expertise, build new strategies, and analyse recent advancements in their respective sectors at this five-day conference.

I extend my good wishes to the organisers, management and staff for the success of the conference.

(Ashok Gehlot)

Dr. C.P. Joshi
SPEAKER
Rajasthan Legislative Assembly

सत्यमेव जयते
Message

Telefax (Office) : 0141-2744321
Phone (Office) : 0141-2744007

I am indeed happy to know about effort taken by Biyani Group of Colleges, Jaipur in organizing 17th Biyani International Conference (BICON:2022-23) on January 21-25, 2023.

The theme of the conference is "Academia Industry Interface Model: Avenues for the Future". Rajasthan has been benefited from the special relationship between India and Japan. Since a long time, Rajasthan and Japan have collaborated in both education and industry, and this relationship will continue to grow in the future years.

I am confident that this conference would give an excellent forum for India and Japan to explore the Academia Industry Interface Model.

I wish the conference the very best.

(Dr. C.P. Joshi)
Speaker

Resi.: 49, Civil Lines, Jaipur - 302006 ♦ 0141-2220239
e-mail (Personal) cpj@cpjoshi.com ♦ (Office) Speaker-rajassembly@nic.in

डॉ. सुभाष गर्ग
राज्य मंत्री
राजस्थान सरकार

सत्यमेव जयते

तकनीकी शिक्षा, आयुर्वेद और भारतीय चिकित्सा
एवं जन अभियोग निराकरण विभाग (स्वतंत्र प्रभार),
अल्पसंख्यक मामलात, वक्फ, उपनिवेशन,
कृषि सिंचित क्षेत्र विकास एवं जल उपयोगिता विभाग

Message

I am happy to know that the Biyani Group of Colleges, Jaipur, is organizing the 17th Biyani International Conference (BICON:2022-23) from 21st to 25th January 2023, with the theme "Academia Industry Interface Model : Avenues for the Future".

I am optimistic that the conference will provide a platform for discussions on Education, Mental Health, Building Teacher Capacity, Partnership, Skills, Employability, Commercialization of Research, and Entrepreneurship.

I hope that the 17th Biyani International Conference (BICON2022-23) will be a great Academic event.

(Dr. Subhash Garg)

Dean Faculty Affairs &
Dean Students Welfare
Rajasthan Technical University Kota

Message

I am delighted to hear that the Biyani Group of Colleges, Jaipur, is organizing the 17th Biyani International Conference (BICON : 2022-23) from 21st to 25th January 2023, with the theme "Academia Industry Interface Model : Avenues for the Future".

I am optimistic that the conference will provide a forum for discussions on Education, Mental Health, Building Teacher Capacity, Partnership, Skills, Employability, Commercialization of Research, and Entrepreneurship.

I hope that the 17th Biyani International Conference (BICON : 2022-23) is a great success.

Prof. A. K. Dwivedi

Former Vice Chancellor,
Jagannath University, Jaipur Rajasthan
Professor, University of Delhi, New Delhi

Message

I am glad to know that the 17th Biyani International Conference (BICON : 2022 -23) is being organised on 21st to 25th January, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future".

The theme of the conference will encourage collaboration between Industry and Academia by using futuristic pedagogies and practices in teaching, learning and assessment, as well as deeper engagement between higher education and the industrial ecosystem.

Academicians, industrialists, scientists, and research scholars will have the opportunity to exchange their expertise, build new strategies, and analyse recent advancements in their respective sectors at this five-day conference.

I extend my best wishes for the BICON : 2022-23 success.

Prof. M. S. VERMA

राजस्थान नर्सिंग कौंसिल, जयपुर
बी-39, सरदार पटेल मार्ग, सी-स्कीम, जयपुर-302001

Rajasthan Nursing Council, Jaipur
B-39, Sardar Patel Marg, C-Scheme, Jaipur - 302001

राजस्थान सरकार
Government of Rajasthan

Dr. Shashikant Sharma

Registrar ,

Rajasthan Nursing Council Jaipur

MESSAGE

It gives me immense pleasure that Biyani Sikshan Simiti, Jaipur is organizing a 17TH International India Japan conference BICON 2022-23 "Academia Industry Interface Model: Avenues for the future" where leading academicians, industrialist, scientist and research scholars will share and discuss their knowledge and experiences .

It is my sincere wish that all the participants of this conference will be benefited from the experiences of many academic and technical sessions that have been planned and delivered by the esteemed organizer of BICON 2022-23. I extent my best wishes for the mega success of this conference and encourage all the members who are planning and working across the globe in different higher education institutions to pool expertise and prepare together for better future.

(Dr. Shashikant Sharma)
Registrar
Rajasthan Nursing Council
Jaipur

Prof. (Dr.) Vishal Garg
Professor & Principal
Jaipur School of Pharmacy,
Maharaj Vinayak Global University, Jaipur
Vice President-Rajasthan State Branch
APTI- (Association of Pharmaceutical Teachers of India)
Vishalgarg198427@gmail.com
+91-98872-00801

MESSAGE

BIOCON 2022-23 17th India – Japan International Conference "Academia Industry Interface Model: Avenues" for the future is going too organised by Biyani Group of Colleges, Jaipur gives me immense pleasure to convey my words.

Although the COVID-19 pandemic has changed our attitude towards healthcare digitization, the journey ahead is still long. The pandemic was an accelerator of several trends but keeping up with the current trends and updates are stilled viewed as a challenge. To meet up the realities and overcoming challenges, there is a need to break the interface between academics and industries. Research innovations and technology use shall be a prime adaptation for institutes to evolve out with creative ideas which can help in new drug discovery phase.

The conference is going to address Strategies approach to address the rapidly changing healthcare system, Opportunities and challenges in Pharma Network which can immensely break the interface and will help in developing a massive change in the research areas of academician with the collaboration of Pharma Industries. The several themes for different dates of conference areencyclopaedic with a combination of divergent topics will ultimately meet the need of present scenario.

I express my indigenous wish to all participants of the conference get benefits from all the speakers from academics, Industrialist, Scientists, Research scholar that is being planned by the organisers of BICON-2023. I extent my best wishes for the mega success of this conference. The hardwood of the organisers shall be paid-off and we can successfully drawn toward the better future avenues.

(Prof. (Dr.) Vishal Garg)

Hemant Ambwani

Managing Director
Mumla Clothing Brand

MESSAGE

It is my great privilege to be a part of 17th INDIA-JAPAN INTERNATIONAL CONFERENCE ON ACADEMIA INDUSTRY INTERFACE MODEL AVENUES FOR THE FUTURE to be organized from 21st January to 25 January 2023 at BIYANI GIRLS COLLEGE.

BIYANI GIRLS COLLEGE is a pioneer institute which is dedicated not only to provide world class education to the students but also to provide an overall development.

I wish my best luck and feel so privileged to be a part of this great journey

Regards,

Hemant Ambwani
Managing Director
Mumla Clothing Brand

Tanveer Ahmed
Advocate,
Supreme Court of India

It gives me a great pleasure and pride to hear that 17th India-Japan Bilateral Conference (BICON 2022-23) is going to be held in Biyani Group of colleges from January 21st to 25th, 2023.

I hope that the conference will encourage bilateral academic research agreements and promote even more cordial relationship between Japan and India.

I congratulate the organisers of the event for showing such great efforts and choosing significant theme and wish them very best for it.

Tanveer Ahmed
Advocate Supreme Court

Dr. Mohan Lal Yadav
Commissioner School Education

MESSAGE

It is a matter of immense pleasure that Biyani Group of Colleges is organizing Biyani International Conference 2023 on January 21-25, 2023.

The theme of the conference is "Academia Industry Interface Model : Avenues For The Future. Rajasthan has been benefitted from the special relationship between India and Japan. Since Rajasthan and Japan have collaborated in both education and industry, and this relationship will continue to grow in future years.

Academicians, industrialists, scientists and research scholars will have the opportunity to exchange their expertise, build new strategies and analyze recent advancements in their respective sectors on these five days.

I extend my best wishes for the BICON 2022-23 successes.

Dr. Mohan Lal Yadav
Commissioner School Education

Jain Vishva Bharati Institute
A University dedicated to Oriental Studies & Human Values

Dr. B. L. Jain
Registrar, Jain Vishwa Bharti Institute, Ladnun

Message

I am delighted to know that Biyani Girls B.Ed. College, Jaipur is organising 17th Biyani International Conference (BICON:2022-23) is being organised on January 21-25, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future". As we all know that in new education policy and Technology has affected the field of education. A lot of changes are being introduced into the educational system in India.

I am very hopeful for that the deliberations and discussions on the theme of this conference would bring some useful ideas for implementation in education industry.

Wish you all the best.

Dr. B. L. Jain
Registrar Jain Vishwa Bharti Institute, Ladnun

Dr. Pramila Dubey
Dean Education Department, Rajasthan University, Jaipur

Message

I delighted to know about that the Biyani Girls B.Ed. College, Jaipur going to organize 17th Biyani International Conference (BICON:2022-23) is being organised on January 21-25, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future" with the reference of the respective theme **"New Prespective in Education Industry".** I am delighted to address this Message to the premier organization Biyani Girls B.Ed College, Jaipur and I salute your goal of changing the narrative and unlocking the potential for various intellectual researchers by providing a platform to address the conventional challenges faced at different levels in educational industry. I am praising that this international conference is providing a platform for all stakeholders in the learning & training which include policy makers, regulators, operators, clients in the industry, etc. to share experiences and exchange ideas on contemporary issues affecting the activities and outcomes in the different but interlinked fields. I believe that this conference will generate new ideas, innovations and strategies to address the challenges faced in order to create legible awareness and perspectives on the use of technology.

I add my best wishes for a successful and fruitful conference and my thanks to all organizers.

"Knowledge shared is knowledge squared."

Dr. Pramila Dubey
Dean Education Department, Rajasthan University, Jaipur

Dr. Dinesh Chahal
Prof. Department of Education, School of Education,
Central University of Haryana, Mahendragarh

Message

It is a matter of profound happiness for me that Biyani Girls B.Ed College is organising 17th Biyani International Conference (BICON:2022-23) is being organised on January 21-25, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future" with the reference of the respective theme **"New Prespective in Education Industry"** with very interesting and relevant sub themes like efficient resources and effective governance through school cluster, standard setting and accreditation for school education, bridging the gap between society and industry through best practices in education and challenges of new education policy.

I congratulate Biyani Girls B.Ed. College for initiatives they take to organise such discussions and talks by the experts from time to time. In sincerely appreciate their efforts and convey heartiest wishes to entire team for successful conduct of the conference.

Dr. Dinesh Chahal
Prof. Department of Education,
School of Education, Central University of Haryana,
Mahendragarh

Dr. M. R. Bhadu
Dept. Director of Rajasthan Council of School Education, Jaipur

MESSAGE

I have had this opportunity to visit the Biyani Group of Institutions, Jaipur a few years back and it was a great experience seeing an institution growing with a very honest vision and mission of imparting quality education. I am happy to know that this prestigious group is organizing 17th Biyani International Conference (BICON:2022-23) is being organised on January 21-25, 2023 on the theme "Academia Industry Interface Model : Avenues for the Future". A conference on such a vital theme is the need of the day so that the role of education policy can best be understood and in right perspective for not only the Indian but global society. I am sure the deliberations and discussions during the event by eminent educationists will focus on related theme. I wish all the success for this endeavour of the institution and the dedicated team of organizers. My hearty best wishes.

Dr. M. R. Bhadhu
Dy. Director,
Rajasthan Council of School Education, Jaipur

FROM THE CONVENER'S DESK

It gives me an immense pleasure to extend to you all a very warm welcome on behalf of the Department of Social Science, Law, Commerce & Management, Informaton Technology and Education. We are grateful to all the speakers, delegates, organizer and guests, who have accepted our invitation to participate in the BICON 2023.

Academia Industry Interface Model is a productive interface between industry which is required in the present times of knowledge economy. It brings to meet the industry's needs and expectations and the academic aspirations. Interaction Between Universities, research, institutions and private industry are discussed in a growing body of different issues and collaboration. The Industry Academia Interface benefits not only the educational institutions but also the company. The goal of this conference is to outline what is the importance of Industry Academia Interface through the efforts of Educational Institutions and the companies, also the conference also examines the objectives, challenges and benefits of Industry Academia Interface.

It is an outcome of the hard work and persistence efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.

Ms. Malti Saxena
(Dept. of Social Science)
Convener, Day-3

Ms. Madhuri Sharma
(Dept. of Law)
Convener, Day-3

Dr. Pawan Kumar Patodiya
(Dept. of Comm. & Management)
Convener, Day-4

Mr. Sachin Bagoria
(Dept. of Information Technology)
Convener, Day-4

Dr. Ekta Pareek
(Dept. of Education)
Convener, Day-5

Dr. Ajeet Kumar Jain
(Dept. of Education, BCSM)
Convener, Day-5

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- Ms. Purva Gautam
- Ms. Sonu Shekhawat
- Mr. Rajendra Singh Shekhawat
- Mr. Mohd. Shakil
- Mr. Jitendra Prasad Sharma

PROGRAMME AT A GLANCE
Date: January 23, 2023; Monday (Day-3)

Theme: New Horizons for Future in Social Sciences

Timing	Programme
08:00 AM-09:00 AM	Registration
09:00 AM-09:10 AM	Lighting of the Lamp by Chief Guest and Dignitaries, Vandana , Floral Welcome
09:10 AM -09:20 AM	Welcome address by Dr. Sanjay Biyani Director (Academics), Biyani Group of Colleges, INDIA
09:20 AM -09:30 AM	Introduction of the Day by Dr. Manish Biyani, Organizing Chair, BICON 2022-23 Director (Research & Development), Biyani Girls College, Jaipur, Rajasthan, INDIA
09:30 AM -09:40 AM	Inaugural Address by Chief Guest Prof. Sudhi Rajeev Vice Chancellor, Haridev Joshi University of Journalism and Mass Communication & Dr. Bhimrao Ambedkar Law University
09:40 AM -09:50 AM	Address by Guest of Honor (Mr.Hemant Ambwani, Managing Director, Mumla Clothing Brand)
09:50 AM -10:00 AM	Keynote Speaker (Mr. Tanveer Ahmed Senior Advocate, Supreme Court) Title of Talk:- Future of ADR – Prospectus and challenges
10:00 AM -10:10 AM	Vote of thanks by Ms. Madhuri Sharma(Convener Law) and Group Photo (Memento Distribution)
10:10 AM -10:30 AM	TEA BREAK
10:30 AM -11:10 AM	Invited Talk 1: Prof S.S Somra, Department of Economics, University of Rajasthan Title of Talk:- Changing paradigm of development with reference to academia industry interface
11:10 AM -11:50 AM	Invited Talk 2: Dr. Krishnan Mani, Associate Professor, Jaipur National University Title of Talk:- Issue, Concern & Regulation of fake news
11:50 AM -12:30 PM	Invited Talk 3: Dr. Akhil Kumar (Director, Five Year Law College, UOR.) Title of Talk:- Indian Constitution & hate speech on social Media from a glance of Human Rights
12:30 PM-01:10 PM	Invited Talk 4: Mr Ankit Tiwari (Senior Journalist) Founder & Editor, The Chowk OTT, Hindi News Network Title of Talk:- The News room
01:10 PM -1:50 PM	Question And Answer Session- Moderator Ms. Monika Paliwal
01:50 PM - 2:00 PM	Memento Distribution & Group Photo
2:00 PM -3:00 PM	Lunch time
	Technical Session - Anchor : Ms. Monica Paliwal

03:00 PM – 03:15PM	Sharing Experience by Entrepreneur: Mr. Himanshu Katara, Music Producer
03:15 PM – 04:40PM	Technical Session 1 (Oral Presentation) (Venue: Auditorium – Humanities Dept.) Chair:- Prof S.S Somra (UOR) ; Co Chair:- Dr. Bharti Sharma
	Technical Session 2 (Oral Presentation) (Venue: Auditorium – Law Dept.) Chair:- Dr. Ashu Maharshi, Associate Professor, Manipal University ; Co Chair : Mr. Roshan Lal
04:40 PM - 04:50 PM	Memento Distribution, Prize Distribution, Vote of Thanks and Group Photo
04:50 PM - 04:55 PM	Dance Performance by Students
04:55 PM - 05:00 PM	Conference Closing by National Anthem
05:00 PM - 05:15 PM	High Tea

TABLE OF CONTENTS (DAY-3)

Invited Lecture 1

News Room Live

Ankit Tiwari
Founder & Editor
The Chowk (India's 1ˢᵗ OTT Hindi News Network)

Abstract :

The aim of this special section is to analyse the complex issues at work in understanding the theories, processes and practices of engagement as it relates to media & News industries.

There is a need to open up the notion of engagement as a concept that captures subjective and shifting relations with media. In such a way, this section focuses on media engagement within the industry as multi-faceted, working across political and public spheres, policy and industry sectors, audiences and popular culture.

Articles debate the meaning of engagement as an object of measurement in policy research, and audience information systems, where ratings data and social media analytics attempt to measure and secure engagement for audiences and consumers of cross media content. Alongside a notion of engagement as quantitative data, there is also a sense of engagement as a subjective and slippery term and articles in this special section also debate the meaning of engagement as signifying personal and collective relations with policy and social issues, or cultural artefacts and events.

Thus, policy and industry discourses of engagement as a measurement of interest intersect with, and at times counteract, wider debates about engagement within social media, political activism and popular culture.

Keywords : News, media engagement, policy engagement, audience engagement.

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Invited Lecture 2

Future of Alternate Dispute Resolution: Prospectus and Challenges

Tanveer Ahmed
Advocate, Supreme Court

Abstract:

Every legal system is trying to attain the legal idea that whenever there is wrong there must be a remedy so that no one shall have to take law into his own hands. Court has become overcrowded with litigation and large numbers of cases are pending in the court which ultimately leads to dissatisfaction among the people regarding the justice delivery system and its ability to dispense justice

ADR is something which all has been talking about for the last few years and it stands for alternative dispute resolution system. After independence when we adopted arbitration through the legal process of rehabilitation act 1996 when 1996 came into by way of an amendment it was enacted only because after 1990 when there was globalization, people of outside India they felt that their investment in India

ADR has been potentially transformed into ODR (Online dispute resolution).The covid-19 pandemic has a sweeping effect on how ADR functions in India at present. ODR though a branch of ADR has emerged as the most preferred mode of dispute resolution outside court.

Alternate Dispute Resolution is a panacea to almost all disputes which can be settled outside the court in an amicable manner. It is used since ages and through histories by innumerable countries and its people in an informal manner to address any conflict. In contemporary times, the uses of ADR have rather increased in an institutionalized manner by countries to address any problem arising out of international trade and business.

In 1985, the UNCITRAL model law was adopted and signed by India on International commercial arbitration

It is a technique through which the disputes can be settled without intervention of court proceeding. The main purpose of existence of ADR is to make available economical, easy, speedy and reachable justice.

ADR techniques are non-judicial body in nature which always deals with all controversial issues which can be resolved in the law through conformity among the parties and this idea inspired by most approved faith i.e., justice delayed is justice denied.

It began with the amendment of Section 89, the advent of the Arbitration act Section 30 etc. and now we find that it is important we look at the support that the courts or the judicial give to the systems.

Ripeness is crucial for ADR processes to work effectively, and ADR has been used in appropriate cases. For example:

• Arbitration and negotiation have become common ways to resolve difficult international business disputes;

• Mediation and arbitration are now commonly used to settle labor-management disputes that often used to seem like intractable situations (See the essay on formerly intractable conflicts.);

• International mediation has been used to resolve difficult international and ethnic conflicts, with varying degrees of success;

• Consensus building has become a popular process for dealing with public-policy disputes, especially intractable environmental disputes.

Keywords: Litigation, Mediation, Consensus, Rehabilitation, Intractable.

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Invited Lecture 3

Issues, Concerns and Regulation of Fake News: A Critical Analysis

S. Krishnan Mani

Associate Professor, Seedling School of Law and Governance, Jaipur National University, Jaipur

Abstract :

"Fake news," or fabricated information that is patently false, has become a major phenomenon in the context of Internet-based media. It has received serious attention in a variety of fields, with scholars investigating the antecedents, characteristics, and consequences of its creation and dissemination. As the scourge of "fake news" continues to plague our information environment, attention has turned toward devising automated solutions for detecting problematic online content. But, in order to build reliable algorithms for flagging "fake news," we will need to go beyond broad definitions of the concept and identify distinguishing features that are specific enough for machine learning. With the mushrooming of smartphone users and the easy access to the internet, fake news is spreading at very high speed from people to people. Some are primarily interested in the nature of misinformation contained in false news, so that we can better detect it and distinguish it from real news. Others focus on the susceptibility of users—why we fall for false news and how we can protect ourselves from this vulnerability. Both are geared toward improving media literacy to protect consumers from false information. Despite the fact that fake news is not a new phenomenon, technological advances have constructed a fertile environment for the fake news to be spread rapidly. Social media platforms, such as Facebook, Twitter or YouTube, offer ground for generation and distribution of fake news. Consequently, it is important to study the way social media operates, how fake news is produced and spread through social network sites and what is the role users play.

Keywords: Fake News, Social Media, Misinformation, Damages

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Invited Lecture 4

Indian Constitution and Hate Speech on social media: From a glance of Human Rights

Akhil Kumar

Director, University Five year Law College, University of Rajasthan, Jaipur

Abstract :

Indian Constitution is a result of continuous struggle and visionary thinking of our framers. They have given a pious document for protection and promotion of Human Rights to the upcoming generation of India. Fundamental Rights are given as a supreme stroke. Freedom of Speech and Expression is a necessity for a democratic state. Thus we got this provision in first fundamental right. But the growing world has create a new issue of Hate Speech and Social media. India a nation of diversity and this is a problem in Democratic status. Judicial and legislative attempts are really good, but the public must have think about their duties etc. many global and regional convention of Human Rights has also given these rights but their citizen have understanding by their local condition about hate speech on social media. We must have awake for this.

Keywords: Hate Speech, Right to speech, Social media, Regional Human Rights Convention.

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Invited Lecture 5

National Education Policy – A Step Forward

Ashu Maharshi

Associate Professor, Faculty of Law, Manipal University, Jaipur (Rajasthan)

Abstract:

Education plays a pivotal role in the growth and development of a nation. A literate population act as an asset to create more and produce better level of capital formation. The Constitution being the basic law of land incorporate the provision of education as a fundamental right under article and as a directive principal of state policy under article – 45. In this direction content measures have been taken by the union and state by formulation various development schemes such as – Sarv Shiksha Abhiyan, National Programme for Education of Girls at Elementary Education, Midday Meal Scheme, Right to Education Act of 2009, Beti Bachao Beti Padhao. Our recent Education Policy of 2020 has come up several innovations in the field of education. It aims to deal with various growing development imperatives of our country. It proposes the revision and revamping of all the aspects of education structure, regulation and governance. In order to formulate a new system which is connected to the goals of 21st century.

Keywords: Education, Constitution, Right to Education Act of 2009, Education Policy of 2020.

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<u>**CONTRIBUTED PAPERS**</u>

A Study Garment Creativity using Optical Illusion to Induce Feminine Beauty and Safety

Shabana Sharif[1], Rena Mehta[2]

[1]*Assistant Professor, Fashion and Design Department, Chandigarh University, Punjab, India*
[2]*Associate Professor, Indian Institute of Crafts & Design, Jaipur, India*

Abstract:

The purpose of wearing clothing with an optical illusion is to assist women in visually achieving a feminine look and necessary Figure and reduce the usage of tight clothing, which is known to result in a number of health difficulties. Muscles are compressed by tension to take on the desired shape. One of the most secure, distinctive, imaginative, and inventive ways to get a more slender and considerably formed body is through an optical illusion. Numerous optical illusion theories offer guidance and provide examples of how to apply this approach. People can employ the procedure on their own at home. Numerous techniques and patches of optical illusion patchwork have been employed in the research to examine the effects and changes that arise before and after application. Individuals have to achieve the goal of the research, making people interact personally and freely. People have been encouraged to participate and express their views and opinions.

Although it is rarely discussed, the optical illusion notion in fashion is original and has the potential to become famous. It is a terrific way to boost someone's self-assurance, comfort, and style. Therefore, spreading awareness of this concept can significantly alter today's reality. Since people are frequently criticized for how they look in today's culture, they feel pressured to look or dress a specific way, often outside of their comfort zone, which is bad for their physical and mental health. Promoting this idea can therefore benefit individuals, solve these issues, and make fashion safer and more socially and physically acceptable.

Keywords: Illusion, Procedure, frequently, imaginative

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Bridging the Gap between Society and Education Industry through Best Practices in Social Sciences & Humanities: Referring to the National Education Policy 2020

Harshita Parihar

Department of English, IIS (Deemed to be University), Jaipur (Rajasthan), India

Introduction: "A language is not just words. It's a culture, a tradition, a unification of a community, a whole history that creates what community is" quoted veteran American linguist Noam Chomsky [1]. Hindi and the other home languages must consequently be preserved to maintain our cultural legacies and identities. A 2008 documentary film called "The Linguists" addressing the dire need to save endangered languages. The "Three Language Formula" [2] has raised awareness of the teaching of Hindi and other regional languages. Together, the documentary and the policy further this study's objective. The importance of inclusive education and special educators is indeed reinforced in this updated education policy. The nonfiction "The King's Speech" [3], based on the historical account of King George VI, emphasises the difficulties speech and language impeded students face and the need for special education while focusing an ordinary speech therapist named Lionel Logue as an unsung hero in one's life. This study article examines how special educators can help children with disabilities overcome their challenges.

Objectives: 1) The National Education Policy 2020 has affirmed the use of the mother tongue or local language as the medium of instruction till Class 5 while urging its continuation until Class 8 and beyond. Moreover, it recommends all students to learn three languages in their school, two of the three languages must be indigenous to India under the same Formula.

2) Advancement in assisting, enlisting, and educating Special Educators following the policy.

Hypothesis: Children evolve better when taught in the environment of multilingual teaching, wherein, Special Educators contribute a lot.

Gap: 1) Lack of development of grammar, dictionaries and literature concerned with Indian local languages; however, there is a dearth of materials and resources for teaching several languages.

2) Absence of statistical information on special educators in the nation as well as their credentials and training are one of the biggest gaps in its research. Equal reservation of seats would open doors for accepting educators with formal qualifications/training & those having result-oriented skills. Research is required in the domain of inclusive education too. This updated Policy advocates for inclusive education, there is a paucity of data on the best methods for assisting disabled learners in an inclusive classroom including the use of assistive technologies and efficacy in addressing the social & emotional requirements of disabled pupils.

1) By reviewing the literature on inclusivity and the difficulties faced by students with disabilities, we can certainly make reference to the true classic story of a dyslexic girl, later turned into the famous American children's literature author Patricia Polacco's 1998 novel "Thank you, Mr Falker" [4], later adapted into the Indian film "Taare Zameen Par."

2) Another review of the literature cites a 2008 article [5] in the widely read "Washington Post" by veteran American journalist Joel Garreau, thereupon referring to the documentary as "au courant."

EXPERIMENTAL/METHODOLOGY: The research methodology I've adopted for the study concerned with multilingualism and special educators is a blend of qualitative and quantitative research methods. Qualitative techniques like content analysis, interviews, and surveys are employed to comprehend and examine the ideas, viewpoints, and motives of the participants. Quantitative methods such as data analysis and statistical analysis may be used to analyse the data and the research results. Additionally, it would be beneficial to look into linguistic theories and research studies relevant in promoting multilingualism and special educators.

"The Linguists" a 2008 documentary film, follows the journey of two linguists, David Harrison and Gregory Anderson, visiting various indigenous communities in remote locations such as Siberia (Russia), Sora (Sora language of Odisha), India, and Bolivia (South America) interviewing their native speakers. It took three years to film this documentary which begins with the fact that a large proportion of the World's languages (half, out of a total of 7,000, according to the film) are going extinct. Several speakers & translators at the Jaipur Literature Festival 2023 conducted a discourse on saving Indian local languages which are at risk as Bhili, Bodo, Magahi etc.

Senior American Linguist Noam Chomsky's well-known theory of Universal Grammar serves as a fundamental theory in understanding the core concepts of Language Learning Acquisition.

The non-fiction "The King's Speech: How one man saved the British monarchy", based on the personal diaries of Lionel Logue King's speech therapist, shows the significance of special educators. King George VI original speech is used for analysing speech impediments. Document analysis involves the 2020 official Education Policy document as well as the transcript of "The Linguists" to identify key themes and issues.

Similarly, analysis of "The Story of My Life" by prominent American author Helen Keller [6] is a memoir that recounts her life story, from her early childhood through her teenage years, and her struggles with being blind and deaf at the same time.

Furthermore, "Agatha Christie: An Autobiography" [7], by remarkable English detective best-selling novelist and playwright also struggled with dysgraphia, a learning disability that affects a person's ability to spell and write legibly and difficulties in mathematics and memory.

In conclusion, all these instances are powerful reminders showing that every individual has their own way of learning and should be encouraged to use their strengths. Thus, learning disabilities are

not a barrier to success. With the right support and determination, individuals with learning disabilities can achieve their goals.

Result and Discussion: The National Education Policy 2020 in India emphasises the importance of multilingualism in education and promotes linguistic diversity. It's in line with the belief that multilingualism has cognitive, social, and cultural benefits, enhancing communication, understanding, and inclusivity. The findings of this research paper highlight the prompt requisite to preserve Hindi & other home languages to continue its legacy. This research paper explores the role of special educators in India in supporting the inclusion and education of students with disabilities. The Indian education system must prioritise the training and support of special educators to ensure that all students have equal access to quality education. The novel "The King's Speech" is a powerful example of the transformative impact that special educators can have on individuals with disabilities.

Conclusion: "…Children are the deciders of whether to keep or abandon a language." [8] Said David Harrison with a conventional tone in The Linguists, a 2008 documentary film about linguistic diversity by two vet linguists, David Harrison and Gregory Anderson, illuminating the threatened languages of many indigenous communities such as Chemehuevi of Arizona & Chulym, Sora language of India etc. Giving it a discursive turn, it encourages a multilingual education system to safeguard home languages, thus bridging the linguistic gap between the teachers & the students. The plausible reason for their extinction is the impact of modernisation & globalisation. This research paper explores the role of multilingualism outlined in the New Education Policy under the Three Language Formula, where this official Policy of 2020 and The Linguists serve as primary sources for my research analysis and a takeaway for all of us in preserving our linguistic heritage.

"...I have a right to be heard! I HAVE A VOICE!!!" [9] Said, Bertie. "Yes, you do. You have such perseverance, Bertie. And you'll make a bloody good king" said Lionel quietly. Every differently-abled student deserves such words, as mentioned by an Australian commoner & speech therapist Lionel Logue saving the British monarchy by reclaiming King George VI faith and overcoming his stuttering, cited in Mark Logue (grandson of Lionel Logue) & Peter Conradi's non-fiction "The King's Speech." The National Education Policy highlights the burning need for compassionate, non-judgmental and empathetic educators for students with inclusivity in mainstream education regardless of their abilities or disabilities. Besides its original script & official policy, the non-fiction "The King's Speech: How one man saved the British monarchy" (based on the recently discovered diaries of Lionel Logue himself) by Mark Logue & Peter Conradi is another primary source as a case study in writing this manuscript. Eventually, to transform a specially-abled student into an effective leader like Bertie, we all require a special educator like Lionel Logue in an institution, as every individual is unique in their own way. In a nutshell, both segments show the requisite & significance of Promoting Multilingualism & Special educators, giving novel horizons for the future in social sciences & Humanities.

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A Study on Remittance and Migration of Select Colombo Process Countries- Bangladesh, China and Vietnam

Mahjabin Bano

Gitarattan International Business School, New Delhi

Abstract:

The migration takes place due to economic differences in the economic level; it always flows from lower economic development zone to higher. The Colombo Process member countries (CP countries) are a regional consultative Process of Asian labour sending countries. The CP countries comprises of Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam. Around 30 percent of the worlds estimated 150 million of international labour migration. Migrants are vital for the development for both host and home countries. The objective of this paper is to understand the inflow of remittance to these countries and covering important migration issues. They may hold a lot of potential due to remittances received. Remittance is a great contributor to national economies of these CP member countries. It has contributed significantly to the economic developmental progress of the destination countries. Given this back drop this paper intends to study trend of a. trend of labour migration

from select CP member countries Bangladesh, China and Vietnam. b. to analyse remittance received by these countries and impact of remittance on development.

The specific study on study of remittances in CP member countries is not found. So, it is important that the research methodology must include finding, compiling and analyzing data by using time series analysis of these significant CP countries.

Keywords: *Colombo Process, International migration, remittance, migration trend, labour sending*

Introduction: International migration has various socio-economic and political aspect, with the change in dynamic globalised era, it is becoming more significant and always will remain contemporary in the field of research. In 2020, as per an estimate 281 million people were living outside their country of birth (Ref: World Migration Report 2022), it has increased 3 times from 1970 to 2020. This 281 million people includes regular migrants, refugees and asylum seekers.

In Bangladesh Remittances has potential to deal with SDG 1, it is estimated that 1.7 out of 9 percentage point reduction in the head count ratio during 2000-2005 are because of remittances (source: ADB report, 2009). Remittance in log run has an influence on the quality of living in long run, and has impact on HDI (ref: Pradhan and Khan, 2018). Islam S.A., 2019 in his paper mentions, it helps to reduce inequalities. In the case of China, migration leads to transformation in rural household income and the trend of migration shows poorer households facing binding constraints of land shortage are more likely to migrate (Zhu, Nong and Xubei, 2008). The overseas Vietnami communities are about 5.3 million and from 2020 to 2022, remittance inflows into Vietnam accounted for 3-8% of GDP annually. It stands quite high as compared to developed countries given the small population as well (2020 data, Viettonkin consulting), they are in around 130 countries. So the paper has two objectives. Objective 1: trend of labour migration from select CP member countries Bangladesh, China and Vietnam. Objective 2: To analyse remittance received by these countries and impact of remittance on development.

EXPERIMENTAL METHODOLOGY: Although there exists various scope to study regarding labour sending countries such as their social protection at labour receiving or host country and the economic and financial aspect such as studying remittances received by these countries. Various reports are read and comparison is done.

DATA ANALYSIS, RESULT AND DISCUSSION:

Remittances are the repatriated earnings of emigrant workers, it is less volatile and of high reliability than other sources of foreign exchange, for example FDI and official development aid.Its micro economic level impact seems prominent, it increases I individual well-being, in human capital accumulation and in savings, investment and financial literacy (Source: IZA, Amuedo-Dorantes How Migrants helps in SDGs: Global Compact on safe, orderly and regular migration, objective number 20, is also adopted by the United Nations General assembly in December, 2018.

Table: Role of Remittance on SDGs:

Name of SDG	Description	Bangladesh	China	Vietnam
SDG 1	Ending poverty in all its forms	Yes	Yes	Yes
SDG2	Ending Hunger	Yes	Yes	Yes
SDG 3	Promoting Good Health	Yes	Yes	Yes
SDG 4	Quality Education	Yes	Yes	Yes
SDG 6	Clean water and sanitation	Yes	Yes	Yes
SDG 8	Decent work and economic growth	Yes	Yes	Yes
SDG 10	Reducing inequalities	Yes	Yes	Yes

Source: Author's compilation based on various reports including UNDP and World Bank.

Comparative analysis of impact of remittances on selected SDGs of Colombo Process Countries is done on the above basis. For effective utilization of remittances, the cost of transferring it should be reduced and technical innovations like block chain and mobile money can reduce it drastically. Currently as a cost of transfer around 6% of the total amount sent is being charges, whereas as SDGs, it should be reduced to 3 percent. So, still there exists a potential to reap the actual benefit of remittance.

Conclusion: SDGs on migration has been studied and compared among Bangladesh, China and Vietnam. No such study has been found earlier. The paper presents way ahead to further study 8 other country members of the CP countries. The case of Vietnam shows unexpectedly good developmental trend in case of remittances, so studying other countries remain valid for understanding developmental impact of the remittances. Further study may also come up with best developmental practices and policy in the region.

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Supreme Audit Institution of India Leveraging Technology in Audit Work and Business Process

Supriya Sharma

Post-Doctoral Fellow ICSSR, New Delhi, Dept. Of Public Adm, UOR

Abstract:

Supreme Audit Institutions are public sector organizations independent of government and accountable to the legislature, responsible for auditing the government's financial operations. . In the Indian system of governance the task of ensuring financial accountability and transparency is performed by the constitutional figure Comptroller and Auditor General. The Comptroller and Auditor General is the head of the Indian Audit and Account Department. The Department is also known as **"Supreme Audit Institution of India (SAI India).** In last two decades there is unprecedented digitization of government institutions for deliverance of number of services to stakeholders in qualitative and faster manner. The modern day audit practices to have changed and are facilitating in ensuring the reliability and integrity of IT applications used in the government. Supreme Audit Institution of India is moving from "onsite audit of auditee units" to "offsite audit. Institution is also migrating to paperless organization by digitization of business process

Objective: To explore how SAI India is Leveraging Technology, in Audit Work and Business Process

Methodology: Content Analysis

Keywords: Supreme Audit Institution, Leveraging, Technology, Remote Sensing, Business Process.

Introduction: Supreme Audit Institutions across the globe has realized that they need to positively "respond the challenges posed by their respective governments by increasing use of sophisticated information technology"[1] for managing and delivering their various flagship programmes and other polices. "They want to capitalize on the opportunities created for better and more effective audit through the use of IT audit tools and procedures".[2]Supreme Audit Institutions are conducting information technology audit within the framework of compliance and performance audit. Information Technology audit ensures the reliability and integrity of various information technology applications used by the public institution.

Supreme Audit Institution of India is embedding information technology in every aspect of its work i.e.in its public audit work &in business process. It is using advanced technological tools in its audit planning, evidence gathering for audit and in reporting audit outcome with an aim of enhancing the efficiency and effectiveness of public audit .It is using audit tools like IDEA, SQL, ACL and statistical analytical tool like SPSS.

Supreme Audit Institution of India has recently used Remote Sensing, GIS & Unmanned Vehicle in its audit work, has started publishing digital interactive report and performing data led audit. Data led audit is another advancement of the institution "audit of goods and service tax, finance audit of autonomous bodies like IIM Udaipur, NTPC in Telangana are few examples[3] .SAI India has recently introduced first ever digital interactive report on "working of inland container depot and container freight station custom.[4] "Thus presented the voluminous result of data analytic in visually attractive and with interactive features.

Institution is leveraging technology on its business process for example voucher level computerization in Accounts and Entitlement offices in all states, introduced One IAAD one system which has digitized entire audit activities (It based work flow)[5]. Focusing on re-engineering its business process SAI India has planned to deliver IT enabled services to its stakeholders by complete digitization of Provident Funds and Pension related data. System Automation Training Portal is another development in business process .It is an in house developed portal. This portal has entirely digitalized the training workflow[6]. Training need analysis, trainee nomination, registration, feedback, training modules and training database has been completely digitized. A trainee from any geographical area can avail the opportunities for enhancing their domain knowledge and can upgrade themselves.

Data led audit is quiet helpful in overall review of auditee. It gives an understanding of patterns and trends of performance and utilization of resources by auditee institution and locates future risk. This is quiet helpful for auditee for making in time mid-term correction to avoid any future financial loss and waste of scarce resources. Automation of business process is reducing its man hour, manpower and assisting in real time deliverance of effective and efficient services to stakeholders.

Conclusion: Supreme Audit Institution of India is moving from "onsite audit of auditee units" to "offsite audit." Institution is also migrating to paperless organization by digitization of business process In a technology driven institution there is a need to ensure that its auditors must have sufficient knowledge to exploit IT tools /platforms. Capacity to leverage new technologies like Block Chain, Artificial Intelligence and Machine learning need to be enhanced.

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Physiological Health of Young Adults

Ruchi Singh[1] and Ragini Mishra[2]

[1]*Ph.D. Scholar Dept. of Human Development and Family Studies, College of Home Science, MPUAT, Udaipur, Rajasthan*
[2]*Assistant Professor Dept. of Human Development and Family Studies, College of Home Science, GBPUAT, Pantnagar, Uttarakhnad*

Abstract:

Physiological health is a state of complete well-being when all internal and external body parts, organs, tissues and cells can function properly; a person is totally fit to perform his daily routine activities without any hindrance. Thus, the proposed study aimed to assess the mental health status of students of G.B. Pant University of Agriculture and Technology, Uttarakhand. A total of 240 students from the three colleges of the G.B. Pant University of Agriculture and Technology were chosen as the research sample using a simple random sampling approach. The MHB-Mental Health Battery (Physiological Health, Daily Routine Activity, Emotional Status, Emotional Management, and Intelligence) was constructed to meet the research purpose. Before use, the tool's reliability and validity were then determined. Because of the Covid-19 pandemic, the researcher collected the data online. To get at the research findings, appropriate statistical procedures, such as frequency, percentage, p value, and correlation, were applied to the data that had been obtained. After analyzing and comparing the data, the research's conclusions showed that several causative factors, including the type of family and the father's education, have a significant impact on young adults' physiological health.

Keywords: Physiological health, well-being, type of family, father's education and young adults

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Financial Inclusion and Women Empowerment in Rajasthan: A Case Study of Bagru Panchayat

Mrinalini Faujdar[1], Ashok Singh[2]

Research Scholar, University of Rajasthan Jaipur,
Director SSRC, Former Head Department of Public Administration, University of Rajasthan

Abstract:

Women empowerment is one of the deep –rooted concerns globally. It is an approach related in transforming power relations in favor of female gender constructing a strong edifice of nation's progress. The paper investigates the impact of financial inclusion on women empowerment in Bagru. A questionnaire on women empowerment and financial inclusion was used to collect data of 200 females living in panchayat area of Bagru. Chi-Square test and logistic regression were applied to identify the impact of financial inclusion on rural women's empowerment and, also to study the barriers to study the financial inclusion respectively. The result indicated the positive impact of financial inclusion on the growth of rural women especially in the decision making process. The study also revealed that education, work culture and monthly income through direct benefit scheme significantly influences the financial inclusion of women in rural areas.

Keywords: financial inclusion, women empowerment, direct benefit transfer, bank accounts, work status, education.

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Contexts and Recommendations to overcome challenges in Indian English Studies framework in 21st Century

Sonia Khubchandani

Assistant Professor of English, Jaipur Engineering College and Research Center, Jaipur, Rajasthan, India.

Abstract: This paper is a research on the innovative methodologies and on the basis of research for creating study materials, how to better the language skills and the description of successful practices and few recommendations on English language teaching both for students and teachers teaching and pursuing professional level courses.

The paper describes in specific detail the kind of English and supporting skills that ought to be taught at universities to students majoring in science and engineering in India. It also describes and

illustrates the pattern of English to be taught, which leads to the in-depth description of some of the digital and innovative techniques as researched through by organizations as British Council and certain recommendations and conclusions that can be successfully applied in language teaching to make it effective and result oriented .

Keywords: Language, learning, fraternity, knowledge and Recommendations.

The role of an English teacher is multifarious and a challenging one in 21 Century. English being the global language, has changed its scenario with the invention of the digital media, and the changing needs of students and society.   Before 19-20' s, the role of English teachers in India was confined to teaching grammar and literature as per the content prescribed instead of focusing on students communication skills, but in the present era. The teachers are on a stake and is more challenging as they have to be holistic educators and trainers to develop students on multifarious grounds and add to them bundle of skills which includes presentation , writing communication, critical thinking, and cultural awareness.

In globalised era of 21st century, English teacher has to be robot with certain expected commands and to be ready to boot on all those commands when needed instantly .The, teacher has to be adaptable and flexible in order to meet the changing needs of their students and society.

English is widely used as a lingua franca for business, science, and technology, and many universities as are aware of the fact that their existence is possible only on the placement of their maximum students, so they are focusing on helping students to develop English language skills that will enable them to succeed in a globalized world.

To overcome with the shortcomings and meet the demand of both the learner and the trainer, In this paper we are trying to bring out some recommendations based on the research and experience which will help students to learn and communicate effectively like use of online resources, digital tools and many more platforms.

Access to variety of resources: In addition to traditional book and print materials, consider using online resources such as blogs, podcasts, and videos to gain a more diverse understanding of Indian English.

Use of live videos of the native speakers: Work with native speakers of Indian English to gain a deeper understanding of the language and its variations.

Plan out interdisciplinary approaches: Plan and try to excuete insights from fields such as linguistics, Science and sociology to develop and get a holistic understanding of Indian English.

Focus on practical application: In teaching and studying the theory of subject Curriculum may be in any form of nomenclature of English, consider to incorporate your knowledge in practical settings, such as teaching English as a second language or working in translation and interpretation.

Emphasizing on the importance of language skills: In order to communicate effectively students must have possess confident and commanding language skills such as reading, writing, listening, and speaking. Teachers have to focus on these skills through maximum practical use of

opportunities through drills, script and use of digital tools to help students to practice and improve their abilities.

Access to Digital and Resources: It's a big challenge for the entire Indian English fraternity and learners to have access and knowledge of the resources, such as online textbooks, online dictionaries, and online articles, and other tools available they need to succeed.

Creating a fraternity with strong relationships and networks: Building strong partnerships and networks with other researchers, teachers, and trainings from time to time in the field of Indian English learning studies can foster to support the sharing of knowledge and expertise, and facilitate collaboration and the exchange of ideas.

Conclusion: Dr. Schneider remarks that the increased use of digital technology in education has opened up many additional opportunities for teachers to supplement lesson plans. time so all the above recommendations if implemented ie trainings to the digital sources and professional development for educators and practical exposure and task based learning based on small assignments or trainings related to their area of weakness can surely bring drastic change which will not only help students but will also be a side tracker for a teacher to track the students performance and See where we as trainers teachers need to bring changes which can be ongoing support in the development for educators and for learners 21st century.

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The role of sustainable product education in a changing global environment: Fashion and its Role

Sangeeta Sharma & Rupal Babel

Research Scholar & Associate Professor& Head of Department
Department of Textile and Apparel Designing, College of Community and Applied Sciences,
MPUAT, Udaipur

Abstract: A wide word used to describe investments, programs, and policies that yield advantages today without compromising the environment, society, or individual health, is sustainable development. Due to their emphasis on reducing the negative effects of development on the environment, these policies are frequently referred to as "green." Nevertheless, the advantages of sustainable development are also felt across a broad spectrum of human health and well-being, including declines in sickness linked to pollution and the environment, enhanced health outcomes, and reduced stress. Information technology is affecting a person from all walks of life due to the changing global environment and worrisome environmental concerns, which has prompted the development of new approaches and techniques to handle diverse issues in a sustainable manner. In this regard, fashion education needs to modify its methodology and create newer knowledge sources and resources that are eco-friendly and leave less of a carbon footprint on the planet. The "Free Thinking" approach, interaction, and knowledge of technological advancements in materials and processes that use less energy and generate less waste after production are all needed in the fashion education curriculum. In order to keep up with changing fashion trends and remain competitive, fashion designers will need a multidisciplinary knowledge of design, technology, and managerial skills. To determine the information, they would like to be included in the fashion curriculum that has sustainable concepts incorporated in keeping with future trends; a questionnaire will be created to gather the opinions of fashion experts, professionals, academics, and students.

Keywords: Sustainable development, Global education, fashion

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Role of ICT in Financial Independence of Tribal Women

Pravina Rathore, Nisha Tanwar & Kamini Gaur

B.N. University, Udaipur

Abstract :

The present study gives an insight into the utilization of ICT based financial services by tribal women. The world has become a digital economy by and large. Numerous people utilize ICT based banking services to have quick access to their money. However, the illiterate and poor tribal classes though having full competence to the services have restrained participation in utilizing ICT based financial services. Moreover, tribal women are unaware or hesitant in using these services. It's propounded that ICT based financial services will help a lot in benefiting tribal women. Through these services they will become independent, active, and healthy and cater to family needs more diligently, expected that through financial independence women will be more socially active and play their pivotal role in nation building. Thus it is expected that encouraging tribal women to utilize ICT based financial services is the need of the hour.

Keywords: Tribal women, ICT, financial services, Independent, Benefiting

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Study on Impact on Hindi Cinema with that of Changing Governments

Pulkit Sharma

Student, Masters in Journalism and Mass Communication, St. Wilfred PG,College

Abstract:

Cinema and Politics have a intimate power relations with each other. The long history of cinema possesses propaganda films for contemporary governments. This research study assesses the correlation between the perception of the Hindi film audience and the impact of contemporary governments.

To analyze the ideological dominance of the governments on the films releasedduring the tenure of the existing governments, the researcher will conduct a qualitative cum quantitative research study. The researcher will use narrative analysis to assess the sample films' ideological influence.

To measure the influence of Hindi films on audiences in favor of the governments,the researcher will opt for the questionnaire method of quantitative research study and analyze the collected data with a

simple percentage analysis method. The researcher will collect the data as films that have received national awards or national or international acclamation. There will be seventeen in total, i.e. films from both UPA and NDA Government from 2004 to 2022

Keywords: Films and political ideologies, audience perception study, State and it's films, Propaganda cinema

❑❑❑

Preview- Role of Good Human Being

Siddhanth Jain[1], Rekha Mithal[1]*, Samyak Jain[2], Shivam Agarwal[3]

[1]*B.Tech. student, Department of Information technology, JECRC College, Jaipur* [1*] *Associate Professor, Department of Chemistry, JECRC College, Jaipur*
[2]*B Tech. student, Department of Information technology, JECRC College, Jaipur*
[3]*B. Tech. student, Department of Civil, JECRC College, Jaipur*

Abstract:

Human values form the basis of who we are as people and serve as our compass in life. They are necessary for people to behave well. Human values are typically developed from one's own interests, desires, urges, and preferences. Understanding the importance of human values in life and examining teenage human values are the two main goals of the current study. Without human values, human civilization might not be able to sustain itself. Therefore, it is important to discuss the issue and raise awareness of human values in contemporary culture. The modern society is well aware of the human values issue. Human values are the fundamental principles that shape our personalities and dictate how we behave in daily life. These principles are crucial because they define who we are and serve as our compass in life. Who we want to be, how we live our lives, and the daily choices we make are all influenced by the values we uphold. Without these principles, our lives would be chaotic and everything we say and do would be without purpose.

Introduction : The Latin word "VALERE," which meaning "to be of worth," is the root of the English word "value." In today's world, human values are crucial. It encompasses things like honesty, integrity, compassion, friendship, empathy, and nonviolence[1-3]. Human values are defined as being universal and shared by all people, regardless of their religion, nationality, culture, or personal history. Self-exploration, in addition to value education, is a crucial tool for self-analysis on vivid topics like "Individual's, Weaknesses, Goals, and Purpose of Life"[4-5].

Content of value education: The content of value education is always in larger order. The value or role of human being is its participation in the larger order. For example-My role in living with the other human being is to ensure the feeling of respect in relationship. Continuous happiness and

prosperity as basic human aspiration, whatever we think, whatever we do is with some end state in mind. That end is our basic aspiration. When we ask yourself

1.) "Do I want to be Happy" 2.)"Do I want to be prosperious"3) Do I want the continuity or happiness and prosperity"? The answer is 'YES'. We have a natural acceptance for continuity of happiness and prosperity.

Importance of Human Values:

Human values are significant because they help us understand what matters to people in their daily lives. Human values come in a variety of forms. Human values include things like morality, kindness, and honesty. Value education is crucial to helping us establish a seamless existence and provide us the chance to succeed on the international stage. Violence, behavioral issues, and a lack of cohesiveness in society are all things we can observe, thus value education for parents, kids, and teachers is crucial. Value education enables us to comprehend our requirements, imagine our goals, and articulate the path to success.

The Four main importance of human values are-
- Provides understanding of the attitudes, motivation and behaviors
- Influences our perception of the world around us
- Represents interpretation of "right and wrong"
- Provides a way to understand humans and organization

Conclusion:

"We need value in our lives to show us the way, to teach us the value of certainty, goodness, and beauty, to give life purpose and joy, to maintain our culture and heritage, to bring about behavioral adjustments toward positive ideas, to promote peace and harmony in society, and to do a lot more. Education and human values are crucial for the efficient operation of our lives.

This kind of education helps us make significant decisions about our lives. Education in values builds a link between the person and society to foster positive relationships. After that, everyone can live in peace and harmony across the planet. If you don't want to adopt human values for worlds peace, then adopt them for your best because you will achieve lots of new heights if new human values get learned by you.

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Bhagawad Gita: A Source of Psychological Wisdom

Nupur Chauhan[1], Madhu Jain[2]

[1]Research Scholar, University of Rajasthan, Jaipur, India
[2] Former Dean, Faculty of Science and Former Head, Department of Psychology, University of Rajasthan, Jaipur, India

Abstract :

The Bhagawad Gita, the sacred scripture of Hindus, is commonly recognised as one of the most insightful works of literature for Indian psychological thought. It is one of the most profound works of Hindu spiritual philosophy that has been revered and celebrated for centuries. The Bhagawad Gita is a timeless source of wisdom for anyone wishing to uncover the potential of their own psychological growth and development. This study aims to explore how the Bhagawad Gita can be used as a tool to help individuals gain greater self-awareness and how its teachings can foster spiritual growth and maturity. The objective of this research is to analyse the psychological significance of the Bhagawad Gita and to explore how the scripture can be used as a source of inner reflection and spiritual contemplation. To fulfil the objectives of the study, qualitative interviews will be conducted with people who have already used the Bhagawad Gita to gain greater self-awareness. The results of the research will be compared and contrasted with the teachings of modern psychology to determine the validity and effectiveness of using the Bhagawad Gita as a source for personal growth and spiritual maturation.

Keywords: *Bhagawad Gita, Positive psychology, self-awareness, psychological growth and development.*

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Bridging the Gap between Society and Academia Industry through Best Practices in English

Deepika Ajmani

Assistant Professor, Biyani Girls College, Jaipur, Rajasthan, India

Abstract: "Society is a system of usages and procedures, of authority and mutual add, of many groupings and divisions, of controls of human behavior and liberties. This ever changing, complex system we called society". A Society is a group of individuals involved in persistent social interaction. A large social group shares the same social territory. Although humans established many types of society throughout history. Society represents something more enduring and deeper than the state, less manipulative and certainly more illusion. Society involves both likeness and difference. Society is based on cooperation but because of eternal differences, there is conflict also among its members. This is why, MacIver and Page observed that "society is cooperation crossed by conflicts, to service in society and maintain the standard one develops different sources of earning money. Growing industries is one of the ways for the employment of large numbers of people. It supports a large population with the capacity for division of labor; a significant portion of any country's economy is based on jobs required by industry.

The skills required for any job is changing constantly .More than degree your communication and your presentation matters a lot. Effective language helps to improve employability while adding to one's self confidence this makes English an effective life skill especially for our youth. Several studies have shown that effective communication skills increase workplace prospective by 20- 25%. anyone who wishes to secure job or succeed in an organization must put emphasis on honing their English language skills language proficiency has other benefits too, like it helps to build rapport with peers and colleagues ,and clients, resulting increased engagement and productivity and eventually ,batter impact on business.

Learning English helps one to improve for extremely prominent skills that are listing, reading. Writing and speaking skills. All of these skills play an important role in getting good job opportunities. A job in a foreign country can be accessible to those who are good at English language. Moreover, English will help you clear the IELTS exams. With good command of English one can help many better career options with as per his wish; English language today has become the language of international communication. Being a universal language ,it helps you in communicative with others fluency add confidence along with this, it gives you and edge of over your comotitarer and helps you in growing career well, today corporate world is ready to teach and for the job. But, at least they expect you to be a confident person, being fluent in English. With effective communication one can stand out at their job and even crack interviews with confidence.

Today almost every job, from a blue-color job to a white- collar job demands you to have knowledge of the English language, which highlights their importance of the English language in career development. Even if you are not proficient in the language, you have to at least be familiar with it.

Keywords: society, language, skills, proficiency, International communication

Introduction: English is the language of science, aviation, computers, diplomacy and tourism the media and the internet. It is the language of international communication.. Whether it is for professional or personal reasons, understanding the importance of English will help to reach goals. English is the most common language in the world, with around 20% of the total population able to communicate using it. It became a *lingua franca,* used by international communities to speak in a unified language. The impact of English in our society is huge. It has transformed our lives on many different levels. When we speak about international communication, both in personal and official situations, English is most likely the language we choose to enable communication between each other .Knowledge of English is a required skill in many high performing companies. Individuals who are able to communicate in this language have vast employability opportunities. Plus, they are not only tied to national market. They can look for their dream job across many different countries. It accelerates performance of companies and improves overall employability for those with knowledge of this language.

Research Methodology : To find out the answer of this hypothesis secondary data have been used like government statistics, published market research reports from different organizations, international agencies (such as IMF, World Bank, etc.), and so on.

Results and conclusion : English has a huge impact on globalization, as it allows all of us to speak in one common language. This is something unique that has never been possible before in history. we are able to communicate and understand each other's point of view, which supports trade, international dialogue and cooperation.

English is crucial not only for expanding abroad, but also for attracting international clients and investors into one's economy. This allows businesses to generate high profit and expand their network of international partners which greatly improves their future opportunities for growth. Through enabling swift and consistent flow of international investment, English has a direct, positive impact on countries' economies and private businesses' opportunities.

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Transnational Migration: Themes and Major Perspectives

Surbhi Sihag[1], Monika Sharma[2]

[1]*Assistant Professor, Dept. of Social Sciences, Biyani Girls College, Jaipur*
[2]*Research Scholar, Bhawani Niketan College, Jaipur*

Abstract:

'Diaspora' literally meaning; 'scattering or dispersion', as a term for transnational migration has only recently been applied to a variety of global communities. Previously, 'the diaspora' was almost exclusively used to describe the experiences of the Jews, and had tragic implications of forced exile from an historical homeland. However the term 'Diaspora' has been approached differently by different scholars. The concept of Indian Diaspora has gained popularity when India celebrated its 15th Pravasi Bharatiya Diwas from 21 to 23rd January. Today Indian Diaspora constitutes 20 million people approximately. This human capital stock has several implications for India which I will discuss in my paper. This paper will review the concept of Indian Diaspora, its strategic significance, importance and at the same time also look at the reasons that have impelled people to move about the globe, the ways that transnational social identities are being constructed among globally dispersed peoples, and the challenges that new social formations pose to the hegemony of the nation-state as the primary source of social identities and political loyalties. The paper will thoroughly review the available literature on the theme of Indian Diaspora and presents you a very dynamic overview of the concept. Transnational Migration being a multifaceted phenomenon contributes to the economic and commercial front on one side. While on the other side it also has the capacity of creating unrest in the country which can be exemplified by looking at the 'khalistan movement' an imaginary Sikh state which has its roots in Sikh diasporic experiences.

Keywords: India, Global, Nation-State

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The Role of Art in our Society

Ramakant Gautam[1], Vikas Meena[2]

[1]Assistant Professor, Biyani Girls College, Jaipur, [2]Student, JECRC College, Jaipur

Abstract: In our modern society, art is a universal way for people to express themselves and share their feelings with the world. Art is an important avenue through which to connect with others, especially in times of crisis. Art allows you to express your feelings, emotions, and thoughts in ways that are not always possible in words or actions. Art helps you to better understand how you feel about certain things.

Art is a reflection of society and culture. It's also an expression of creativity that can be used for self-reflection or social influence. Art is important in our cultural and social lives because it is the medium through which we process our emotions and ideas. It is also an important tool for learning, teaching, and communicating. Art plays a role in recording history, and many artworks help us paint a picture of what life was like in previous generations. Art is a way to express one self and it helps in developing cognitive skills. It also helps students to build creativity and problem-solving skills. Art has been present in schools for many decades and continues to be important.

Reasons why art is important to society and in life:-

1. Art encourages community cohesion.　　2. Art Reduces isolation
3. Art increases self-awareness.　　　　　 4. Making art helps the human brain.

Art is a great way of abstaining from our daily issues and just unwinding. It can also be a way of expressing our emotions which we might've been unable to, due to any number of reasons including timing. But this outlet that the arts provide can be beneficial not only to oneself but to others as well! Art helps society flourish in the best possible manner and therefore, benefits us as human beings on so many levels. The value of art in society today cannot be calculated as it is the very essence of our society. We know and understand what our society is only because of the existence of art. The varied arts educate, train, and lead us through our daily lives. It would be unthinkable to have our lives without art.

Keywords: Art, express your feelings, emotions, and thoughts, Reduces isolation, increases self-awareness.

Conclusion: The importance of art from ancient times to the modern scientific age is unquestionably true. Art has pervaded every area of human life. Man experiences peace and happiness only through arts and with its help we decorate and make our life artistic.

It has been clarified in the above thinking that the art which gives ultimate pleasure is the true and best art and such art is also beneficial. The taste of art leads to a qualitative development of the

consciousness of humanity. Art changes the nature of humanity itself. It molds a new image of man. That is why the place of art has been accepted compulsorily in education and art education is given from childhood itself. Therefore, art has a very important place in human life and it is definitely beneficial for human life. Having investigated all the various facets of art we can better understand how and why it is notonly intrinsic but vital to human life. It has been with us since the very first origin of humans. Man has proved himself to be the quintessential creator of art. Indeed, art is intertwined with the very essence of man's soul.

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Industry Academia Collaboration

Sarika Gupta

Assistant Professor, Biyani Girls college, Jaipur

Abstract: Firms engaged in university-industry collaboration (UIC) desire to advance knowledge and new technologies with their academic partners, however the performance of knowledge creation and transfer is greatly affected by complementarity and compatibility between the firm and academic institute. In practice, many firms assess the appropriateness of academic partners using a broad range of criteria, with high subjectivity. This paper therefore seeks to address this challenge by introducing a systematic approach to help firms determine the appropriateness of academic partners, represented as "matching quality" in this paper. Three facets of matching quality are examined: complementarity of research ability, compatibility in business mind-set, and compatibility in relationships. This paper proposes a framework and model for assessing matching quality, along with a case study to demonstrate how the proposed model works.

The objective of this study: to analyse university research and industry collaboration, in which communication, exchange of knowledge and learning creates the innovation process was achieved.

Keywords: Knowledge transfer, University/industry collaboration, Academic growth, collaboration, university research, innovation process, learning, knowledge

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Hybrid Learning Strategies for Today and Tomorrow

Shiv Jhalani[1], Ankush Meena[2]

[1]*Department of Journalism & Mass Communication, Biyani Girls College, Jaipur*
[2]*Research Scholar, Bhawani Niketan College, Jaipur*

Abstract :

Four hybrid learning strategies—combining in-person and remote learning—that can be implemented :

Paper, Radio & TV lessons: In-person learning in classrooms following safety protocols combined with one-way interactions such as paper take-home packages, radio learning sessions and/or television education programs that students can use as a complement to what they learned in class. Its advantages include High accessibility through paper-based material or partnerships with national and local community radios as well as with TV broadcasters, Low barrier of adoption as students are already familiar with paper, radio, and/or TV, Low media literacy or digital skills required. Its disadvantages include Remote learning is limited to an asynchronous modality when students use radio and/or TV, Requires ministries of education to have partners with adequate infrastructure and expertise to deliver remote learning – especially in the realm of radio and/or TV media outlets and Both teacher-student and peer interaction are limited to in-person learning.

Paper ,Radio & Tv lessons with Mobile follow up : In-person learning in classrooms following safety protocols combined with one-way interactions such as take-home packages, radio, and/or television education programs. Additionally, to ensure two-way interactions, teachers follow-up either through phone calls, SMS, or What's App messages. Its advantages include Low barrier of adoption, basic digital skills required for interaction with teachers through mobiles, and High accessibility though partnerships with national and local broadcasters, meaningful two-way teacher-student interactions. Disadvantages includes Remote learning is limited to an asynchronous modality when students use radio and/or TV , Requires ministries of education to have partners with adequate infrastructure and expertise to deliver remote learning, especially in the realm of radio and/or TV media outlets , Peer interaction is only limited to in-class sessions

Pre recorded online lessons for mobile follow up : In-person learning in classrooms following safety protocols combined with one-way interactions such as pre-recorded lessons that can either be accessed by using YouTube or a government website. Also, teachers provide feedback to students to ensure meaningful two-way interactions either through an online platform or via mobile messaging. Advantages includes Meaningful two-way teacher-student interactions , Basic digital skills required to use online platforms to watch pre-recorded lessons and interact with teachers, Online asynchronous approach allows students to access learning sessions at any moment (flexible use of

time). Its disadvantages includes Peer interaction is only limited to in-class sessions, Teachers need a set of digital and pedagogical skills to teach effectively in remote learning settings , In low-income settings, families might not have access to devices required for digital learning , remote learning is limited mostly to asynchronous modality when students use radio and/or TV

Adoptive Software and /or online support sessions: In-person learning in classrooms following safety protocols combined with two-way digital learning solutions such as interactive and/ or adaptive software for students to practice what was learnt during class and strengthen specific skills. Live online sessions can be used as a complement to provide teacher- student feedback and reinforce meaningful two-way interactions. Its advantages includes Learning is mostly synchronous and allows for immediate feedback. Adaptive software ensures personalized learning for a heterogeneous group of students and supports them to focus on areas of weakness with efficient remediation, Meaningful two-way interactions are ensured both in-class and remotely with teachers and peers. Disadvantages includes Costly to set-up and incorporate adaptive software for student learning, Relatively advanced digital skills required from both students and teachers, Available only for contexts with high access to digital devices and Internet connectivity, Teachers need a set of digital and pedagogical skills to teach effectively in remote learning settings

Keywords : Follow-up, Online lessons, Learning, Teacher, Student

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The scope of visual art in India

Sonia Sharma

Assistant Professor, Biyani Group of Colleges, Jaipur

Abstract :

The Purpose of the study is to collect and define the Indian visual art industry and the future of painting in the higher education. With this research and study we have come to the conclusion that the Indian visual art industry has come a long way. India has witnessed an adding appetite for art amongst the public, driven by the arrival of a growing number of artistic enterprises, including megacity- grounded art carnivals, exhibitions in galleries and other grand events similar as art biennales. The non-commercial establishments and artist- led enterprise have also continued to support the developing art assiduity. Businesses and events encompassing the art assiduity have gradationally come important rudiments of the Indian artistic geography, laying a strong foundation

for situating some of the metropolises across the country as major art destinations. While art galleries have constantly been promoting contemporary artworks through exhibitions, only a small proportion of about 4 per cent have featured in their deal records in 2017. Ultramodern artworks have continued to lead the deals in the primary as well as secondary requests since the smash in 2007 – 08, when contemporary artworks were in high demand with a share close to 41 per cent. Still, the Indian request could be on the point of metamorphosis as contemporary art deals are likely to pick up, supported by a diversifying buyer base. While colorful art parts show different growth circles, the performance of the visual trades' assiduity as a total is dependent on the broader profitable situation, generally around rudiments affecting the growth and distribution of private wealth.

Keywords : Indian visual art industry; future of painting in the higher education

Introduction : The attention and growth of wealth in the rising number of Indian High- Net- Worth individualities (HNWIs) has clearly been encouraging for the visual trades' assiduity in recent times, accelerating deals at the high- end of the request. While HNWIs have unnaturally driven the high- end art deals, the further affordable member of artworks are also gaining massive traction amongst entrepreneurs, company directors and professionals, similar as croakers and attorneys. also, private patronage has also been an essential and a critical component in supporting the Indian visual trades scene as realities similar as Delhi Art Gallery (DAG) and Kiran Nadar Art Museum (KNMA) have been promoting art and establishing its appreciation amongst individualities. Indian art collectors form a different cluster and encompass individual buyers and institutions having a wide array of pretensions, coming from different backgrounds and regions. The primary request features new and fairly unknown artists as well as further recognized contemporary artists, while the secondary request is where transaction houses offer artworks for posterior resale. Artwork prices in the primary request are generally lower compared to that of the secondary request, as artworks can take a lot of time before they attain elevation for their cultural value, oddity and literal significance. Hence, by the time workshop are resold, their prices tend to be advanced. The online platform has surfaced as a new avenue for deals in the visual trades' assiduity. A number of players are offering curated, ingrained online deals across a multifariousness of art and collectibles. Online art commerce is making the dated process of art discovery and buying much easier and quicker with a number of players embracing a digital-first approach to vend art. still, the position of online deals is still fairly low compared to that of offline deals in India.

Experimental/Methodology : The research for this this study is mostly done online and we have verified the and cross checked the facts for their positivity.

Data Analysis Result and Discussion :
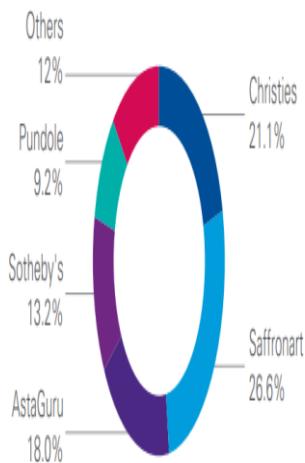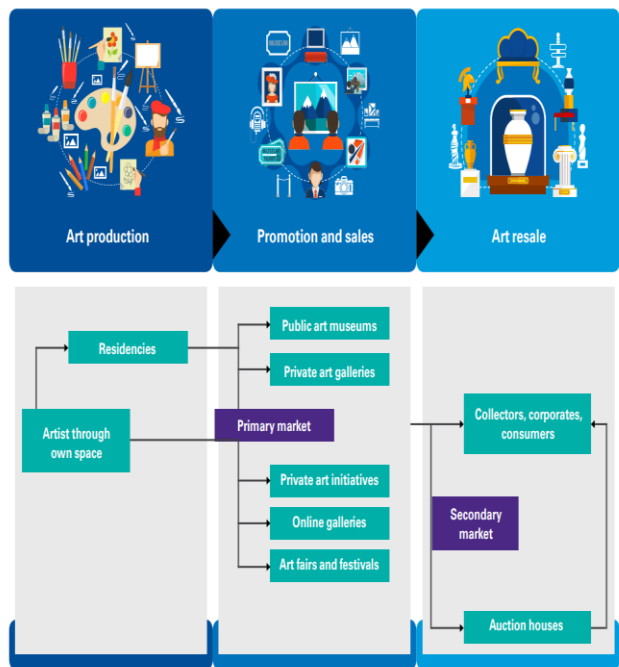
Conclusion :

In this study we have tried to briefly explain the Indian visual art industry and the future of painting in higher education.

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पर्यटन उद्योग के लिए भारत में व्यावसायिक शिक्षा

विरेन्द्र कुमार

सहायक व्याख्याता, बियानी गर्ल्स कॉलेज, जयपुर

सारांश :

आर्थिक महाशक्ति के रूप में पर्यटन क्षेत्र का बढ़ता प्रभाव और विकास के एक उपकरण के रूप में इसकी क्षमता अकाट्य है। पर्यटन क्षेत्र न केवल विकास में अग्रणी वृद्धि करता है, बल्कि बड़े पैमाने पर विविध प्रकार के रोजगार सृजित करने की क्षमता के साथ लोगों की जीवन गुणवत्ता में भी सुधार करता है। यह पर्यावरण संरक्षण, विविध सांस्कृतिक विरासत का समर्थन करता है और दुनिया में शांति को सुदृढ़ करता है।

व्यवसायिक शिक्षा वह शिक्षा होती है जिसके द्वारा किसी खास विषय या क्षेत्र में महारत हासिल की जाती है। यह कौशल प्रशिक्षण की शिक्षा होती है। यह विविध पाठ्यक्रमों जैसे कम्प्यूटर, बैकिंग, वित्त, पर्यटन, व्यापार आदि क्षेत्रों में कुशल बनाया जाता है। बिना व्यवहारिक ज्ञान के केवल किताबी ज्ञान से आप कोई भी काम कुशलता से नहीं कर सकते। इसी के अन्तर्गत माननीय प्रधानमंत्री जी ने युवाओं के बेहतर भविष्य निर्माण के लिए प्रधानमंत्री कौशल विकास योजना का शुभारम्भ किया। इसका लक्ष्य बड़े पैमाने पर उद्योगो के अनुसार रोजगार संबंधी कौशल का सृजन करना है। पर्यटन भूगोल या भू–पर्यटन, मानव भूगोल की एक प्रमुख शाखा हैं। इस शाखा में पर्यटन एवं यात्राओं से सम्बन्धित तत्वों का अध्ययन, भौगोलिक पहलुओं को ध्यान में रखकर किया जाता है। नेशनल जियोग्रेफिक की एक परिभाषा के अनुसार किसी स्थान और उसके निवासियों की संस्कृति, सुरुचि, परंपरा, जलवायु, पर्यावरण और विकास के स्वरूप का विस्तृत ज्ञान प्राप्त करने और उसके विकास में सहयोग करने वाले पर्यटन को ष्पर्यटन भूगोलष् कहा जाता है।भू पर्यटन के अनेक लाभ हैं। भू पर्यटन परस्पर एक दूसरे को सूचना, ज्ञान, संस्कार और परंपराओं के आदान–प्रदान में सहायक होता है, इससे दोनों को ही व्यापार और आर्थिक विकास के अवसर मिलते हैं।

शिक्षा हेतु पर्यटन :

शिक्षा का उद्देश्य छात्रों को किसी विशेष पेशे, व्यापार या व्यवसाय के लिए तैयार करना है। इन पाठ्यक्रमों को विशेष रूप से छात्रों को नौकरी के लिए तैयार करने के लिए डिजाइन किया गया है। दुनिया के सबसे बड़े आर्थिक क्षेत्रों में से एक के रूप में, यात्रा और पर्यटन

रोजगार पैदा करता है, निर्यात और विदेशी राजस्व चलाता है, और दुनिया भर में समृद्धि उत्पन्न करता है। डब्ल्यूटीटीसी की गणना के अनुसार, पर्यटन उद्योग ने अकेले वर्ष 2015 में भारतीय जीडीपी में लगभग 8.31 लाख करोड़ राजस्व का योगदान दिया था, जो कि कुल जीडीपी का 6.3ः है। न केवल राजस्व बल्कि इसने 37.315 रोजगार के अवसर भी पैदा किए हैं या कुल रोजगार आवश्यकताओं का 8.7 प्रतिशत पूरा किया है। भारत के सकल घरेलू उत्पाद में यात्रा और पर्यटन क्षेत्र द्वारा कुल योगदान 2017 में 15.24 लाख करोड़ रुपये (यूएस + 234.03 बिलियन) से बढ़कर 2028 में 32.05 लाख करोड़ रुपये (यूएस + 492.21 बिलियन) होने की उम्मीद है।

छात्रों को यात्रा और पर्यटन के इस तेजी से बढ़ते उद्योग में कैरियर के अंतहीन अवसर हैं। उद्योग में अपना करियर बनाने के इच्छुक उम्मीदवार ट्रैवल एजेंसियों, सरकारी पर्यटन विभागों, टूर ऑपरेशंस, इमिग्रेशन और सीमा शुल्क सेवाओं, एयरलाइंस, होटल के साथ साथ और भी कई सारी करियर अवसर में अपना करियर बना सकते हैं।उम्मीदवार स्नातक या स्नातकोत्तर स्तर पर यात्रा और पर्यटन में डिग्री, डिप्लोमा या सर्टिफिकेट कोर्स कर सकते हैं। उम्मीदवार शोध के क्षेत्र में अपना कैरियर बनाने के लिए यात्रा और पर्यटन के अपने चुने हुए विषय में पीएचडी भी कर सकते हैं।भारत में ही नहीं, यात्रा और पर्यटन पेशेवर विदेशों में भी उपर्युक्त कार्य कर सकते हैं, जहाँ वे भारतीय नागरिकों को पर्यटन पर ले जा सकते हैं।

मुख्य शब्द : जलवायु, पर्यटन रोजगार, सरकारी क्षेत्र, निजी क्षेत्र, पर्यटक शोध अथवा अनुसन्धान

उपसंहार : बदलते समय के साथ लोगो ने वोकेशनल शिक्षा के महत्व को समझ लिया है। भविष्य मे इसके और उन्नत होने की सम्भावना है। निकट भविष्य में नये—नये उद्योग—धन्धो का विकास होना स्वाभाविक है। इस दशा में सभी का प्रशिक्षित और व्यवसायिक रूप से शिक्षित होना नितांत आवश्यक हो जाएगा। पर्यटन क्षेत्र में रोजगार का दायरा बहुत उज्ज्वल है और सार्वजनिक और निजी दोनों क्षेत्रों में मौजूद विभिन्न अवसरों के साथ उच्च संभावनाएं हैं।

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Role of Social Media in Political Campaign

Anuj Chaturvedi[1], Jitendra Kumar Yogi[2]
[1]Assistant Professor, Biyani Girls College, Jaipur
[2]Research Scholar, University of Rajasthan, Jaipur

Abstract:

Technical advancement has impacted the fields of politics also. Now the candidates have widened their reach the campaign. Various social media applications like Twitter Facebook gave the candidates platforms to reach out to the voters. And analysis shows that around 81% of candidates from BJP, 54.75% of Congress and 42.54% of AAP candidates had account on Twitter in the recently held Gujarat legislative assembly elections. Use of these new media tools has fast penetration speed among the voters as they employee means of audio video visuals. Virtual Campaign is also one of the many tools for political campaign. Every candidate is equipped with a social media team which includes a report writer, photographer. They not only post the public events of the political candidates but also the private life of them. Almost 20,000 workers and more than 60000 volunteers employed by the BJP to handle various digital platforms in recently held Gujarat assembly elections. These social media tools not only broke the physical barrier but also saves the precious time of the candidates.it is very convenient for the candidate to. Convey his massage using the whatsapp group. Congress party formed around 50,000 groups to disseminate its massages. These social media tools have an enormous impact on the political campaigns. A voter finds him connected with the concerned politician and slowly starts to follow the social media posts of the candidates. By this way he supports the policy of the policies of the politicians. Virtual media m is another platform by which a politician gets reach to his voters. These medium not only bridge the physical barriers between the politicians and the voters but also convey his massages saving his precious time during the elections. This paper surveys the role of various social media tools on the political campaigns of various candidates.

Keywords: Media, campaign, Social Media.

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Psychological Principles and the Success of an Organization

Pratibha Mahawar[1], Gunjan Agarwal[2]

[1]*Research Scholar, University of Rajasthan,* [2]*Assistant Professor, Biyani Girls College, Jaipur*

Abstract : The present study experimentally investigated the effects of psychological attributes on the efficiency of employee's working with respect to their emotions, cognitions and behavioral activities towards the organization. Whether these effects show any significant difference in their performances, and whether others aspects are responsible for the effective performances shown by them. Employees were randomly selected, from Mallik Industries Private Ltd., Nagor, and enrolled into workshops and seminars focused to stress management, effective communication, leadership styles, group processing, attitude formation. Participants also administered on Leadership Quality Scale, Likert Scale & Stress Scale. Participants who enrolled to different programs and workshops shows significant improvement in their attitude formation, management of stress, communicating effectively and working qualitatively with the group. Furthermore, such workshops helped the participants to deal effectively with the other matters of their life. Given its popularity, more research is need to develop such effective models for the better understanding of effective working of employees and the success of an organization.

Keywords: Psychological Attributes, Emotion, Cognition, Stress Management, Likert Scale.

Introduction: The experience of applying psychological principles and practices to a work environment in order to make improvements and resolve issues is referred to as the principle of workplace psychology. Work psychology, organizational psychology, and industrial psychology are common names for workplace psychology. The psychologists have expended a lot of time and money in order to study behavioral trends. Psychologists also say that the psychology principles in the workplace should be based on who works. The ability is developed through workplace psychology, which contributes to the improvement of the business. Motivation, performance evaluation, training, recruitment, compensation, stimulation, socialization, identity, control, communication, and human behaviors—as well as the psychology of leadership—are just a few of the many types of psychology principles that are utilized in the workplace. According to Perrewe (1995), many businesses struggle with the idea of making their business more appealing to customers, vendors, employees, and other organizations. In the workplace, the psychological principles are applied in a different way. The methods used by each organization are different. These psychological principles' fundamental objectives are company development or enhancement. These psychological principles are capable of changing the direction of the company to the development stage. There are general psychological tenets that may be applicable to all businesses. Fundamental principles are incorporated into these theories or principles. Positive variation can only help to improve the structure, reduce losses, boost employee morale, and increase productivity.

Companies can reorganize and alter policies and procedures in accordance with each principle to meet their specific needs (Tynjälä, 2008).

Experimental/methodology: One experimental and one controlled group were established, with participants chosen at random. Group A, or the Experimental Group (N=75), took part in a variety of workshops and seminars to learn about group processing, leadership styles, effective communication, and other topics. Participants in Group B, or the Control Group (N=97), were not enrolled in any workshops. They were just instructed to continue working at their own pace. Before and after the experiment, three distinct tests (Leadership Quality Scale, Stress Scale, Likert Scale) were administered to both groups' participants to determine whether or not any changes had occurred.

Data Analysis, Result and Discussion: The median test was used to identify significant differences between the two groups that were drawn from the same population. After completing their workshops and training programs, the experimental group exhibits remarkable improvements in their performances. In contrast, participants in the Control group did not exhibit any shifts in their methods of work.

Conclusion: The basic goals of these psychological principles are to company development or improvement. These psychological principles have ability or skill to change the company direction to the development stage.

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Bridging the Gap between Society and Academia Industry through Best Practices in English

Divya Rajawat

Assistant Professor, Department of English, Biyani Group of College, Jaipur, India

Abstract:

"Each of us is a social animal. We are bound in a social environment; we develop fully as human beings in a social environment; and we live in social environments. What we think. How we feel. Do and what we say and do are all shaped by our interactions with other people." (Hughes and Kohler 2008; 3) Society was taken to be the tissue of manners and customs that hold a group of people together. Therefore, communication plays major role to shape human health and wealth in the society. Particularly, language is also an integral part to make relationship among human beings. The language you choose to speak and interact with multicultural people defines what you are. Even though, industry creates lots of job opportunities in an international level for the people who have those sorts of calibre, certain people lack behind just due to the language proficiency in English. Hence, English is an important source of education, it helps to create employment opportunities at larger extent and help to eradicate unemployment in the society. Education is the first step to join the job race and English is the foremost step to advance in the career. English is the most common second language in the world and business world use English as major communicative language. When people from different languages around the world come together, they usually use English to communicate, which also an indication that most people around the world can speak this language and use it for various purposes. As it helps to open up lots of doors to catch at the global level, one need to figure out the importance of English language in the day-to-day life. Therefore, this study focuses on the impact of English language in the industries in general and the importance of learning English language in particular.

Keywords: English, Industry, Academia

Research Methodology: To find out the answer of this hypothesis secondary data have been used like government statistics, published market research reports from different organizations, international agencies (such as IMF, World Bank, etc.), and so on.

Conclusion: Therefore, this study focuses on the impact of English language for the existence in a global scenario

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The impact of the English Language in an interconnected world - Study International

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How Industries are Expanding and giving Birth to Rural Urban Fringe

Shaifali Vijay[1], Neha Shekhawat[2]

[1]*Assistant Professor, Biyani Girls College, Jaipur*
[2] *Research Scholar, Shree Bhwani Niketan Mahila Mahavidhalaya, Jaipur*

Abstract:

Rural urban fringe is the most dynamic area situated between the urban and rural area. The rural-urban fringe lies between the continuous built-up area of a city and the urban shadow. It can be viewed as an area of invasion in which population density is increasing rapidly and land values are rising. The urban "fringe" is part of a metropolitan county that is not settled properly enough to be called "urban. Rural urban fringe - A zone of transition between the urban area and the rural area, where there is light competition for use of land. Often science parks, business parks and industrial estates locate in the rural-urban fringe as the land is cheaper, there is room for expansion and they are close to transport links to allow export and import of goods. Proactive roles have been recognized increasingly for communities and individuals in relatively certain regions as being an important part of the emerging 'new economy', but the urban fringe has received very low attention from this perspective. The rural-urban fringe is the transition zone between the city's totally urban industrial and commercial physical growth and the absolute rural agricultural landscape with village panchayat system, where new urban land use and occupational patterns are replacing rural land use and pattern. They also provide a variety of choices- such as educational facilities, health- care services, hospitality, entertainment options and even friends to people- that are not available in small towns. People migrate to cities for economic opportunities and urban lifestyles.

Keywords: Urban, Rural Fringe, Transition, Industries, Urbanization.

Introduction:

In this paper an attempt has been made to literature survey on different aspects of rural urban fringe such as identification of fringe, its linkage, Industry expansion, characteristics, and regarding the future planning of the fringe. The review of literature through GIS and remote sensing has also been carried out. It is done by taking into consideration the growth, impacts, planning and management of the fringe. Rural urban fringe is the most dynamic area situated between the urban and rural area. The urban "fringe" is part of metropolitan counties that is not settled properly enough to be called

"urban. Rural urban fringe - A zone of transition between the urban area and the rural area, where there is light competition for use of land. Urban fringe is a zone of mixed land uses, which can be used as a shopping centres and golf courses to farmland and motorways. The positive effects are business owners can move their companies into less-competitive areas with more space for expansion and often cheaper rent. Secondly, people can have more accessibility to airports and motor ways as these tend to be outside of cities. The growth of population puts great pressure on agriculture for more food and industries for further development. In the first industrial revolution, this area was surrounded by an industrial ground in a completely rural setting. In the post-industrial era this scenario is totally changed, all the same the city sprawled closer, with the semi-urban populations' need. The role of the individual and specifically the local community in reinforced development processes has received attention by everyone. Proactive roles have been recognized increasingly for communities and individuals in relatively certain regions as being an important part of the emerging 'new economy', but the urban fringe has received very low attention from this perspective. In contrast to the above scenario, urbanization is a global phenomenon experienced by economically- advanced as well as developing countries. As countries place emphasis on industrial development, there is a movement of people from villages to towns and cities and an impetus to the growth of metropolitan areas. In general, cities provide large economies of agglomerations. They also provide a variety of choices- such as educational facilities, health- care services, entertainment options and even friends to people- that are not available in small towns. The increase in urban population results in asymmetric patterns in resource utilization, land use and transportation. In interpreting the transformation of rural space, much attention has to be given to the macro scale processes shaping capitalist society.

Experimental/methodology:

The secondary data have been borrowed from various government and semi-government offices of district, tehsil and block level. To find out the answer of this hypothesis secondary data have been used like government data, published market research report from different organizations, magazines etc.

Data analysis, Result and Discussion:

The rural urban fringe is a transition zone between city and country where rural and urban land use coexist. The fringe exists in the agricultural hinterland, where land use is changing, and is characterised in relation to the metropolis.

Source: geocases sample
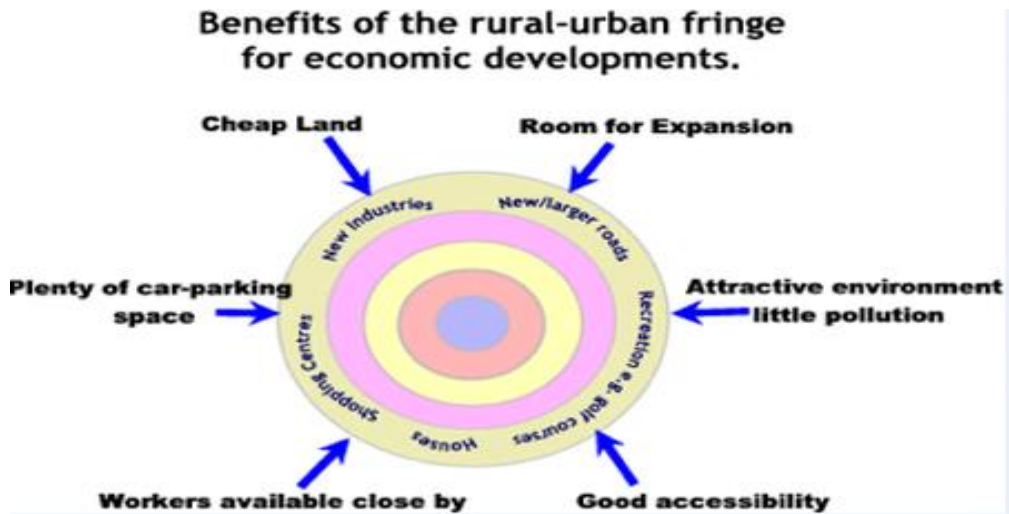
Conclusion:

The growth of population puts great pressure on agriculture for more food and industries for further development.

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The Effects of Covid-19 Pandemic on Mass Audience of Cinema and OTT Platforms

Juhi Jha[1], Chagan Lal[2]

[1]*Assistant Professor, Biyani Girls College, Jaipur*
[2]*Research Scholar, Rajrishi Bhrathari University, Alwar*

Introduction:

The COVID-19 pandemic has changed how Indians consume entertainment. In the past, movie theaters were associated with hangout spots and entertainment, but today's consumers are more interested in Netflix, Prime Video, and Disney. Consumers have been affected by the pandemic for more than a year. This has essentially accelerated the growth of OTT platforms, which were only in their infancy before the pandemic. Platforms that were previously unknown, such as Disney+ Hotstar, Netflix and Amazon Prime, have now become commonplace. These OTT platforms have something or the other for every member from young to old. During the COVID-19 pandemic, the primary objective of this study is to examine the various factors that motivate consumers to switch from traditional television to on-demand media platforms and how consumers are shifting from traditional television to OTT platforms Also, in this research, an attempt has been made to study the increasing popularity and utility of OTT platform. This study will also try to know what is the future scope of OTT platforms. The entertainment industry, which includes the sub-sectors of theatre, film, visual arts, dance, opera, music, literary publishing, television and radio. The study focuses on how OTT services emerged during the pandemic and how consumers behaved towards them.

Cinema: A cinema is a place where people go to watch films for entertainment.

OTT Platform: "Over the Top" is the complete version of the term "OTT," which describes TV and movie content that can be watched online through OTT services like Netflix, SonyLIV, YouTube, MX Player, and Prime Video, among others users. Additionally, you can pay for or watch various types of entertainment of your choice.

Audience Pattern: There are five recognizable patterns in people's experiences as spectators. These include individual, group, site-specific, global and digital interactions.

Objective:

- To comprehend the OTT platforms' potential future scope.

- To find out and understand the increase in consumption of OTT platforms during pandemic.

- To investigate the shift in entertainment consumption from traditional to new.

- Comparative study of television and OTT audience in the Corona period.

Research Gap of the Study : Before Covid-19 audience want to see film include cinema. But after the Covid-19 Phase majority of the viewers migrated on the OTT platforms. This study will be useful analysis the audience practice.

Research Methodology :

•   Both qualitative and quantitative methods will be used to materialize the proposed research topic "The Effects of Covid-19 Pandemic on Mass Audience of Cinema and OTT Platforms" Along with research methodology, research tools will also be used for data collection. The following research methods and tools will be used to provide the basis for the research.

•   Content analysis

•   Interview

•   Questionnaire

Research Design : It is tentative purposed at Mixed Method.

Conclusion : In this research proposal, researchers will analyze public opinion about OTT platforms, their consumption patterns and compare whether OTT platforms are slowly capturing the most popular traditional medium of entertainment. According to the study, OTT media platforms have opened up possibilities in the field of entertainment where storytelling is quite different from television. Whereas, TV is still passing through the era of narrowness, while OTT is increasing the trend of viewers by showing more than one great show without any restrictions. During COVID 19, the trend of viewers was seen more towards OTT platforms, which took these platforms to new heights. The web series started in India in 2012 as "Permanent Roommates", which was aired by IIT Kharagpur student Arunabh on his YouTube channel TVF. After this, many other platforms like Netflix, Amazon Prime, Alt Balaji, Hotstar came into the world of web series and created a special audience of their own. In this study, researchers will analyze the scope, cinema landscape, Comparison of cinema and OTT, needs and audience patterns in OTT platforms.

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Economic Impact of Covid-19 on Indian Industries: An Empirical Analysis

Sona Mandora[1], Mukesh Kumar Sharma[2]

[1]*Assistant Professor, Biyani Group of Colleges,* [2]*Assistant Professor, St. Wilfred College for Girls*

Abstract:

The pandemic Covid-19 starting in December 2019 from China influenced the various countries within a short span of time. This deadly virus threatened not only the human lives but affected the economies of the world, and India was one of among them. The Indian government, in this uncontrollable situation, followed several policies and announcements like social distancing, use of mask, closure of non-essential commodities and businesses, restriction on mobility of people, and lockdown to reduce the impact of corona virus. All such measures affected the economy and society in both positive and negative ways. Prior to this the Indian economy was already facing the various economic problems like unemployment and poverty. By then the major pillars of the economy, i.e., agriculture, industry and service sector were adversely affected. The financial performance of the economy became sluggish. This paper analysis the impact of Covid-19 pandemic on Indian society and various sectors of the Indian economy and how government took the various measures to reduce its impact. This paper is based on secondary data collected from various sources like journels, articles, newspapers, etc. and statistical tools are applied for this.

Keywords: Covid-19, lockdown, Indian economy, Industry, poverty

Introduction : Severe acute respiratory syndrome novel corona virus 2 (SARS-CoV-2) or covid-19 pandemic starting from china expanded its paws to the neibouring countries affected the human lives drastically and the economies of the world in severe manner. With no option left in the hand, the governments of different countries took different steps to control its effect.

The corona virus is an infectious disease which influenced the whole world and impacted life of the people to the great extent. It started from Wuhan, China and grabbed the whole world. Further it has triggered severe social and economic disruption around the world, including the largest global recession since the Great depression.

Our Indian economy was already facing various economic problems like poverty and unemployment. There was a great challenge in front of Indian government to control the situation after the pandemic. Due to various measures like lockdown, the factories and offices were closed temporarily, the production of goods and services declined. In turn Demand-supply chain was severely disrupted.

The various sectors were affected by the measures taken by the government. Which mainly the manufacturing, agriculture and allied activities, media industry, pharmaceuticals etc

On some sectors we saw positive impact whereas on other we saw negative impact. We will be discussing about these all in this paper.

Research Methodology : The data is collected from secondary data which is collected from various libraries, journals, newspaper, magazines, articles, websites, research articles, reports etc.

Impact of Covid-19 on Indian Economy:

1. The covid-19 crisis has affected the industrial sector through both demand and supply mechanism on demand side industry was hit by reductions in domestic consumptions. On supply side industrywas affected by lockdowns, supply shocks, mobility restrictions and production stoppage.

2. If we talk about tourism, hotel or hospitality industry. In India many places depend on tourism for their livelihood. Due to lockdown it was severely affected. As per the Indian association of tour operator, this sector may have loss of about.

3. On entertainment and media industry Due to covid-19 ,the global pandemic impacted the entertainment and media. As the movie theatres and production studios were temporarily closed. As the people were quarantined, viewers were forced to stay home for there video entertainment. Business associated with entertainment and media segment. Were facing losses because of closure of cinema halls,the film producers and distributers were struggling.

4. Aviation industry was tremendously affected by Covid due to travel restrictions. As per the estimation of the IATA [international Air Transport Association, globally the passenger revenue loss could be of US $113 billion. Some airlines have decrease the no. of employees. As per the data of MOCA [ministry of civil Aviation] , almost 585 international flights have been cancelled.

Estimated quarterly impact from the coronavirus (COVID-19) on India's GDP growth in financial year 2020 to 2022
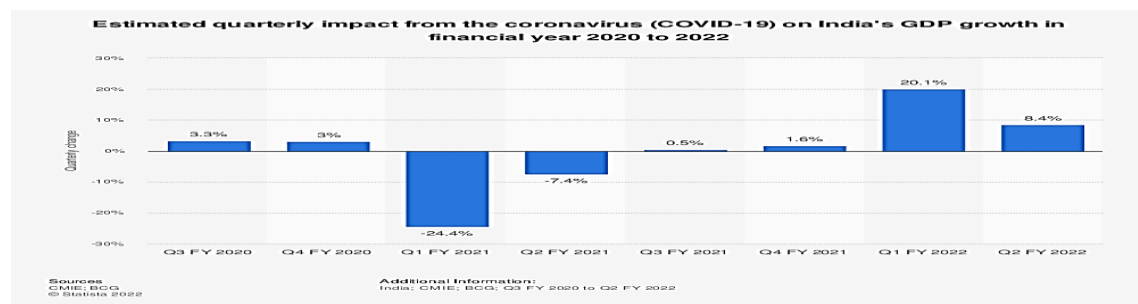
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Does Participative Management in Industries Reduce Gender Inequality

Priyanka Khichi[1], Alka Sherry[2]

[1]*Assistant Professor, Biyani Girls College,* [2]*Assistant Professor, St. Wilfred College for Girls*

Abstract:

The participative management style is defined as "participation resulting from practices that increase the scope for employees share of influence in decision making at different tiers of organizational hierarchy with assumption of responsibility" by the international institute for Labor Studies. Participative management is a democratic way of management which emphasizes on involvement of employees and Participative decision making. Traditional management style has given way this modern management style where decision making has changed into more collective process. It helps empower different sections of society like labour's, women, oppressed class or citizens of certain community.

Here I have tried to find out how participative management helps attain gender equality in decision making. Worldover women are under-represented in decision making position, although gender equality along with diversity have meaningful positive effect on any organization or any institution. The under-representation of women in decision making is a burning issue and is addressed in this paper. This paper also discusses how participative management help tackle the issue of gender discrimination in decision making. Also, we will discuss how it will help increase the employment rate of women, how it will reduce the gender gap pay, how it will bring transparency in the selection, promotion and growth of women within an organization or an institution.

Keywords: Participative management, Women empowerment, Gender equality, Decision Making

Introduction : Across the globe policies have been made around promote Gender equality and women empowerment. Equality between men and women is itself an important development goal

for many countries therefore gender equality is top priority for many countries (1) Countries are making effort towards economic, political and social gender equality. Economic gender equality is of immense importance as women participation is a part of the growth and stability pattern.

There is huge gender gap if we take into consideration the difference between participation of women in labor market to women representation in decision making position(2). Countries where the participation of women in labor market is high there also women at higher position are too few and are in minority. This clearly shows that women making to the top positions are few and their participation in decision making process is automatically less due to their less numbers.

Participative management plays an important role in gender equality because each steam it gives team member a voice. As employees, weather men or women all play an important role in the success of the company. For the employees to stay motivated, their participation in every aspect of organization is important, even in decision making process. Collaboration leads to higher performance, higher morale and improved better communication among team members. In such a scenario because of participative management women are also given chance to participate and their role in decision making process directly or indirectly lead gender parity.

When the focus is on decision making positions, participative management brings out the beneficial effects of gender equality in much clearer way. With the involvement of both men and women in decision making following benefits can be obtained; (3)

- Talent pool is diversified
- Reduces conflicts
- Broadens perspective
- Increases creative thinking
- Improve competence
- Pushes innovation
- Improve process of decision making
- Better shareholder representation
- Improves productivity and results.

Research Methodology

To find out the answer of this hypothesis secondary data have been used like government statistics, published market research reports from different organizations, international agencies (such as IMF, World Bank, etc.), and so on.

Results and discussion

We have focused on certain features of participative management style in our study. The initial question investigates how subordinates evaluate participation level in decision-making process. As per the results indicated in our results more than fifty percent of employee thinks that they do not

get enough opportunity to take part in the decision-making process. We as further probed to understand if the issue of participation in the decision-making process is somewhat related to the gender of manager or gender of employee. Assumption was that women manager gave more opportunity to participate in the decision-making process at all levels. There was some difference between man and women subordinate when it comes to participation in decision making within the organization. In the research we tried to show some beneficial aspect of participative management style as per gender. The results show that there is some difference between male and female employees of the organization when it's about participation in the decision-making process. Either the managers is not very comfortable with subordinate of other gender or the level of co-operation from the subordinate is not equal for manager of either gender. The study shows that the level of participation by employees in decision making is not high and women participation is further less.

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National Education Policy : Scientific and Industrial Research

Anil Kumar Bhati[1], Komal Sharma[2]
[1]Tagore P.G. College Suratgarh, [2]Student, Biyani Girls College, Jaipur

Abstract : *"Industrial research means the planned research or critical investigation aimed at acquiring new knowledge and skills to develop new products, processes or services or to bring about a significant improvement in existing products, processes or services. It includes the creation of components of complex systems, which is necessary for the industrial research, in particular for generic technology validation, excluding prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems, as well as pilot lines when required for industrial research and in particular for generic technology validation."*

Promotion of professional and integral human resource development in Council of Scientific and Industrial Research (CSIR) by offering training & development programs for professionalize research and development (R&D) management and support functions in CSIR. It also creates a focused group of human resource development at both the Centre and laboratory each. It promote research studies in the field of human resource development. Network with professional human

resource Development organization. Industrial markets consist of all organizations that buy goods and services to use in creating their own goods and services. The current industrial environment, which is changing rapidly, requires development and implementation of appropriate stratagies. Industrial markets offer different types of challenges and opportunities as compared to consumer markets.

Keywords : Industrial Research, CSIR, Prototypes, Consumer Market, Generic Technology.

Reference :

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Media Industries and Engagement A dialogue across Industry and Academia

Nidhi Sharma

Biyani Girls College, Vidhyadhar Nagar, Jaipur, Rajasthan, India

Abstract :

This article focuses on media engagement within the industry. The article takes the form of a dialogue between industry and academic researchers involved in a collaborative project on production and audience research on engagement (funded by the Wallenberg Foundation and in collaboration with Endemol Shine Group). Speakers from the film and television industry, and academic researchers working on media engagement, discuss how engagement is multifaceted, working across political and public spheres, policy and industry sectors, audiences and popular culture.

Keywords: Television Industries, Media Engagement, Cultural Value

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National Education Policy

Tanushri Mishra and Simran Ashrafi

Biyani Girls College, Vidhyadhar Nagar, Jaipur, Rajasthan

Abstract:

We live in a social universe in which the formation, circulation, and utilization of knowledge presents a fundamental problem. If the accumulation of capital has been an essential feature of our society, the accumulation of knowledge has not been any less so. Now, the exercise, production, and accumulation of this knowledge cannot be dissociated from the mechanisms of power; complex relations exist which must be analyzed.

Keywords: utilization, fundamental, accumulation, mechanisms.

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New Education Policy: Future of the Indian Education System

Neelam Nagora

Assistant Professor, SPC Government College, Ajmer (Raj.)

Abstract

The National Education Policy (NEP) 2020 has created quite a few waves in the education sector. The Ministry of Human Resources Development introduced the policy on 29th July 2020 after approval from the Union Cabinet of India. The NEP 2020 is going to bring in sweeping changes into the Indian education system to bring it on par with the education provided in the developed countries. It has been 73 years since India gained independence, and the country is still working toward its objective of having 100% universal literacy. The goal is for all citizens to be treated equally, which also extends to education. The necessity for India's educational system to be improved is demonstrated by this. As a result, the new National Education Policy, which is being presided over by renowned scientist Dr. K. Kasturirangan, has been implemented during the Pandemic Year. By offering everyone access to a high-quality education, the National Education Policy directly aids in the long-term transformation of our country into a just and thriving knowledge society. On July 29, 2020, the Union Cabinet of India approved the new National Education Policy with a target of raising the GER in school education to 100% by 2030 and a target

of raising the GER in higher education to 50% by 2025. The new strategy seeks to make education available to all children from preschool through secondary level. The Impact of National Education Policy on Higher Education Opportunities and Challenges attempts to trace the development of India's educational system, to review NEP in relation to HE, to analyse the impact of NEP on teachers, to express the advantages and disadvantages of NEP implementation, and to outline the path toward NEP.

Keywords: National Education Policy, Higher Education, GER, NEP, implementation

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Impact of ADR on Indian Society

Varsha Sharma

Principal, Biyani Law College

Abstract:

India is a country of 1.3 billion people, with only 21.03 judges per million people [4] and about 4 million cases pending in various district courts, about 59,000 in the Supreme Court and 70,000 in the Supreme Court. [Five]. This means that a speedy process is far from achieved, compounded by slow completion rates and a naive judicial infrastructure.

At the same time, global bilateral, trilateral or multilateral trade requires rapid dispute resolution. Domestic and foreign companies cannot afford to lose 10-20 years of his precious years to settle simple disputes. Moreover, it is a major setback for the national economy.

The Constitution of India articulates the aspirations of egalitarianism with socio-economic goals and assigns responsibility to all state institutions to promote the spirit and goals of the Constitution. The existence of a well-functioning judicial system increases public confidence and the willingness to bring disputes to court.

Unfortunately, the Indian legal system seems bleak at the moment. Addressing our 1.3 billion inhabitants and giving them their unique right of access to justice can be done through a stronger ADR system. Accelerating pressure on the judicial system will be mitigated to some extent by strengthening the ADR system. ADR is the best option for India's dispute resolution future and its ever-expanding economy.

Keywords: Compounded, Infrastructure, Egalitarianism

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The impact of fake news on social media and its influence on health during the COVID-19 pandemic

Roshan Lal

Research Scholar from Maharaja Vinayak Global University.

Abstract:

As the COVID-19 pandemic spread around the world, news spread rapidly, creating anxiety among the public. Fake news has taken social media by storm and is a part of many people's lives. Therefore, this study aimed to assess the impact of social media on infodemic knowledge dissemination and its impact on health through a systematic review.

FN's potential impact stems from the following conspiracy theory: China-made bioweapons, water containing lemon or coconut oil that can kill the virus, or other indications that may have potential efficacy in preventing or treating COVID-19, even if approved for other indications. some medicine. The impact of this massive dissemination of disease-related information is therefore called 'infodemic knowledge' (Hua and Shaw 2020). Other disturbing examples of infodemic knowledge include hydroxychloroquine overdoses in Nigeria, drug shortages, changes in treatment for patients with rheumatic and autoimmune diseases, and panic over supplies and fuel. (CNN 2020; Tentolouris et al. 2021).

From 1 January 2020 to 11 May 2021, a systematic search was performed in the MedLine, Virtual Health Library (VHL), and Scielo databases. Also included was a study that looked at the impact of fake news on patients and health care professionals around the world. The quality of selected studies can be systematically assessed using the Loney and Newcastle-Ottawa scales.

Keywords: Dissemination, Infodemic, hydroxychloroquine

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Recommendations for Fighting Misinformation in Asia

Vijay Pal Singh

Assistant Professor, Biyani Law College, Jaipur

Abstract:

These national assessments form a set of recommendations for governments, civil society leaders and social media platforms. Building resilience against and countering manipulative information campaigns is a society-wide effort.

Recognizing the limits of what governments can do in the information field, civil society should play an important role in combating disinformation in Asia. To that end, universities should facilitate the sharing of data and analytical software among trusted researchers. NGOs should build resilience against disinformation by working to improve media literacy. Philanthropists should invest in projects that support research into new good practices in the Asian context and encourage active, independent, investigative media. Civil society leaders are often targeted by disinformation campaigns, so special attention should be paid to providing them with resources and training to strengthen their ability to do their jobs.

Recognizing that manipulation of foreign information is a national security challenge, affected governments should increase resources to analyze disinformation. Policy makers should work with civil society researchers to expose these disinformation campaigns and expose cases to raise awareness of these disinformation campaigns. Civil society organizations can use social technologies such as games and other apps to raise awareness of issues.

Policymakers in countries like Taiwan, where the Chinese government uses opaque investments as a tool of influence, should adopt policies that increase fiscal transparency.

Major social media platforms operating in Asia should allocate additional resources to manage content in local languages. Platforms should, where possible and appropriate, work with democratic governments that operate according to the rule of law, and with governments that are not completely free, and be careful not to become instruments of oppression. With this in mind, platforms should be more transparent about content moderation requests they receive from state actors, how they respond to those requests, and on what basis.

Democratic administrations need to recognize that the steps they take to combat disinformation domestically can be used to justify legal restrictions in less liberal environments.

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India's New National Education Policy: Past, Future and Challengers

Raju Madhukar[1], Rajendra Kumar Gothwal[2]

[1]*Assistant Professor, Biyani Law College, Jaipur*

Abstract:

Education is the decoration of human life, without education human is like an animal. Education is such a wealth that no one can steal and no one can snatch it, it is a process that goes on continuously and lifelong in human life. If it is called an instrument of progress of mental, moral, physical and economic life of human life, then there will be no exaggeration. It is the basic requirement to promote the just destruction of every society and nation. Its disregard means blocking the progress of the society and the nation.

By the way, Indian land is considered to be the abode of knowledge, but the narrowness of ancient Indian education seems to be distorting its form, in which education was limited only to a special class. And this stigma remained on the mind of India for a long time. The work of removing this stigma was done during the period of slavery of the British. In which the doors of education were opened for all classes. During the British rule, education was for all classes, but this education served the interests of the British. The practice of this education policy continued even after independence. After independence in India, the first National Education Policy was launched and under the leadership of D.S. Kothari.

The second National Education Policy was prepared in 1986, in which changes were made in 1992 according to the circumstances. Since then, a lot has changed in these 36 years and new education policy was emerging to meet the Indian needs. As a result, on July 21, 2020, the third National Education Policy was announced by Prime Minister Shri Narendra Modi. The formulation of this policy involved the time of 2 years and the suggestions of about 2 crore people. In this discussion suggestions of teachers, students, politicians, guardians, public representatives and social workers have been invited and K. Universal access to education, based on the recommendations of the Kasturi Rangan Committee, built on the basic pillars of easy access, equity, quality, affordability and accountability, this new National Education Policy is in line with the agenda 2030 for sustainable development, and aims to make schools suited to the needs of the 21st century. To make college education more holistic, flexible and capable of coping with the complexities of the present day world.

The new National Education Policy may be effective in the context of the present needs, but there are challenges in front of it like expensive education, exodus of teachers, observation of Parliament, lack of human resources, etc., which will not be easy to meet.

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Future of Alternate Dispute Resolution : Prospects and Challenges

Monika Paliwal

Research Scholar, Maharaja Vinayak Global University

"Keep the option of going to courts as last resort" -- CJI NV Ramana

Abstract:

This paper specifically addresses challenges and at the same time the futuristic importance of Alternate Dispute Resolution (ADR) for settlement of disputes. The concept of ADR is not unfamiliar to individuals and society, it exists in our society from immemorial time.

Alternative dispute resolution (ADR) is an easily adaptable and flexible method to resolve the conflicts among individuals of the society without any interference and mandate of the court proceedings. It is a parallel structure to the basic judicial system which tries to establish settlement of the conflicts between the parties through amicable approach.

Due to improper burden ratio on the formal judicial system, justice is not served timely in most of the cases.

For the above-mentioned reason, this paper mainly discusses the future of Online Dispute Resolution (ODR) in India, few recommendations and the scope of ADR in near future. As said, that justice delayed is justice denied is the reason that ADR mechanism has now become a movement in India to initiate help in reducing the burden of the basic judicial system but the structure still needs modifications for appropriate implementation in our society.

Keywords: Alternate Dispute Resolution, Online Dispute Resolution, Arbitration, Mediation, Lok Adalat

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Legal Remedies for Fake News

Madhuri Sharma

Research Scholar from Maharaja Vinayak Global University.

Abstract:

The main reason for spreading fake news because of the availability of cheap mobile data, Telecom war is going in our country. Internet is a very empowering medium, it also has its spitfalls. So according to statistics in the month of June 2016. India as a country was using 200 million GBPS of data Per month. In this month of March 2017, We as a country we are using 1.3 billion GBPS of data per month. So that is a unprecedent increase 6 and has time. This is a huge jump in use of mobile data internet. Why do people fall for it? When the info adhers to our ideology. Then we have extra urge to forward it to people who again believe in what we are forwarding. Fake news is not limited to social media but it is mainstream or the mainstream media. Even news media organization wants to break the news first. Why does it hit the most? Polarization of opinion is created of one piece of fake news bust into issue. What is our Responsibility? There is an entire industry which wants to abuse your emotion. They want to put forward such hatred and archives which are completely fake, as they want you to fixed.

Do not press the forward button in anger, wait for newspaper which will tell you it happens or not.

Keywords: Empower, Unprecedent, GBPS, Polarisation

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National Education Policy: A Step towards Enriching Industry Academia Partnership

Sonam Ratnu

Research Scholar from Raj Rishi Bhartrihari Matsya University, Alwar

Abstract:

The National Education Policy 2020 aims to provide quality education for all, bridge the gap between rich and poor, and make India's primary, secondary, vocational and tertiary education system comprehensive and inclusive provides a global competence framework for Its goal is to develop active, productive, informed and ethical citizens who contribute to the development of a just and inclusive society. NEP 2020 will be more student-centred, giving students the flexibility to pursue their passions while honing their skills and making them more employable, a framework

for all future teachers and students to acquire the skills they need NEP 2020 focuses on making education accessible, equitable and inclusive, if properly implemented at all levels, thus helping India to become a global knowledge superpower.

Keywords: National Education Policy 2020, Higher Education, NEP, Education in India.

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Fake News Implementation

Kusum Saini[1] & Arpita Kaniwal[2]

[1]*Research Scholar, Maharaja Vinayak Global University, Jaipur,* [2]*Biyani Law College, Jaipur*

Abstract:

Rumours is the part of society since the fake news has 'the' dawn of the But the age of Social media become Largest Source of the mankind existed since printing press. Internet and has been spreading have of fake news. Hearsay giving it evidence is no evidence person living it is not personally liable for the authentication of such evidence in the era of We are 'forwarding Messages" where no one is actually responsible for the authentication speeded by news of those messages. According to the law of evidence Fake video clips, news stories with morphed media logos, bots, paid Commentators have GOOD MEDIA" become very common Not only India the whole world is suffering from the climate of fake news. Russian interference in elections The US and West Europe has been the biggest content manipulation concern in recent years. Russia has been accused of manipulating the 2016 US election the fake news through bots and Online manipulation and disinformation tactics played an important role. Elections Countries at least 18 over the past years. Venezuela, the Philippines and Turkey were Countries amend 30 where "governments were found to employ of Opinion shapers spread. Government army to government Views drive particular and Counter Views media. agendas government critics on social In India what Sapp is the platform most vulnerable. news Popular to faker examples! UNESCO has declared are JANA GAN MAN Best national Anthem Fatima in Saudi Arabia. Man Can eat wives when hungry Missing has INU Student Najeeb Ahmed. Joined ISIS All these fake news have destructive. Consequences that include Creation of Conflict, victimization and decrease in productivity and morale.

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Alternative Dispute Resolution and its future in contemporary Indian Legal System

Abhishek Baplawat

Associate Professor, School of Law, Manipal University Jaipur

Abstract:

"Justice is infused with the "spirit of the law, not its letter," as the adage goes". A new, less combative approach to resolving legal issues has emerged with the concept of Conflict Management via Alternative Dispute Resolution (ADR). A lawsuit is technically a "lis inter partes," but the ADR Mechanism, a substitute for adversarial litigation, has been established by the Indian legal system. Using alternative dispute resolution (ADR) methods, such as mediation and arbitration, the parties to a dispute can save time and money. Additionally, these procedures help the parties involved to diminish their hostility against one another, regain some control over the circumstance, accept the outcome, resolve the conflict amicably, and increase their feeling of fairness. The greatest places to resolve disagreements are in private, where they may be handled in a way that is more realistic, economical, and successful. Arbitration, mediation, collaborative law, and negotiation are at least four different types of alternative dispute resolution (ADR). This paper will give a brief about the ADR system, advantages, and other aspects of it.

ODR (Online Dispute Resolution) may be significant in this regard. ODR can provide organisations with customised dispute resolution solutions through simply accessible and user-centric processes, empowering business owners to effectively enforce contracts. Additionally, it can give the public access to a form of dispute resolution, which will eventually lighten the load on the existing court system.

Keywords: ADR, ODR, Arbitration, Mediation, Conciliation, Lok Adalat

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Role of Alternative Dispute Resolution in Judicial System: An Analysis

Aditya Jain

Research Scholar, Amity Law School, Amity University Rajasthan, Jaipur

Abstract:

"Justice delayed is justice denied." is a legal maxim, it means that if legal redress or equitable relief to an injured party is available, but is not forth coming in a timely fashion. It is no effectively the same as having no remedy at all. This legal maxim is basically completely true with respect to Alternative Dispute Resolution. Alternative dispute resolution is basically designed to settle dispute outside the courtroom. In which any third party resolves the disputes between the parties. It may be any form Like (1) Arbitration (2) Mediation (3) Negotiation (4) conciliation (5) Lok Adalats. Basically there are 5 main types of ADR with the help of which we can resolve the dispute.

The concept of ADR arose from the article 39 a. Equal justice and free legal aid. This procedure is confidential and flexible. It allows for risk management ADR is free from the difficulties and technicalities that are used in court proceedings. It is less expensive and less time consuming. The Arbitration and Conciliation Act 1996 encourages arbitrators with the agreements of the parties to use mediation conciliation or other procedure at any time during the arbitration proceeding to encourage settlements. The Civil Procedure Code (Amendment) act 2002 contains Sec 89 which is designed to enable the courts to bring about a settlement of disputes outside the court.

Keywords: Arbitration, Mediation, Negotiation, conciliation

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Future of Alternate Dispute Resolution; Prospectus and Challenges

Nandini Joshi

Research Scholar, Maharaj Vinayak Global University, Jaipur

Abstract :

Alternative dispute resolution (ADR) refers to the different ways people can resolve disputes without a trial. These processes are generally confidential, less formed and less stressful than traditional court proceedings. The most common types of Alternative dispute resolution for civil cases are Mediation, Settlement conferences, Neutral evaluation and arbitration. The essence of

ADR was introduced in the civil procedure code under section 89 through the civil procedure code amendment Act 1999. Alternative dispute resolution gives parties in disputed issues with the help of a neutral third party. Alternative dispute resolution mechanism provides scientifically developed techniques to Indian Judiciary with helps in reducing the burden on the courts. Alternative dispute resolution (ADR) provides various modes of settlement including Arbitration, conciliation, Mediation, Negotiation and Lok -Adalat. In Indian Legal system needs a way to deal with cases that are pending in the courts and arbitration has proved itself a boon in this regard. ADR has been potentially transformed into ODR (online dispute resolution) though a branch of ADR has emerged as the most preferred mode of dispute resolution outside courts. The challenges of ADR is lack of awareness, lack knowledge of law, minimum court intervention according to 2019 rankings , India has gained 63th rank out of 190 countries while the united states ranked 6th , united kingdom ranked 16th and Singapore ranked at 2nd place for ease of doing business 2019. Arbitration is not only helpful in reducing the excess burden that is put upon the legal system but is also helpful in many more ways, like faster decision making, less costly, parties can put forward their own terms and conditions.

Keywords: Mediation, Settlement, Lok – Adalat

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National Education Policy: A Step towards Enriching Industry – Academia Partnership

Vimla Changal

Associate Professor, Mahatma Jyoti Rao Phoole University, Jaipur

Abstract :

The new NEP is based on four pillars which are Access, equity, Quality and accountability. In this new policy, there will be a 5 +3+3+4 structure which comprises 12 years of school and 3 years of Anganwadi /pre-school replacing old 10+2 structure. K. Kasturirangan an eminent scientist who steered the Indian space programme as chairman of the Indian space programme as chairman of the Indian Space Research organisation (ISRO) for nine years was the chairman of the committee for draft National Education policy. The policy provides for reforms at all Levels of education from school to higher education. NEP aims to increase the Focus on strengthening. In Enriching Industry –Academia partnership NEP increase the focus on strengthening teacher training, reforming the

existing exam system early childhood care and restructuring the regulatory framework of education The NEP provides an important opportunity to move Indian education from "Sorting and selection" to "human development "enabling every student to develop to their Maximum potential.

Keywords: Equality, Quality, Accountability of NEP

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Legal Frame Work to deal with Disinformation and Fake News

Yogendra Singh Saini

Assistant Professor, Department of Law, Mahatma Jyoti Rao Phoole University, Jaipur

Abstract :

Fake news in India refers to misinformation or disinformation in the country which is spread through word of mouth and traditional media and more recently through digital forms of communication such as edited videos, memes, unverified advertisements and social media propagated rumors. In India there is no explicit Legislation dealing with false information. The right to freedom of speech and expression, guaranteed by Article 19(1)(a) of the Indian constitution is the fundamental law that encourages the free publication or broadcasting of news. However, it is important to recall that the freedom granted by Article 19 (1)(a) is not absolute and is subject to reasonable limitations imposed by Article 19(2). if you believe you have been the victim of fake news, you can submit a complaint with some organizations that is NBA, broadcasting content complaints council is a body that investigates complaints about broadcasting content (BCCC). The information and broadcasting ministry overturned its previous rule on fake news in April 2018. "If any journalist was found guilty of disseminating fake news then his accreditation could be cancelled" according to the directive. Some other laws banned the fake news is press council Act of 1978 and under section 79 of the Information Technology Act of 2000section 153, 153 a,295 and 295 a of Indian Penal Code. If a person believes fake news is defamatory, he or she can initiate a civil or criminal defamation case.

Keywords: Disinformation, Fundamental Rights, Social Media

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The Serve of Intellectual Property Rights in the World of fashion

Archana Sharma & Sushree Devashrita

Abstract :

One of the most serious issues confronting luxury goods companies in a globalizing industry is cloning. The goal of this article is to examine the various types of counterfeiting that occur in the fashion business, as well as the ethical difficulties raised. We contend that the industry is part of the problem. Design piracy is widespread and tolerated, posing various ethical quandaries in judging the act of copying. We investigate the ethical issues raised by various types of copying in the fashion business. We end with some broad thoughts on the ethical implications of intellectual property rights.

Intellectual property law is a body of laws that governs the preservation and implementation of basic protections for innovations, creations, and other artistic creations. It is a broad term that embraces a diverse variety of inventive and unique creations. One of India's most important industries is fashion. When anything new debuts, it is generally followed by a flood of replicas, demanding the necessity for creative work security. The fashion market is expanding throughout the world.

Keywords: Fashion Industry, Intellectual Property Rights, Design Piracy, Piracy Paradox, Globalization

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An critical analysis of law relating to cyber fraud and cyber terrorism in European Countries

Sudhakar Rolan

PhD Research Scholar, Department of Law, University of Rajasthan, Jaipur

Abstract

Various theorist around the world emphasizes directly or indirectly on the importance of the establishment of institutions in international cooperation. It is said, Cooperation is not an easy act and can lead to tension, but states could benefit in the long run from cooperative strategies. Institutions provide a coordinating mechanism to help states capture long run gains from international cooperation; this "constructed focus point" increases the number of opportunity for

cooperative outcomes. It is pointed out that the Digital Single Market strategy in EU has been complemented by the regulations of The Cyber security Act as an international regime. A set of rules made in The Cyber security Act will highly contribute to build stronger cooperative and supportive system at the multi-national level to maintain EU cyber security especially in the economic related sector which attached to the digital transformation strategy.

In order to classify the effectiveness, it must determine the type of legal action to be taken at the first point. The legal action taken in the European Union is consists of legally binding acts and non-binding acts. The legally binding acts which can take the form of regulations, directives, and decisions. On the other hand, non-binding acts are which can be in the form of recommendations or opinions. The Cyber security Act which has been enacted through the enforcement of The Regulation (EU) 2019/881 in the month of June 2019. As regulated in Article 288 of the Treaty on the Functioning of the European Union (TFEU), a regulation shall have application of general sense. Therefore, the regulation codified in The Cyber security Act not only provides a permanent mandate to ENISA but also shall be binding in its entirety and directly applicable to all Member States.

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Legal Framework to Deal with Disinformation and Fake News

Neha Jain

Assistant Professor, Bhagwan Mahaveer Law College and Research Centre

Abstract:

The purpose of this research is to analyse the significance of legal frameworks to deal with disinformation and fake news. The research is focused to explore the use of a legal framework to eliminate the issue of disinformation and fake news created on different media platforms in the contemporary world, which is creating negativity. Misinformation and fake news sometimes create hatred in societies and affect the views of people. Hence, it is crucial to implement effective legal frameworks to eliminate such kinds of issues and ensure that every piece of news should be authentic and aware people about real issues. In this relation, the current research work will utilise the secondary research method for collecting detailed and useful information about the topic. The research will use inclusion and exclusion criteria in order to identify crucial and topic-related information. This method will help in selecting only those studies that are relevant, updated, and have adequate information regarding the topic. The secondary method allows the exploration of a large number of studies and identifies the gap and provides information from multiple views. In addition to this, the research work utilises the thematic method for conducting the analysis of

secondary data. In the thematic method, specific themes will be developed in alignment with the research aim, objectives, and questions, which will help in presenting the analysis in a systematic manner. The research will provide useful and in-depth findings that will be helpful for academicians and governments to understand the significance of legal frameworks for dealing with the issue of disinformation and fake news.

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Future of Alternate Dispute Resolution: Prospectus and challenges

Rakhi Paliwal

Ph.D Scholar, Maharaja Vinayak Global University, Jaipur

Abstract :

A concept that the majority of legal disputes should be resolved before going to trial is Additional Dispute Resolution. In issues like Business disputes, contract, Debts, loan and leases, Employer and Employee issues, family disputes etc. it is very effective way to \cost, more flexibility and privacy and less stress, in future it will be very helpful and first choice for settlement of disputes.

We all live in society where all human beings have different way of thinking, behaviour and we follow different religion, speak different languages, have different financial and social status, that is why it is normal that issues arise and we have to resolve them.

When we find that disputes have taken a massive role in our life we find solution by reaching courts only. As we all know that the procedure of courts is not short it is very lengthy that it why TAREEKH P TAREEKH is not just a dialogue, it represents the reality of judicial system. With this view here we will have to realise this point also that judge has to deliver justice after listening the parties, collecting evidences and hearing witnesses on the basis of natural justice principle. Court has to see that no any innocent person should be punished that is why all proceedings take time.

Alternate Dispute Resolution is beneficial for both the parties who are involved in any case and as well as for court also. In this parties don't have to appoint any lawyer and it is less stressful also. Additional Dispute Resolution includes Mediation, Arbitration and neutral evaluation etc.

A concept of Lok Adalat is also trending now a days. In India Lok Adalats are organised under the Legal Service Authority act 1987. In Covid time E-Lok Adalats were also organised. But there are some challenge like unawareness and unwillingness of people of adopting this dispute resolving method. Government need to do more efforts by advertising, using social media and other electronic modes to inform people and motivate them to use alternate methods first before stepping into courts.

Conclusively we can say that Additional Dispute Resolution will increase the efficiency of courts as well because courts will get more time to decide big matters and their burden will reduce. We are hopeful that the new generation will bring the positive change and adopt Additional Dispute Resolution system more effectively and efficiently.

Keywords: Additional Dispute Resolution, Legal Disputes, Settlement, Flexibility, Future generation.

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Alternate Dispute Resolution System in India

Sunita Soni

Research Scholar, Mahatma Jyoti Rao Phoole University, Jaipur

Abstract

Alternate dispute resolution or external dispute resolution typically denotes a wide range of processes and techniques that parties can use to settle disputes with the help of a third-party. They are used by disagreeing parties who do not prefer the means of litigation to come to amicable solution regarding any dispute. Equality before law is provided to every person under Article 14 of the Constitution of India as well as Article 39-A provides free Legal Aid to those who are poor and belongs to the weaker sections of the society. It ensures justice for all on the basis of equal opportunity. Both the articles sets a background for ADR by giving it Constitutional validity.

In addition to our Indian constitution, our Indian judicial system under section 89 of Civil Procedure Code, 1908 mentions the process of using ADR which is available to anyone. It provides opportunities to everyone to resolve their matters by utilizing methods such as Mediation, Arbitration, Neutral Evaluation and settlement. In present scenario, Lack of communication and knowledge are the challenges which are faced by ADR in India. In addition to, improper representation and non-awareness of authoritative ruling. Hence, ADR is not much popular in present scenario in our country.

Keywords: Arbitration, Dispute, Judicial System

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Indian Prison System

Vikas Choudhary

Research scholar, Amity Law School, Amity University Rajasthan, Dr. Ashu Maharshi, Associate Professor, Faculty of Law, Manipal University Jaipur

Abstract

"Every Saint Has A Past, Every Sinner Has A Future" is a famous saying of Oscar Wilde. A Prison is and includes any place which has been declared by the State Government, by general or special order to be subsidiary jail and any Reformatory, Brostal Institution or other institution of a like nature. There are three different kinds of Prisons like Sub jails, District jails and Central jails at Taluk level, District level and Range or Zonal level respectively. The other prison establishments are Women's jail, Brostal school, open jail and Special jails. Prisoners are mainly divided into three categories namely Convict, Undertrial, Detenue. There is another classification as Habitual offender and Casual offender. A habitual offender is a prisoner classified as such in accordance with the provisions of applicable Law and Rules. A prisoner other than a habitual offender can be classified as a casual offender. There are the Institutional personnel in prison like Superintendent, Additional Superintendent, Deputy Superintenden, Assistant Superintendent, Warder, Law Officer. A prisoner has the right to communicate with the outside world through media, letters, and interviews.

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A study on Remittance and migration of select Colombo Process Countries- Bangladesh, China and Vietnam

Mahjabin Bano
Gitarattan International Business School, New Delhi

Abstract:

The migration takes place due to economic differences in the economic level; it always flows from lower economic development zone to higher. The Colombo Process member countries (CP countries) are a regional consultative Process of Asian labour sending countries. The CP countries comprises of Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam. Around 30 percent of the worlds estimated 150 million of international labour migration. Migrants are vital for the development for both host and

home countries. The objective of this paper is to understand the inflow of remittance to these countries and covering important migration issues. They may hold a lot of potential due to remittances received. Remittance is a great contributor to national economies of these CP member countries. It has contributed significantly to the economic developmental progress of the destination countries. Given this back drop this paper intends to study trend of a. trend of labour migration from select CP member countries Bangladesh, China and Vietnam. b. to analyse remittance received by these countries and impact of remittance on development.

The specific study on study of remittances in CP member countries is not found. So, it is important that the research methodology must include finding, compiling and analyzing data by using time series analysis of these significant CP countries.

Keywords: *Colombo Process, International migration, remittance, migration trend, labour sending*

Introduction: International migration has various socio-economic and political aspect, with the change in dynamic globalised era, it is becoming more significant and always will remain contemporary in the field of research. In 2020, as per an estimate 281 million people were living outside their country of birth (Ref: World Migration Report 2022), it has increased 3 times from 1970 to 2020. This 281 million people includes regular migrants, refugees and asylum seekers.

In Bangladesh Remittances has potential to deal with SDG 1, it is estimated that 1.7 out of 9 percentage point reduction in the head count ratio during 2000-2005 are because of remittances (source: ADB report, 2009). Remittance in log run has an influence on the quality of living in long run, and has impact on HDI (ref: Pradhan and Khan, 2018). Islam S.A., 2019 in his paper mentions, it helps to reduce inequalities. In the case of China, migration leads to transformation in rural household income and the trend of migration shows poorer households facing binding constraints of land shortage are more likely to migrate (Zhu, Nong and Xubei, 2008). The overseas Vietnami communities are about 5.3 million and from 2020 to 2022, remittance inflows into Vietnam accounted for 3-8% of GDP annually. It stands quite high as compared to developed countries given the small population as well (2020 data, Viettonkin consulting), they are in around 130 countries. So the paper has two objectives. Objective 1: trend of labour migration from select CP member countries Bangladesh, China and Vietnam. Objective 2: To analyse remittance received by these countries and impact of remittance on development.

Experimental Methodology: Although there exists various scope to study regarding labour sending countries such as their social protection at labour receiving or host country and the economic and financial aspect such as studying remittances received by these countries. Various reports are read and comparision is done.

Data analysis, result and discussion: Remittances are the repatriated earnings of emigrant workers, it is less volatile and of high reliability the other sourses of foreign exchange, for example

FDI and official development aid. Its micro economic level impact seems prominent, it increases I individual well being, in human capital accumulation and in savings, investment and financial literacy (Source: IZA, Amuedo-Dorantes How Migrants helps in SDGs: Global Compact on safe, orderly and regular migration, objective number 20, is also adopted by the United Nations General assembly in December, 2018.

Table: Role of Remittance on SDGs:

Name of SDG	Description	Bangladesh	China	Vietnam
SDG 1	Ending poverty in all its forms	Yes	Yes	Yes
SDG2	Ending Hunger	Yes	Yes	Yes
SDG 3	Promoting Good Health	Yes	Yes	Yes
SDG 4	Quality Education	Yes	Yes	Yes
SDG 6	Clean water and sanitation	Yes	Yes	Yes
SDG 8	Decent work and economic growth	Yes	Yes	Yes
SDG 10	Reducing inequalities	Yes	Yes	Yes

Source: Author's compilation based on various reports including UNDP and World Bank.

Comparative analysis of impact of remittances on selected SDGs of Colombo Process Countries are done on the above basis. For effective utilization of remittances, the cost of transferring it should be reduced and technical innovations like blockchain and mobile money can reduce it drastically. Currently as a cost of transfer around 6% of the total amount sent is being charges, whereas as SDGs, it should be reduced to 3 percent. So, still there exists a potential to reap the actual benefit of remittance.

conclusion: SDGs on migration has been studied and compared among Bangladesh, China and Vietnam. No such study has been found earlier. The paper presents way ahead to further study 8 other country members of the CP countries. The case of Vietnam shows unexpectedly good developmental trend in case of remittances, so studying other countries remain valid for understanding developmental impact of the remittances. Further study may also come up with best developmental practices and policy in the region.

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Legal Framework to deal with Disinformation and Fake News

Mahak Yadav

Biyani Law College, Jaipur

Abstract :

Fake news has existed since the dawn of the printing press but in the age of internet and social media, it has found a tremendous application. Manipulation of algorithms of social media and search engines—to reach large audiences and mislead news consumers is a global trend now. Fake video clips, news stories with morphed media logos, bots, and paid commentators for favourable online reputation (troll farm) have become very common.

My research paper includes the present situation in the country as well as in other countries and the measures taken by different countries and the consequences that has occurred due to spreading of fake news.

In my conclusion I have also highlighted certain measures which can be taken to counter these situations.

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National Education Policy, 2020 (Pre School to Secondary Level)

Manish Kumar Maich

Biyani Law College, Jaipur (Raj.) India

Abstract :

The **National Education Policy of India 2020** (**NEP 2020**), which was started by the Union Cabinet of India on 29 July 2020, outlines the vision of new education system of India. The new policy replaces the previous National Policy on Education, 1986. The policy is a comprehensive framework for elementary education to higher education as well as vocational training in both rural and urban India. The policy aims to transform India's education system by 2030.

Key of National Education Policy:

1. The NEP 2020 emphasizes a holistic and multidisciplinary approach to education, which aims to foster critical thinking, creativity, and problem-solving skills in students.

2. The policy aims to make education more inclusive and accessible by increasing the availability of quality education in regional languages, promoting technology in education, and expanding the reach of higher education institutions.

3. The NEP 2020 aims to reform the education system at all levels, including school, vocational, and higher education.

4. The policy aims to strengthen the quality and accountability of the education system by promoting continuous learning and professional development for teachers, improving the assessment and evaluation system, and establishing a National Testing Agency to conduct standard tests.

5. The NEP 2020 emphasizes the need for education to be closely aligned with the needs of the economy and society and aims to promote interdisciplinary and applied to learn, as well as entrepreneurship and innovation.

6. The policy aims to promote the internationalization of education and encourage a greater exchange of students, teachers, and ideas with other countries.

7. The NEP 2020 aims to establish a National Education Commission (NEC) to oversee the policy's implementation and ensure that it remains relevant and responsive to the country's changing needs.

With the introduction of NEP 2020, many changes have been made and one of those is the discontinuation of M. Phil course. Even though there are many drawbacks in the new education policy, the merits are more in number. It is believed by many that by implementing these changes, the Indian academic system will be taken a step higher.

Keywords: Holistic and multidisciplinary approach, Vocational Education, Development, Assessment, Quality Education

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Future of Alternative Dispute Resolution: Prospectus and Challenges

Vithika Gupta

B.A.-LL.B. IX Semester, Biyani Five Year Law College, Jaipur

Abstract:

Barriers to the use of alternative dispute resolution mechanisms by the general public include little knowledge of the nature and existence of such mechanisms, difficulty in finding them, It includes a preference for objections, a lawyer's familiarity with court proceedings, and a preference. Critics of ADR focus primarily on mediation, which they say tends to favor dominant political parties, undermine legal rights, and become second-rate justice for those who cannot afford a trial. Addressing these criticisms requires more empirical research, particularly regarding the impact of forced participation as an alternative to court proceedings. This research should also facilitate mapping different types of disputes to his appropriate ADR mechanism. Another need is the development of ADR networks. B. A Dispute Resolution Center that guides the parties in selecting the appropriate form of dispute resolution for their dispute. Career paths should be developed for individuals interested in alternative dispute resolution services. This includes code and standards development, certification and training.

Keywords : Alternative Dispute Resolution, Mediation, Dominant, Criticism, Dispute Resolution Centre.

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Legal framework to deal with Disinformation and fake news

Zerfishan Khan

LLM Final year, Biyani Law College, Jaipur

Abstract:

Journalism is in a state of considerable flux. New digital platforms have unleashed innovative journalistic practices that enable novel forms of communication and greater global reach than at any point in human history. But on the other hand, disinformation and hoaxes that are popularly referred to as "fake news" are accelerating and affecting the way individuals interpret daily developments. Driven by foreign actors, citizen journalism, and the proliferation of talk radio and cable news, many information systems have become more polarized and contentious, and there has been a precipitous decline in public trust in traditional journalism.

Fake news and sophisticated disinformation campaigns are especially problematic in democratic systems, and there is growing debate on how to address these issues without undermining the benefits of digital media. In order to maintain an open, democratic system, it is important that government, business, and consumers work together to solve these problems. Governments should promote news literacy and strong professional journalism in their societies. The news industry must provide high-quality journalism in order to build public trust and correct fake news and disinformation without legitimizing them. Technology companies should invest in tools that identify fake news, reduce financial incentives for those who profit from disinformation, and improve online accountability. Educational institutions should make informing people about news literacy a high priority. Finally, individuals should follow a diversity of news sources, and be skeptical of what they read and watch

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National EducationPolicy 2022: The Revolution in Indian Education System

Nausheen

Student, Biyani Law College, Jaipur

National Policy on Education (NPE) is a policy formulated by the Government of India to promote and regulate education in India. The policy covers elementary education to higher education in both rural and urban India. The first NPE was promulgated by the Government of India by Prime Minister Indira Gandhi in 1968, the second by Prime Minister Rajiv Gandhi in 1986, and the third by Prime Minister Narendra Modi in 2022.

Keywords: elementary education, resolutions, scientific policy, national integration

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Legal framework to deal with disinformation and fake news

Khushi Shekhawat

Student, Biyani Law College, Jaipur, India

Abstract:

Disinformation and fake news has existed since printed press but in the age of internet and social media it has found tremendous application. Manipulation of news to reach large audience is illegal. Libel laws, Defamation laws, Cybercrime laws, Truth in advertising laws come under Legal framework to deal with disinformation and fake news. These can include measures such as fact-checking and labeling of false information, penalties for spreading disinformation, and increased transparency and accountability for online platforms.

Keywords: manipulation, defamation, cybercrime, penalties, accountability

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Legal framework to deal with disinformation and fake news

Khushboo Choudhary

Student, Biyani Law College, India

Abstract:

Before taking about misinformation, first understand what is information ?

Information means any set of facts which is verified and has credibility to rely upon fake news is certainly not a new phenomenon and the internet age has led to the emergence of new challenges in the quest for access to quality information due to enormous craze of social media things like content bubble as well as disinformation operation can now happen at much faster speed people blindly rely on what they see on facebook , Instagram, twitter and so on.

The policy response to online disinformation should ideally rely on i) the promotion of responsible behaviour in conveying information to end users; ii) the enactment of a proactive media policy aimed at promoting pluralism and improving the exposure of diverse content to end users; and iii) the empowerment of end users through media literacy initiatives, and supports to user behaviour.

Keywords: disinformation, social media, quality information, conveying information, media literacy

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PROGRAMME AT A GLANCE

Date: January 24, 2023; Tuesday (Day-4)

Theme: Integrating Innovative Business & IT Models

Timing	Programme
08:00-09:00	Registration
09:00-09:05	Lighting of the Lamp by Chief Guest ,Dignitaries and Saraswati Vandana
09:05-09:20	Welcome of the Guest and Welcome address by Dr. Sanjay Biyani Director (Academics), Biyani Group of Colleges, INDIA
09:20-09:30	Introduction of BICON: 2022-23 by Convener Dr. Neha Pandey Principal, Biyani Girls College, INDIA
09:30-09:40	Inaugural Address by Chief Guest Prof. Sanjay Lodha, Secretary, Higher Education Council, Govt. of Rajasthan, Jaipur Inaugural Address by Special Guest Dr. Om Prakash Bairwa, IAS, Director Public Service & Ex Offico Joint Secretary to Got. Redressal of Public Grievances Dept., Dept. of Planning, Jaipur
09:40-09:55	Address by Guest of Honor BY Dr. A.K. Dwivedi, Dean Faculty Affairs, Dean Students Welfare, Rajasthan Technical University, Kota
09:55-10:25	Key Note Speaker : Prof. M.S. Verma, Former Vice Chancellor, Jaganath University, Jaipur, Rajasthan
10:25-11:00	Special Session by : Nihon Software Co Ltd (Coordinator : Dr. Smriti Tiwari)
11:00-11:10	Group Photo
11:10-11:30	**Tea Break**
11:30-12:00	Invited Talk 1 : Prof. K.A. Goyal, Professor, Jai Naryan Vyas University, Jodhpur Automation and Jobless Economic Growth: An Analysis
12:00 - 12:30	Invited Talk 2: Mr. Dinesh Kumar, Director Sales & Country Manager (India & SAARC) SOTI, India Potential Commercial and Operational Models Industry and Academia Collaboration
12:30 - 12:50	Invited Talk 3: Dr. Madhu Sharma, Associate Professor,St. Xaviers College, Jaipur Change Specific Protocol Architecture for Cross Network Applications

12:50 – 01:35	Invited Talk 4 : Mr. Milind Agarwal , Cyber Expert, Cyber Crime Awareness Society (CCAS) Cyber Laws, Cyber Crime Investigation, Examining Digital Evidence & Penetration Testing
01:35 – 01:50	Q n A Session
01:50 – 02:00	Memento Distribution
02:00 – 03:00	**Lunch Break**
03:00 – 03:10	Special Talk1 : Prof. Ashok Agarwal, Department of Accountancy and Business University of Rajasthan, Jaipur
03:10-03:20	Special Talk 2 : Prof. Anurag Sharma, Department of Business Administration University of Rajasthan, Jaipur
03:20 – 03:30	Special Talk 3 : Prof. Krishna Gupta, Director UCCS & IT Dept., University of Rajasthan, Jaipur
03:30 – 04:15	Oral Presentation (IT Dept) Chair 1: Prof.. Krishna Gupta,Chair 2 : Dr. Richa Singal ,Co-Chair : Dr. Poonam Sharma
04:15 – 05:00	Oral Presentation (Commerce Dept.) Chair 1 : Prof. Ashok Agarwal Chair 2 : Prof. Anurag Sharma
05:00 - 05:15	Memento Distribution, Prize Distribution &Closing remarks and Group Photo
05:15-05:30	High Tea and Networking

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Key Note Speaker

Integrating Business Innovations

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M.S. Verma

Professor (Retd.), Faculty of Management Studies, University of Delhi
Former Vice Chancellor, Jagannath University, Jaipur, Rajasthan, INDIA

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He has enriching 49 years of experience in teaching, research and overseeing business management programs at diverse national and international universities and management institutes. He graduated in Economics major and subsequently Post-graduated from University of Delhi. He joined University of Delhi as permanent core faculty in 1972. He was the Senior Research Scholar at Jawaharlal Nehru University and completed Ph.D. at JNU, New Delhi. He has worked as a visiting Scholar- cum- mentor and visiting faculty at Delhi School of Economics, IIT Delhi, MDI Gurgaon, IMT Ghaziabad and German Development Institute. Throughout his career, he has served at various positions as the Vice Chancellor, Professor, Academic Dean, Corporate trainer and academician.

His expertise in International Business & Marketing Management has been instrumental in benefitting students, scholars and faculty around the globe. He has immense experience in establishing and conducting graduate/ undergraduate management programs and re-engineering independent areas of new course structures. He has supervised and mentored academic teams at different levels of roles, responsibilities, interests & positioning. He has chaired steering committees to deliver strategic positioning of major academic initiatives. He has been instrumental in establishing benchmarking standards for performance evaluation of academic staff and students.

He has shared his expertise in liaising with management schools and industry to establish common learning platforms and interface through organization of international conferences, conduction of executive training programs and coordination of research & overseeing academic publications.

Abstract

Integrating Business Innovations

M.S. Verma

Abstract :

Innovation in business has been accepted as a fool proof strategy for continuous corporate renaissance and growth. Visioning the possibilities of business solutions that does not exist yet, and unleashing such creative energy of corporates & individuals in the corporates, in arriving at business solutions remain the core competencies as well as capabilities.

Will such competencies driven particularly by IT solutions determine the survival and sustained prosperity of business organizations in future?

How do we synthesize the innovation needs of business with emerging Information technologies, newer methods & models in fiercely inhospitable competitive environment of today's business?

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Invited Lecture 1

Automation and Jobless Economic Growth: An Analysis

Krishn A. Goyal

Director, Institute of Evening Studies & Chairman of Library Board,
Jai Narain Vyas (State) University, Jodhpur, Rajasthan, India.

He is an academician, administrator, motivational speaker, soft skill expert and a business leader. He has completed his MBA, M.Com (Economic Administration & Financial Management), Ph.D. in Corporate Finance from University of Rajasthan. He carries 26 years of rich teaching experience and has been associated with many reputed academic institutions in India and abroad. He has participated in more than hundred national and international conferences as a resource person and still counting. Dr. Goyal has contributed more than fifty research papers to the Journals of repute and authored more than twelve books. Dr. Goyal have 700+ citations of his research work. He is supervising Ph.D. scholars. Ten Ph.Ds. and one post-doctoral fellowship have been awarded under his able supervision. Presently Eight scholars are pursuing Ph.D. under his supervision. He has also completed 500 research projects till date. Dr. Goyal has participated in a panel discussion on globalization and its impact on Asia Pacific emerging economies at NEW Port, USA and chaired technical sessions on Finance in the international conferences across the globe. He was Head of Management Department at WCAS- BIT International Centre, Muscat, Oman. He has been a visiting faculty in various universities of Malaysia, Singapore, USA, Thailand, UAE, Oman, Nepal, and Turkey.

Dr. Goyal's has numerous accolades including awards for Best Paper Presenter, Best Teacher and Academic Excellence. Prof. Goyal is also awarded with IARE-2020 International Research Excellence Award.

Abstract

Automation and Jobless Economic Growth: An Analysis

Krishn A. Goyal

Abstract :

Digitisation and Automation have raised concerns about unemployment rates not only in India but throughout the globe. According to Bofa reports "Indian IT firms set to slash 3 mn jobs by 2022 due to automation" 69% percentage jobs in India under threat by Automation in 20 years. Automation has the potential to eliminate 73 million US jobs by 2030, which would equate to a staggering 46% of the current jobs. 37% of Americans are worried about automation displacing them from their jobs. 85% of Americans approve of automation only in jobs that are dangerous or unhealthy for humans. Don't forget, people with ideal qualifications are successfully getting jobs in a variety of areas, including financial services, communications, and information technology. Besides, it reduces the need for a manual labour force that is either semi-skilled or unskilled.

When it comes to India, its GDP is now growing at the highest rate, yet it is creating jobs at the lowest rate globally. With socio-cultural diversity in India, graduates are getting employment in IT hubs like Bangalore. Therefore, to capitalise on the "demographic dividend," India must anchor area-specific initiatives to correct the imbalance in talent and job vacancies. Under such scenario I would like to initiate a thought process on the current scenario of Economic growth and the future job prospects. Now the time has come to learn from our old tradition of entrepreneurship to reach up to the hundred present jobs. We need to develop entrepreneurs in our business schools and to inspire new start-ups. Inspire of focussing on job we should develop job creators/ job providers. The government must integrate programs that support in the transition period the expansion of smart jobs & job providers for young India.

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Invited Lecture 2

Potential Commercial and Operational Models Industry and Academia Collaboration

Dinesh Kumar

Director Sales & Country Manager (Indian and SAARC), SOTI, INDIA

Mr. Dinesh Kumar is a Harvard Square alumnus with over 32 years of experience in Sales and Marketing. He has an enriching journey of working with Leading Global Brands to change the game on Business Arena. He is heading Sales for India and SAARC countries in SOTI India. SOTI is a Global Leader in creating innovative solutions that reduce the cost and complexity of business mobility and the IOT. He is the Chief Experience Officer (CXO) with exemplary experience of being a Business transformation specialist, building High Performing Teams and Driving Business Process innovation. He is the Life Member of Indian Society for Technical Education (ISTE). He has a rich experience of working with the global giants like Canon, Alcatel, Samsung, Reliance Communications Ltd and Aircel. His tremendous efforts are known for establishing Brands and Expanding Business across Asia.

Abstract

Potential Commercial and Operational Models Industry and Academia Collaboration

Dinesh Kumar

Abstract :

The presentation will cover the need for Industry and Academia collaboration, who are the major stakeholders for such arrangement. Role of Research, Educational Institutes, Industry, Government are major stake holders. How do such arrangements work practically and what are the challenges on the way to make these models successful with help of a case study. One industry Example of successful Edu Industry Company which can help the Biyani Group and Other Institutions achieve the objectives of implementing successful collaborative models. Approach Paper on the working model in real life Scenario considering Biyani Group of Institutions.

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Invited Lecture 3

Change Specific Protocol Architecture for Cross Network Applications
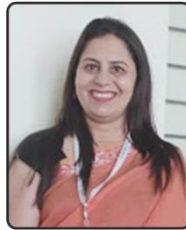
Madhu Sharma

Associate Professor & Director, Xavier Institute of Management and Informatics, Jaipur, Rajasthan, INDIA

Dr. Madhu Sharma is an eminent Associate Professor and Director of Xavier Institute of Management & Informatics, Jaipur. In her academic alliance, she completed her Ph.D. twice, once in engineering and technology and second time in computer science. Her area of specialisation is Soft computing system modelling and image processing. She carries an array of 17+ years of teaching experience at PG & UG level. She has authored around 20 books and published 42 Research Papers at both National & International level.

She has also been a part of more than 40 Faculty Development Programs & Conferences. He has been awarded with 4 Patents. She is also a member of Board of Studies at Rajasthan ILD Skill University.

She holds a record of mentoring 36 hours non-stop Hackathon, held at Hyderabad. She is an Editor and Reviewer of various National & International Journals.

She is providing her able supervision and guidance to scholars for dissertation.

Abstract

Change Specific Protocol Architecture for Cross Network Applications

Madhu Sharma

Abstract :

In the current scenario, a wide range of wireless technologies and protocols with a diverse range of applications, has opened a great scope of research in this domain. More particularly, there is a huge demand for efficient network protocols for making and managing a smooth transaction of data over different types of networks. The protocols need to include a low cost and low power consuming, high performance efficient real time switching management with the change in the types of nodes and connectivity. There is a need for close integration of the different types of nodes and wireless technologies for a smooth applications' switchover. While these applications require high performance from the network, they suffer from resource constraints like scarcity of spectrum, power consumption, security challenges, and technology indifference. These resource constraints require an application-specific protocol architecture, rather than the traditional layered approach, to obtain the best possible performance. The study proposed here for managing such network switch overs interrogates the Adaptive protocols related to cross over network switching mechanism for providing a smooth interaction between different applications. To facilitate communication within the different networks an efficient wireless routing protocol is explored to discover routes between nodes using different applications and networks.

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Invited Lecture 4

Cyber Laws, Cyber Crime Investigation, Examining Digital Evidence & Penetration Testing

Milind Agarwal
Founder of Cyber Crime Awareness Society (CCAS), INDIA

Mr. Milind Agarwal is the Founder of Cyber Crime Awareness Society (CCAS) and Avenging Security Private Limited with more than 7 years of experience in the field of Cyber Security. He has immense expertise in the field of Cyber Security and has been bestowed with numerous titles like Cyber Lawyer, Cyber Crime Investigator, Cyber Security Expert, Ethical Hacker and Certified Forensic Expert. As a Cyber Crime Investigator, he has handled more than 5,000 Cyber Crime cases till date.

He started a series on Television called "Webbed" with MTV channel to spread awareness about Cybercrime among the youth. He is providing services and training to Rajasthan Police, Central Detective Training Institute, Bureau of Police Research and Development, Crime Branch of India, Intelligence Training Academy and Police Training Centre. He has conducted 10,000+ Seminars to spread awareness among students of schools and colleges.

Mr. Milind Agarwal is well known for his deep knowledge, understanding and practices in the field of Cyber Laws, Cyber Crime Investigation, Examining Digital Evidence & Penetration Testing. He has solved some of the most complicated and challenging cases of Cybercrime in his career and has provided consultancy to reputed clients. As a trainer and Cyber Crime expert, he offers guidance and knowledge to Indian Police and other government agencies.

Abstract

Cyber Laws, Cyber Crime Investigation, Examining Digital Evidence & Penetration Testing

Milind Agarwal

Abstract :

Network Security has been affected by two major developments over the last several decades. First one is introduction of computers into organizations and the second one being introduction of distributed systems and the use of networks and communication facilities for carrying data between users & computers. These two developments lead to 'computer security' and 'network security', where the computer security deals with collection of tools designed to protect data and to thwart hackers. Network security measures are needed to protect data during transmission. But keep in mind that, it is the information and our ability to access that information that we are really trying to protect and not the computers and networks.

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Special Talk 1

Ashok Agarwal

Professor, Faculty of Commerce, Department of ABST, University of Rajasthan, Jaipur, Rajasthan

Dr. Ashok Agarwal is the Professor and research guide in the department of Accountancy and Business Statistics, University of Rajasthan. He holds 35+ years of experience in teaching at PG & UG level with expertise in subjects like Direct Tax, accountancy and Business Statistics. He has authored around 20 books and has published more than 60 Research Papers at both National & International level. Currently, he is an officiating Executive Member in All India Commerce Association.

He has participated in 80 National & International Conferences and more than 8 Refresher Courses. He is a life member of Indian Commerce Association, Indian Accounting Association & Jaipur Management Association.

Under his supervision 26 scholars have been awarded with Ph.D. He has also served as Vice Principal at University Commerce College, Jaipur.

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Special Talk 2

Anurag Sharma

Professor, Department of Commerce (BADM), University of Rajasthan, Jaipur, Rajasthan, INDIA

Prof. Anurag Sharma is the professor in the Department of Business Administration, University of Rajasthan, Jaipur and Director, Centre for Entrepreneurship and Skill Development, University of Rajasthan, Jaipur. Having a teaching experience of more than 30 years, Dr. Anurag Sharma is credited for 7 highly acclaimed books on different aspects of Management. He has contributed more than 40 research papers and research articles in the reputed National and International journals.

Under his guidance, 16 research scholars have completed their doctoral degrees. Presently 7 scholars are pursuing their Ph.D. under his supervision. He has been invited as a resource person by various academic institutions and professional bodies. He has participated in several national and international seminars and conferences as the keynote speaker and session chair. Dr. Anurag Sharma is actively associated with several academic, professional and social organizations. He has been the member of the senate, apex body of the University of Rajasthan.

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Special Talk 3

Prof. (Dr.) Krishna Gupta

Director, University Centre for Computer Science & IT, University of Rajasthan, Jaipur, Rajasthan

She is the Director of University Centre for Computer Science & IT and professor in the department of Economic Administration and Financial Management in the University of Rajasthan, Jaipur. She has teaching and research experience of more than 26 years and her area of specialization are Finance and Information technology. She has authored several books including books on "Credit Planning and Working Capital Management" and Business Economics for Commerce and Management students. She is a Life member of Indian Accounting Association and Indian Commerce Association. She is supervising more than 11 Ph.D. Research Scholars. She has published more 40 Research Papers & Articles in National & International Journals. She has attended more than 50 Conferences and Seminars and around 6 Refresher Courses.

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Chair

Dr. Richa Singhal

Dr. Richa Singhal, is presently working as an Associate Professor, in the Department of Commerce and Management in S.S. Jain Subodh PG Autonomous College, Jaipur.

She is a gold medallist from University of Rajasthan and has a teaching experience of more than 15 years. Having a strong inclination towards research, she has till date presented multiple papers at national and international level seminars and conferences and has 36 research papers, research notes and articles to her credit, published in reputed journals. She has received international research award for her research article organised by ICAI in 2021 & 2023. 7 Ph.D. scholars have been awarded with doctoral degree under her supervision and 4 are currently pursuing Ph.D. under her supervision.

With a strong sense of social service, she runs her own NGO named "Society for Social Action and Management" (SSAM). She has received many awards and accolades for her remarkable contribution to the academic and social spheres.

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Co - Chair

Dr. Poonam Sharma

Associate Professor, Biyani Institute of Science and Management, Jaipur, Rajasthan, India

She is a renowned academician having 17 years of teaching experience in Operating Systems and Web Technologies. He has completed her Ph.D. in Computer Science, M.C.A and M.Sc. (I. T.). She is a certified Microsoft Office Specialist trainer. She has published 20+ research papers in International and National Journals and participated in more than 20 Faculty Development Programs, Conferences and seminars. She has authored 6 Books and edited books. She is the Dean (I. T.) and member, Board of Studies, Rajasthan ILD Skill University, Jaipur, since Aug 2018. She has been the examiner, paper setter and visiting faculty at various universities.

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CONTRIBUTED PAPERS

Working Capital Management of Diversified MSME Clusters – Financial Aspects and Banking

Mitesh Kumar Sharma[1] and Sanjay Biyani[2]

[1]Research Scholar, Biyani Institute of Science and Management, Jaipur
[2]Director, Research Supervisor, Research Centre- BISM, Jaipur (Rajasthan Technical University-Kota –Rajasthan)

ABSTRACT:

MSMEs are micro small and medium enterprises that engage either in manufacturing or service sector along with production, processing or preservation of goods. MSMEs contribute significantly to India's total GDP in fact in last two decades, growth rate of MSME is recorded much higher than the growth rate of Indian economy, that's why our government's objective is to raise this contribution to 50% in the coming years. Global economic environment is uncertain and the whole world is badly affected in last few years due to the unavoidable reasons like Covid pandemic and Russia-Ukraine war etc, .Amid above situation, Indian economy is not that much affected and MSMEs played a pivotal role in this. MSME employed lakh of skilled and semi-skilled people even at the time of slowdown of economy. At the same time, in-spite of the fact that MSMEs are contributing efficiently in growth of Indian economy and have proven to be the back bone of Indian economy, MSMEs are facing various challenges in our country. MSMEs are having huge potential to contribute in development of our country and to efficiently utilize the scope of MSMEs, it is important to understand the challenges faced by MSMEs in India.

When we talk about MSMEs in India it is important to understand diversification of MSMEs based on the geographical structure of India. Based on the diversified activities of MSMEs, it is important to understand thier various needs like financial aspects, different working capital cycles and their banking aspects. This study emphasizes on "Diversified MSME clusters- financial aspects and banking". The main objective of this study is to understand classification of existing MSME cluster in Inida, identification of new emerging clusters in India, identification of similar challenges and crunch in particular MSME clusters, study of varying working capital cycles in different MSME clusters and study of viability of development of cluster specific schemes by banks and FIs.

Out of the enormous list of various clusters of MSMEs in India few of the important MSME clusters are as under:

1. RAJSTHAN MSME clusters:

    - Bikaner: Papad, Mangodi & Namkin

- Jaipur: Handicraft, Garments & Sanganeri print, Gems & Jwellery
- Marble- Kishangarh, Makrana, Udaipur

2. Gujarat MSME clusters:
   - Morbi: Ceramic
   - Surat: Textile and diamond
   - Ahmedabad: Engineering Hardware Mfg and Textile

3. Ludhiana MSME cluster:
   - Hosiery & Woolen Garments

4. Kanpur & Agra
   - Leather Products

5. Sangli
   - MS Rods and Powerloom

MSME clusters differ in nature of their activities, varied WC assistance requirements and in their focal attributes. Due to differing needs of various MSME clusters, we need to address MSME cluster based needs and requirements to develop MSMEs holistically. Details of various varied MSME cluster needs are as under:

- Varied WC cycle Traits: Varied cycle periods and liquidity management
- Varied Debtor-Creditor cycle period
- Varied Infrastructure & set up cost requirements
- Requirement to float different Bank schemes & Government thrusts like subsidy & incentive to different clusters of industries
- Requirements of different type of registrations & statutory clearances for different cluster of industries.

As a need of the hour we need to narrow down our approach of MSME development to MSME cluster wise development to workout on MSME development on grass root level for making Indian economy to boost up in world economic arena.

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Incorporating Financial Discipline and Ground Level Impact of Banking Assistance to MSME & further Scopes

Durgesh Kumar[1] and Neeta Maheshwari[2]

[1]Research Scholar, Biyani Institute of Science and Management, Jaipur
[2]Research Supervisor, Research Centre- BISM, Jaipur (Rajasthan Technical University, Kota)

Abstract:

In the pavement towards development, MSME sector has proven to be a major contributor in India with contribution towards GDP being upto 30% and contribution to Indian export upto 48% which marks the significance of MSME. Despite being such a major contributor to uplift the economy it still needs impetus for meeting financial requirements of working capital for day to day business and long term loans for building capital assets. They also lack financial discipline of working effectively unlike large corporates giants because of which they are not able to work to their best and utilize maximum of plant's installed capacity. At this juncture where world is quiet on and often is facing economic recessions and international sanctions due to world politics, we have to develop our own indigenous industry skeleton for sustainable growth and MSME is the best resort to it as they imbibe deep into every nooks and corners of the nation.

First we need to know various problems faced by MSMEs. List of various problems faced by MSMEs in India are enumerated as under:

- Lack of finance from bank

- Liquidity crunch to run the daily operations of firm

- Government Subsidy being utilized as means of earning rather than investment in business for MSMEs

- Diversion of short term funds towards capital investment creating liquidity crunch to run the business

- Lack of marketing setup for products

- Lack of advanced & latest technology for processing of goods

- Difficulty in investment in staff trainings & technological upgradation workshops for staff

- Lack of investment from FDI(Gov. should formulate some scheme for mandatory investment in MSME upto some percentage of their investment or attractive benefits to those FDI who invest in MSME)

- Competition from multinationals in similar product lines

Furthers banking assistance also plays pivotal role for upliftment MSMEs financially. Problems which need to be dealt and addressed in this regards are as under:

- Lack of knowledge to access bank and non awareness of various flavours of bank assistance like CC limit, Term loan, Packing credit finance, Bill discounting, Bills finance under LC,etc

- Lack of confidence to deal with bank. Need to popularize concept of " Business Correspondents"(BCs)

- Special schemes for widows & separated women , physically handicap need to be floated

- Need of special ROI or processing charge concessions for MSME, start ups apart from Govt subsidy

- DSCR & DE ratios assessment for loan are not considering time value of money resulting in variations from projected profit levels.

- Bank to formulate group lending scheme for lending clubbed business activity of an industrial area with similar business models.

Moving further, resolutions to problems faced by MSMEs is formulation of good financial discipline to evolve them into following :

- Financially sound entity for working capital and day to day business related activity.

- Reserve money to meet financial shocks anticipated and sufficient reserve availability to meet them

- Understanding classification of financial sources into long term sources and current/short term sources and utilizing them for procurement of capital asset & liquid assets respectively.

- Holistic development of all related & forward-backward integrated enterprises of a business chain which may bring holistic financial strength to all enterprises

- Access to advanced business methodologies like:

- Formulation of joint Ventures

- Self Help Groups

- Superior business models like formulation of corporates, Public Ltd company, LLP , Public Private Partnership

- Abstinence to Diversion of business funds or Bank assistance funds for non business /personal/ family liabilities leading to serious repercussions of liquidity crunch

- Using more technological banking products like Netbanking & mobile banking, payment gateways, BHIM QR codes, UPI payments, etc.

- Export-import related financial discipline including incorporation of Natural Hedging, Hedging

products like Swap, Forward purchase & Sale Contracts, Options, etc. and understanding of Liberalized remittance scheme of international payments

- Opening of specialized Bank accounts for earning better benefits for MSME firm deposits.

- Awareness & Lowering dependency on private money lenders offering easily assessable but higher ROI loans with low reliability of genuineness

- Evaluation of projects as per NPV/IRR rather than mere traditional profit assessment

- Evaluation of Break Even point and assessment of Cash flows

- Formulation of realistic Projections/Projected balance sheet & Profit and loss statement for futures FY to correctly project WC availability; DE ratio & DSCR calculation for assessment of repayment capacity ; correct picture of financial leverage of business as per TOL:TNW and DE ratios calculated. Needs to raise authorised capital in case of need to infuse extra funds/paid up capital

To conclude, effective banking assistance and developing proper financial discipline is very much required for MSME upliftment to bring thrust to our Indian economy on world platform.

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Youth Entrepreneurship-Emerging Trend in India

Neha Pandey and Monika Kanwar
[1]*Principal, Biyani Girls College, Jaipur*
[2] *Student, Biyani Institute of Science and Management, Rajasthan Technical University, Kota*

Abstract

A person who shows initiative by setting up a business to take advantage of an opportunity and acting as the one who makes the decisions on what, how, and how much of a good or service will be produced. An entrepreneur manages and oversees the business operations in addition to providing risk capital as a risk taker. In most cases, the entrepreneur is a lone owner, a partner, or the person who holds the majority of the stock in a corporation. The job market in India is unstable. The number of unemployed people is constantly rising.Both the Central and State governments are attempting to promote entrepreneurship in this context as a solution to job issues. To do this, the person searching must possess a particular set of abilities and information.

Keywords: Women entrepreneurship, Innovation, Business, New Venture Creation,

Introduction:

Young people have the chance to develop their own interests and abilities through entrepreneurship, generating their own jobs in the process. Young people's excitement, energy, and ambition can be used to boost economic development through encouraging entrepreneurship in them. It is widely acknowledged that business owners create jobs, boost innovation, promote competition, and respond quickly to shifting market possibilities and trends. Young businesspeople can serve as role models for their peers and inspire others to emulate them.

Action Plan for Startup India:

Prime Minister Narendra Modi announces Action Plan for encouraging Startups on 16 Jan 2016. Funding support through Fund-of Funds with corpus of Rs. 10000 core. Entrepreneurs should register a company in one day , against 15-20 days as row.No tax on Profit, inspection for 3 years Capital, Gain Tax exemption, Credit Guarantee Scheme. Easy &Faster Exit Policy,No Capital Gain if money is invested in another start up, Self certification based compliance for Labor & Environment laws. Setup of startup India hub for clearance Mobile apps, portal for registration, New intellectual property rights protection. 80% reduction in patent free and fast tracking patent examination. Encourage start ups in Government purchase. Programme to encourage innovation among students in 5 lakhs Schools, Building innovation centers at National Institutes. Technology is essential to the development of entrepreneurship. Entrepreneurs have the opportunity to handle both administrative and strategic tasks for their company. They can become active in every aspect of their business thanks to the Internet. Instead of people working for enormous, faceless corporations, the future of entrepreneurship may entail high-performing business owners. It is now possible to turn a passion into a successful business thanks to the Internet, particularly social media tools. Anyone can also build their own personal brand and use technology to promote it globally.

Furthermore, business owners must keep up with the most recent technological advancements. If they don't use the correct tools, managers, entrepreneurs, and other business-driven people simply cannot compete in today's market.

Review of Literature: G S Srinivas Murthy, Role of Young Entrepreneurship in India 2019.1n this paper researcher wrote about the impact of government policies on entrepreneurship, and more precisely they focused on the technological aspect of entrepreneurship.

Methodology: The Study is based on the secondary data collected from published research papers, books and articles

Conclusion: However, it is also true that a thriving economy has a large number of young ideas and businesses vying for a place in the market. Entrepreneurs provide the energy for the economy's growth. Startups require assistance and motivation from a variety of sources during their initial stages as well as during their growth phase and establishment on solid ground. In India, technology-based startups are quite important. Overall, it can be concluded that Startup India is a collaborative

strategy for the empowerment of young entrepreneurs. This study has the drawback of being a thorough conceptual examination of startup India based on secondary data. More The chances and advantages of starting a business for entrepreneurs can be studied using primary data and other statistical approaches. Startup offers a venue

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G S Srinivas Murthy, Role of Young Entrepreneurship in India 2019

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Potential commercial and operational models for Industry and Academia collaboration

Shikha[1] and Sujata Biyani[2]

[1]*Student, Bachelor of Commerce, Biyani Girls College*
[2]*Asst. Director, Biyani Group of Colleges, Jaipur*

Abstract

The purpose of Industry and Academia collaboration is to improve the understanding of university-industry research collaboration through the development of a new model. A literature review was carried on collaboration partnering and supporting factors namely social capital and the role of knowledge. There is finding that there is lack of integrative framework for management of research collaboration. The research focused on university-industry research collaboration and although it may be applicable to other forms of collaborations e.g. industry-to-industry, there could be features that are particular to area under investigation. A model has been proposed which is a logical methodology that can be utilized by practitioners from both academia and industry in order to improve the research process. The model uses an approach to collaboration through capturing process, knowledge and social elements.

Keywords: Innovation, knowledge transfer, technology transfer institutional ownership, intellectual property.

Introduction:

The Industry and Academia collaboration is knowledgeable and beneficial to both industry and academia. The transformation of a country into a knowledge based economy is important which radically changed their political and economic order. In the absence of collaboration, the exposure to available opportunities in the industry is minimal. This motivates the young graduates to move

out of their own country. With the help of collaboration, students get better opportunities to grow themselves and able to make better decisions for their education.

It has been observed that technical knowledge of fresh graduates may not meet the industrial requirements. So, graduates should be trained first so that they gain proper knowledge of work. An alternate model is to get interns who are pursuing their studies and train them according to industrial needs. Internship is necessary in many fields like law, medical, teaching, accounting etc.

Methodiology:

A literature review was carried out on collaborative partnering. Empirical research involved a series of many structural interviews with relevant stakeholders, with grouping and conceptualization allowing common themes to be identified and a new process model to be proposed.

Analysis:

There is a lack of proper framework for management of research collaboration. Firm performance is positively associated with industry and academia collaboration focused on knowledge transfer for environmental innovation, and a higher number of contracts associated with the better performance. Through application of the model to the management of an engineering research program has allowed the benefits of this approach.

Conclusion:

In conclusion, all partners are encouraged to analyze the current state of the learning partnership and identify what is potent in partnership and what is not. In simple words, in evaluating opportunities, it is tried to look into the innovation in development of partnership.

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Human Resources Development in a Knowledge and Skill-based Economy: Trends and Constraints

Anupama Goyal

Associate Professor in BOTANY, Dr K.N. Modi University, Newai, Rajasthan, India.

Abstract

In today's economy, often referred to as the knowledge and skills economy, human resource development (HRD) must be a continuous process. Education and training are aimed at increasing the accumulation of human capital and promoting the economic and social benefits of lifelong learning. According to the principles of the new economy, investments in HRD represent the key to

sustainable economic growth and competitiveness. By investing in learning, education and training, countries can improve economic performance, increase productivity and incomes, and create a better social and economic environment. Lifelong learning turns individuals into architects of their own careers and helps them meet the challenges of upskilling the rapidly changing economic world.

Keywords : Economy , Knowledge . Investment, Lifelong Learning, Architects

Introduction :

1. Knowledge-based economy versus skills-based economy

The skills-based economy represents a new term that is necessary to describe the specific level of development of the knowledge-based economy. The rapid pace of technical and scientific progress has produced a corresponding increase in the amount of new knowledge, which has created the need to develop new structures capable of ensuring and facilitating the accumulation of new skills and abilities, as well as environments. creating suitable conditions for evaluating the outputs of scientific research in the economy.

Many academics have initiated a much stricter distinction between the aforementioned concepts. Thus, while education is seen as an exclusively planned process, learning is understood as an activity that can be both a planned and an accidental process, at different times and in different places.

Based on these assumptions, we would like to identify several current trends related to the development of the very concept of learning, namely lifelong learning (Greenwood and Stuart, 2002):

➢ The main goal is no longer the social benefits of progress, but economic factors and aspects;

➢ The main characteristic feature of lifelong learning is given by educational programs prepared by employers during employment, not regulated or traditional/classical educational programs;

➢ The concept of education as such has been replaced by learning, which represents a fundamental feature of activities performed by employed/employed people etc. The learning economy is dynamic through excellence and has strong effects on the way which human activities organize and perform. The knowledge-based economy has given rise to a clear distinction between the results achieved by economic entities in terms of physical goods and intellectual assets, or more precisely the emergence of two well-defined worlds (the world of material goods and the world of ideas).

We should not forget that in knowledge-based economies, the pace of economic development and the quality of life fundamentally depend on the ability of economic entities, legal or natural persons, to:

➢ acquire new skills and competences based on the evolving requirements of the business environment;

Results and discusions:

Constraints for Human Resource Development (HRD) in the learning economy

In our current society, also referred to as the information society, the development of human resources is a complex, permanent and long-term process that must adapt to various, increasingly numerous constraints. First, the development of the necessary amount of knowledge to carry out current activities shows an unprecedented dynamism

Second, learning itself must adapt to new demands or constraints (Drucker, 1989), the most prominent of which are:

The educational process must have a well-defined purpose and social finality;

➢ Lifelong learning, applied both to holders of academic degrees and to others;

➢ Ensure that the education system is open to all members of society regardless of their ethnicity, religion, social background, income, gender or age;

➢ Continuation of education after the admission of graduates so that at this level the educational part is gradually taken over by the companies themselves;

➢ Redefining the concept of a trained individual in the sense that the educational system must set the necessary framework for the promotion of talent and performance in order to form members of organizations who are able to quickly adapt and fully function in society;

➢ Emphasizing the role of individual study together with the transformation of pedagogues into headhunters with the aim of identifying fields in which the young generation shows special skills, in order to subsequently lead them to fully appreciate these skills;

To be effective, HRI should be designed and developed on a cost-effectiveness basis to provide ethical and justifiable interventions to address weaknesses and enable realistic evaluation of financial and, above all, social outcomes. In a knowledge-based society, investments in human resource development and processes aimed at improving human resources should be dynamic, flexible and continuous. The reasons that led to the application of corrective interventions for underperformance, as well as the criteria for selecting such interventions, should convince stakeholders of the effectiveness of their application

Conclusion:

Several conclusions related to the prevailing trends in HRD can be drawn from the information

presented. Therefore, we would like to mention:

➢ Removing obstacles to the creation of sustainable partnerships between the business environment, government and civil society in order to increase the effectiveness of HRD investments;

➢ Development and implementation of appropriate strategies for the development of jobs based on competences and skills;

➢ Application of modern tools to create and strengthen especially innovative networks and organizational structures.

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Cryptocurrency Developments and its Future prospects: A Bibliometric Review

Vishwabandhu Bharti [1], Sanjay Kumar [2]

[1] *Research Scholar, Department of Management, Central University of Rajasthan*
[2] *Assistant Professor, Department of Management, Central University of Rajasthan*

Abstract

The growing popularity, the exponentially expanding market size, and the volatility of Cryptocurrency are gaining the attention of all, whether it is investors, policymakers, miners, or academicians. So this paper has used Bibliometric analysis to explore the existing literature related to the development of cryptocurrencies in the field of Business, Finance, and Economics. This paper has used the keywords Bitcoin, Cryptocurrency, and its other variants to cover all the possible

related pieces of literature. We have reviewed and analysed 1344 articles extracted from the Web of Science core collection, Clarivate Analytics of the period from 2011 to mid-2022, using VOSviewer and Biblioshiny (Biblimetrix: R package) analytical tools. This paper has presented citations, publications, and the impact of sources, documents, authors, organizations, countries, etc., along with their relationships with the help of tables, charts, and network diagrams. This paper has tried to cover all the incidents related to cryptocurrency, like its origin, growth, crisis, recovery, etc., which have been explained with the help of a detailed timeline diagram. The analysis shows exponential growth in the last 4-5 years. Bitcoin and Cryptocurrency (or Cryptocurrencies) are the most frequent keywords. With many ups and downs, cryptocurrency is maintaining its pace with a gradual increase in its acceptability worldwide.

Keywords: Cryptocurrency, Bitcoin, Bibliometric analysis, Biblioshiny, VOSviewer

Introduction : In the world of digitization, everything is going digital. The currency is also taking a digital face. Cryptocurrency also is the result of this digitization race. Cryptocurrency is a type of decentralized digital currency which had presence for a long time but has come into the picture after the inception of Bitcoin in 2008, which was developed by a pseudonymous developer Satoshi Nakamoto. The first commercial transaction involving Bitcoin happened in 2010 (History of the Cryptocurrency market in India, 2021). After that, in 2011, other cryptocurrencies like Namecoin, Litecoin, etc. commonly known as Altcoin (Cryptocurrencies other than Bitcoin), started to emerge. In such a short span of a decade, cryptocurrency has exploded onto the scene and has grown at an ever-increasing rate.

As the topic (cryptocurrency) has attracted investors, academicians, writers, etc. towards it because of its unique features. It is becoming impossible to keep up with everything being published due to the rapid increase in academic publications (Briner & Denyer, 2012). This really hampers the ability to accumulate knowledge and to actively collect evidence through the set of previous research works. Therefore, Literature Review studies are becoming crucial in synthesizing past research findings for effective use of the existing knowledge base, advancing a line of research and providing evidence-based insight into the practice of exercising and sustaining professional judgment and expertise (Rousseau, 2012). So, this paper has used one of the popular review techniques known as Bibliometric Analysis. Bibliometric analysis is the use of statistical methods to analyse the bibliometric publications data such as peer-reviewed journals, articles, books, conference proceedings, periodicals, reports and related documents. It is widely used to present the relations of research domains with quantitative methods (Atik Kulakli, 2021).

Conclusion

Our analysis shows that there were early trials of Cryptocurrencies before the inception of Bitcoin. But after the emergence of Bitcoin in 2008, the concept got solidified and appealing. First document in this area was appeared in 2011 in Forbes. There is continuous increase in the literature mainly in the last five years. A very high annual growth rate of documents of 68.16% is observed. Most of the

works are done related to the Bitcoin. Finance Research Letters is the most impactful source. It has the highest local as well as global citations. China is the leader in terms of scientific production in the field in spite of obstructive actions taken by the Chinese government. University of Economics, Ho Chi Minh City has emerged as the most relevant affiliation with the highest number of documents. Number of countries participating to this field is increasing but the contribution of many of them is very insignificant.

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An Attitude of Working Women towards Massive Open Online Courses (MOOCs)

Ratisha Yadav[1], Aditi R. Khandelwal [2]

[1] *Research Scholar, IIS (Deemed to be University), Jaipur, India*
[2] *Senior Assistant Professor, IIS (Deemed to be University), Jaipur, India*

Abstract

Regardless of the fact that MOOCs are getting more popular, there hasn't been enough research conducted in India to evaluate working women's attitude towards MOOCs. The current study investigates working women's attitude towards MOOCs on the basis of personal factors. The judgmental sampling methodology was used to obtain data from 192 working women in Jaipur, Rajasthan. To evaluate the hypotheses, the regression test, mean, and Chi-Square tests were used in the data analysis. We learn via hypothesis testing that there is a link between personal criteria such as qualification and industry of work and the attitude of working women toward MOOCs, but no association exists between age, level of work, and sector of work and the attitude of working women toward MOOCs.

It was also discovered that age and qualification substantially impacted the barrier to MOOC completion. Time management, overload at study a lack of self-study abilities, a poor internet connection, a lack of immediate feedback, a technical fault, and obsolete information were cited as obstacles to MOOC completion.

Keywords: Attitude, Working Women, MOOCs, Online Learning, Pandemic.

Introduction

MOOCs are open video-based educational content, lectures, study guides, and forums that are made available to a large number of people who want to attend a course or learn somewhat new via an internet platform. Because of its time and location flexibility, MOOCs bring together researchers and like-minded other students from all over the globe. (Baturay, 2015).

(Pampouri et al., 2021) Concluded that MOOCs are a bold educational innovation that is perfectly aligned with technological, economic, and social advancements. They make use of modern technology to provide a diverse range of education aimed at a diverse audience and cover a wide range of themes. They use a range of teaching approaches to satisfy each learner's unique demands. Even though the first MOOCs were launched only a few years ago, we are witnessing their speedy expansion and diffusion. In summary, MOOCs promote lifelong cooperative learning practices, provide open, approachable, upgraded, and free education, and can be used for personal development or to meet specific employment needs. The following sentence encapsulates the entire

philosophy of MOOCs: "With MOOCs, teachers can teach more learners in a single subject than they could in a lifetime." (Aparicio et al., 2019).

MOOCs issue an affordable & dynamic way to learn and adopt new skills, advance your career, and bring standard educational pieces of knowledge at scale. Millions of people across the world use Massive open online courses to learn for various reasons, like career development, experience, new skills, lifelong learning, job requirement, and more.

In India, MOOCs are altering the way students learn and supporting them in reskilling and upskilling, and they are paving the way for the next wave of education and learning. The Indian government has created the Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) and the National Programme on Technology Enhanced Learning (NPTEL) MOOC platforms in collaboration with Indian colleges that offer online and paid courses. Private firms in this industry include Udacity, Open2Study, MooKIT, IITBX, Coursera, edX, and Udemy. (Pillai and Sivathanu 2020). MOOC has become a catch-all term for a number of projects. 'cMOOCs,' or connectivist MOOCs,' emphasize the development of digital artifacts as an intrinsic part of the learning process and focus on knowledge generation within a network of learners in terms of philosophy. 'xMOOCs,' on the other hand, are geared toward knowledge dissemination and include pedagogic, specialist training (commonly via lecture videos). The number of students in a course might range from just a few dozens to hundreds of thousands. Despite its title, not all MOOCs are open, and the vast majority of them do not provide unlimited access to and usage of free content outside of the learning activities. (Welsh & Dragusin, 2013). In terms of accreditation, various organisations provide course certificates as proof of completion, with just a small percentage currently giving easy university credit. The majority of courses that provide recognised accreditation allow students to pay for and complete a final exam or assignment. Coursera has abandoned its free 'lower category' Declaration of Achievement plan in favour of charging for all certifications. Many MOOCs are totally online courses that are aimed for personal development and curiosity. Credit courses provide an alternative method of learning to face-to-face classes, allowing more people to enrol in higher-level courses. There is a growing number of blended learning or flipped-classroom models available, in which the MOOC is not a standalone course but rather an integrated part of a face-to-face programme. (Sandeen, 2013).

Findings and Conclusion

According to the overall study of articles and main testing, respondents have a favourable attitude toward MOOCs. Several motives for enrolling in MOOCs have been identified, including respondents enrolling for professional development, personal development, employment and career requirements, obtaining a credential, and so on.

We learn via hypothesis testing that there is a link between personal criteria such as qualification and industry of work and the attitude of working women toward MOOCs, but no association exists between age, level of work, and sector of work and the attitude of working women toward MOOCs.

It was also discovered that age and qualification had a substantial impact on the barrier to MOOC completion. Time management, overload at study a lack of self-study abilities, a poor internet connection, a lack of immediate feedback, a technical fault, and obsolete information were cited as obstacles to MOOC completion.

This study investigated a newly unexplored field of academic inquiry. There has been no comparable study in Jaipur, Rajasthan. As a result, this study will assist e-educators in predicting which categories of courses working women are interested in. Despite the presence of well-educated and ambitious women, there is a lack of interest in MOOCs, therefore additional information is required. MOOCs should be promoted in schools and colleges, as well as in offices, to increase participation.

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Study of role of Banking Institutions in Rural Development with special reference of Alwar (Rajasthan) - An Evaluation

Rajesh Kumar[1] and Pawan Kumar Patodiya[2]

[1] *Research Scholar- Research Centre- BISM, Jaipur (Rajasthan Technical University-Kota)*
[2]*Research Supervisor¬ Research Centre- BISM, Jaipur (Rajasthan Technical University-Kota)*

Abstract

Till 1969, maximum of the Banks were City oriented; their presence in the rural areas was nearly negligible. In 1969, 14 major banks were nationalized by the then government & they were given the task to open more and more branches in Rural Areas and a new conception was introduced where one bank was given responsibility to take care of Branch Expansion as well as development of banking in that veritably district. So, all banks were district routed, some districts for thick & thin, penetration of bank branches in the rural areas. So, gradationally, we've seen since 1969, large number of branches were opened in rural areas adopting a veritably visionary step and that was the phase when the shape of banking changed from class banking to mass banking. The people across countries, further especially from rural &semi-urban, people started dealing with Banks. This ensured them good inflow of Credit at visible cost. Prior to banking in their areas, they were taking money from moneylenders & moneylenders were charging abnormal interest rates and occasionally they were losing their lands to the moneylenders.

So, the biggest achievement of banking in rural areas was to take down rural masses from the clutches of moneylenders. So, this has acted as historical way when the Rural masses were no longer dependent on active moneylenders in their areas. Gradually they will move to banks and second major advantage is Government was able to introduce Welfare Schemes and money goes directly to Rural People without interference of third party.

This had led to a lot of development in rural India. Before Nationalization, we were importing grains & food Articles from other countries and also came the Green Revolution. The major part of Green revolution is Nationalization of Banks. 969, Bank Nationalization happens, in 1971, 1972, we achieved the Green Revolution where the country becomes self- reliant as per as food is concerned & now India is exporter of food. So, in rural areas, it has created structure, because money was fluently available, the rural masses were able to buy Tractors, thrillers, able to set up their pump sets, irrigation installations, diversify to some activities like Bee keeping, other allied activities. So, Banking has enable rural masses to grow their incomes when income grows, naturally Prosperity grows. So, banks plays a vital role in the Growth of Rural Masses and made people self- reliant.

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Supreme Audit Institution of India Leveraging Technology in Audit Work and Business Process

Supriya Sharma

Post-Doctoral Fellow ICSSR, New Delhi

Abstract

Supreme Audit Institutions are public sector organizations independent of government and accountable to the legislature, responsible for auditing the government's financial operations. . In the Indian system of governance the task of ensuring financial accountability and transparency is performed by the constitutional figure Comptroller and Auditor General. The Comptroller and Auditor General is the head of the Indian Audit and Account Department. The Department is also known as "Supreme Audit Institution of India (SAI India). In last two decades there is unprecedented digitization of government institutions for deliverance of number of services to stakeholders in qualitative and faster manner. The modern day audit practices to have changed and are facilitating in ensuring the reliability and integrity of IT applications used in the government. Supreme Audit Institution of India is moving from "onsite audit of auditee units" to "offsite audit. Institution is also migrating to paperless organization by digitization of business process

Objective : To explore how SAI India is Leveraging Technology, in Audit Work and Business Process.

Methodology : Content Analysis

Keywords : Supreme Audit Institution, Leveraging, Technology, Remote Sensing, Business Process.

Introduction: Supreme Audit Institutions across the globe has realized that they need to positively "respond the challenges posed by their respective governments by increasing use of sophisticated information technology"1 for managing and delivering their various flagship programmes and other polices. "They want to capitalize on the opportunities created for better and more effective audit through the use of IT audit tools and procedures".2Supreme Audit Institutions are conducting information technology audit within the framework of compliance and performance audit. Information Technology audit ensures the reliability and integrity of various information technology applications used by the public institution.

Supreme Audit Institution of India is embedding information technology in every aspect of its work i.e.in its public audit work &in business process. It is using advanced technological tools in its audit planning, evidence gathering for audit and in reporting audit outcome with an aim of enhancing the efficiency and effectiveness of public audit .It is using audit tools like IDEA, SQL, ACL and statistical analytical tool like SPSS.

Supreme Audit Institution of India has recently used Remote Sensing, GIS & Unmanned Vehicle in its audit work, has started publishing digital interactive report and performing data led audit. Data led audit is another advancement of the institution "audit of goods and service tax, finance audit of autonomous bodies like IIM Udaipur, NTPC in Telangana are few examples3 .SAI India has recently introduced first ever digital interactive report on "working of inland container depot and container freight station custom.4 "Thus presented the voluminous result of data analytic in visually attractive and with interactive feature.

Institution is leveraging technology on its business process for example voucher level computerization in Accounts and Entitlement offices in all states, introduced One IAAD one system which has digitized entire audit activities (It based work flow)5. Focusing on re-engineering its business process SAI India has planned to deliver IT enabled services to its stakeholders by complete digitization of Provident Funds and Pension related data. System Automation Training Portal is another development in business process .It is an in house developed portal. This portal has entirely digitalized the training workflow6. Training need analysis, trainee nomination, registration, feedback, training modules and training database has been completely digitized. A trainee from any geographical can avail the opportunities for enhancing their domain knowledge and can upgrade themselves.

Data led audit is quiet helpful in overall review of auditee .It gives and understanding of patterns and trends of performance and utilization of resources by auditee institution and locates future risk. This is quiet helpful for auditee for making in time mid-term correction to avoid any future financial loss and waste of scarce resources. Automation of business process is reducing its man hour, manpower and assisting in real time deliverance of effective and efficient services to stakeholders.

Conclusion: Supreme Audit Institution of India is moving from "onsite audit of auditee units" to "offsite audit." Institution is also migrating to paperless organization by digitization of business process In a technology driven institution there is a need to ensure that its auditors must have sufficient knowledge to exploit IT tools /platforms. Capacity to leverage new technologies like Block Chain, Artificial Intelligence and Machine learning need to be enhanced.

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External Environment Analysis of select Countries- China, Japan, USA and Bangladesh

Amol Gupta[1], Manbir Kaur[2], Himanshu Jhanjharia[3] and Mahjabin Banu[4]

[1] *Student of MBA-IB course at Gitarattan International Business School(Batch: 2021-23)*

[2] *Student of MBA-IB course at Gitarattan International Business School(Batch: 2021-23)*

[3] *Student of MBA-IB course at Gitarattan International Business School (Batch 2021-23)*

[4] *Assistant Professor at Gitarattan International Business School, New Delhi*

Abstract:

External environment affects our international business so it's proper analysis of external environment will help organisation to find potential market and foresee opportunities and threats so that organisation can take strategic directions in terms of their policy formulations. This paper provides overview on external analysis on select countries. These select countries are China, Japan, USA, Australia and Bangladesh. This paper also includes PESTEL analysis on select countries.

The purpose of the country analysis is to provide an overview of the contextual conditions in a specific country to set up the business, along with detailed research in PESTEL assessment of each country.

Keywords: PESTLE analysis, environmental factors, country analysis, external factors

Introduction: Environmental analysis is important for developing a sustainable competitive advantage; identifying opportunities and threats; and providing opportunities for productive co-operation with other companies. Firm uses different approaches and techniques for the analysis of macro environment (Lynch, 2009). The model examined in this study is PESTEL (Political, Economic, Socio-cultural, Technological, Environment and Legal) analysis. First time, in 1980s, the legal dimension was added to this approach (Richardson, 2006). PESTEL is not only used for strategic analysis but it is also used in other areas too. Businesses are largely affected by external environmental factors so it is necessary to understand the technique and to use it in country analysis before entering into the business of that particular analysis. In literature PESTEL hasbeen found with different names and approaches, such as PEST (Dare, 2006) and STEPE (Richardson, 2006). The original form of PESTEL was first conceived by Aguilar as ETPS (economic, technical, political, and social). This was subsequently reorganized as STEP for the Arnold Brown Institute of Life Insurance for use in strategic evaluation of trends. In was later modified to address macro analysis of the external environment or scanning for environmental change, and was defined as STEPE. Apart from a technique for strategic analysis, PESTEL analysis began to be used in different fields (Katko, 2006; Richardson, 2006; Shilei & Yong, 2009). PESTEL analysis has two basic functions for a company. The first is that it allows detection of the environment within which the company operates. The second basic function is that it provides data and information that will

allow the company to predict situations and circumstances that it might come upon in future. PESTEL analysis is therefore a prerequisite analysis, which should be utilized in strategic management (Dinçer, 2004). So, this paper is doing external environmental analysis by using PESTEL techniques in select countries of author's own selection perspective.

Methodology: For analysing the issue Case study methodology has been chosen, selected countries for this purpose has been picked, secondary data and information from various sources are collected and observation based on facts and figures has been done.

Analysing External Environment of Case of Select Countries:

To create competitive advantage among competitors, top management of organizations must scan environmental factors very carefully. Without environmental scanning process organization can be viewed as blind and deaf in an ecosystem which definitely ends with shutdown of activity. PESTEL analysis of China: As a country, China has proved influential business-related progress. Thus, making it an ideal neighborhood for trade asset. China is also developing techniques to encourage people to focus on inventions that will help them grow. It has the potential to raise production costs while lowering profit margins. Electric vehicles are also expected to become China's principal form of transportation. Certain legal issues may have an impact on a company's operations. China has a number of laws that can be used to demonstrate the impact on the country's progress as a business-friendly nation. The country is now drafting legislation for the e-Commerce industry, which is proving to be difficult. The state has some tax and IP regulations, but none to authenticate the online contract between the vendor and the customer. It could make online transactions more dangerous for e-Commerce. PESTEL Analysis of Japan, the country is connected to the G8 and ASEAN. You have difficult relationships with Russia, South Korea, China and TaiwanGreat emphasis is placed on their education system and earlier years ago, students went to school 6 days a week. Japan's unemployment rate is rising (5%). This is a low number as compared to other countries, but for the Japanese it is high and worrying. There are more than 127 million Japanese residents in the country. There is growth of VoIP and other technological advances. They also have stronger robot development compared to other countries. Many laws, such as labor and company law are based on the European system. External Environment Analysis of United States of America, Bilateral Relations, the first and foremost factor to consider is the bilateral relations i.e. relations between India and USA. Relations between India and US have been on an up and down path with the cold war era, India testing nuclear weapons. In the Quad grouping (India, US, Australia, Japan) it was agreed to ensure "equitable" access to vaccines, appreciated India's Vaccine Maitri initiative. The US was ranked 6th in ease of business in 2020. External Environment Analysis of Bangladesh, it is one of the neighbour countries. India and Bangladesh are also members in SAARC and BIMSTEC. Bangladesh's recycling Industries limited is one of the PET bottle recycling and export in Bangladesh territory. Bangladesh is among the fastest growing economy in the world. Bangladesh being coming forth economy with a GDP of $258.608 Billion and their per capita income is continuously increasing. Bangladesh Income inequality and unequal distribution of wealth has been

coming down. Growing internet users in Bangladesh is helping business to move swiftly and its effect could be seen in the growth of the economy. Government maintains quality of product (Bangladesh Standards and Testing Institution), government also protects rights of the citizen via; SUJAN (Shushashoner Jannya Nagorik).

Conclusion: To conclude it should be well understood that the businessmen must understand each and every parameter of the Macro environment and be flexible to the changes in the environment. These factors are external to the business and cannot be controlled, ability of being flexible to the changes in these factors will provide competitive advantage to the firm. The paper hereby provides a general idea regarding external environment of select countries like, China, USA, Japan and Bangladesh. Further, the scope of the study lies in doing the comparative analysis of PESTEL analysis of few select countries of your business interest.

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Does Corporate Social Responsibility Intensity affect Financial Performance: Panel data analysis of S&P BSE Carbonex Companies

Ruchi Jain [1] and Jyoti Jain[2]

[1] *Associate Professor - Department of Financial Studies, IIS (Deemed to be University), Jaipur*
[2] *UGC-SRF Research Scholar - Department of Commerce, IIS (Deemed to be University), Jaipur*

Abstract

Corporate Social Responsibility is crucial and essential to the sustainable operations of corporations. Similarly financial performance is undoubtedly fundamental to the continuing operating of any corporation.Hence this study seeks to investigate the impact of Corporate Social Responsibility (CSR) Intensity on financial performance of S&P BSE Carbonex companies.It is an empirical study utilizing secondary data of 73 companies for 8 years collected from CSR/annual reports/official websites of the companies and Prowess Database. The impact of CSR Intensity on financial performance, as determined by return on sales, has been investigated using panel regression analysis. The outcome shows that CSR Intensity has a significant positive impact on financial performance, showing that increasing CSR investments will improve return on sales. This study contributes to the literature on the CSR Intensity-Financial performance relationship and also has implications for managers,investors as well as other stakeholders.Companies with higher CSR rating create a brand image,attract proficient employes,get greater profit, loyal customers and are less likely to engage in bribery and corruption.

Keywords: Corporate Social Responsibility Intensity, Return on sales,Panel data analysis.

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Revutionalising Banking and Financial services through Blockchain Technology

Salma Khan

Ph.D. Scholar, Singhania University

Abstract

Blockchain technology has proven its potential in revolutionizing the financial service industry by making transactions more straightforward and less expensive. It is considered as a distributed and decentralized public ledger which is utilized to register transactions across varied computer systems within a network. In addition to more open, inclusive, and secure business networks, shared operational models and cost-effective operations, blockchain enables new banking and financial goods and services. It makes it possible to issue digital securities more quickly, more cheaply, and with more customisation. Blockchain technology is gaining popularity among financial institutions, stock and commodity markets, banks, and the broader securities industry, since it may offer opportunities to reduce costs and expedite transaction settlements. Blockchain technology needs to address technological, governmental and adoption concerns before it becomes a widely used reality, which will require established institutions, incumbents, and start-ups. In order to prepare for and plan for the effects of blockchain technology on how financial transactions are done, managers in the financial sector lack guidance. This paper tries to analyse the scope of blockchain technology in facilitating the smooth and efficient function of financial service system

Keywords: Blockchain Technology, Financial services, Decentralisation of database

Introduction: The blockchain is a decentralised database that contains copies of all executed transactions and other digital events that were shared among involved parties, every transaction is confirmed by the vast majority of system users. It includes every single transaction record. The technology does not require an administrator who has the single authority to modification and work on remotely shared parameters and hence difficult to change. The best examples of blockchain technology in financial services may be seen in capital markets, asset management, trade finance, insurance, credit scoring and other banking and lending services.

Blockchain technology has the potential to become a disruptive breakthrough that simplifies and lowers the cost of financial transactions. Blockchain allows new banking and financial products and services as well as more open, inclusive, and secure business networks, shared operating models, cost-effective operations, and more. It permits the issuance of digital securities in less time, at lower unit costs, and with greater levels of customization. This opens up new markets for investors, lowers costs for issuers, and lowers counterparty risk. Digital financial instruments can be customised to meet the needs of investors. As a result, the financial sector needs to evaluate the benefits and difficulties brought by technology. It is a significant advancement that has the potential to revolutionise financial transactions and open up new doors for both established and up-and-coming financial institutions.

Benefits of Blockchain technology in Financial Services
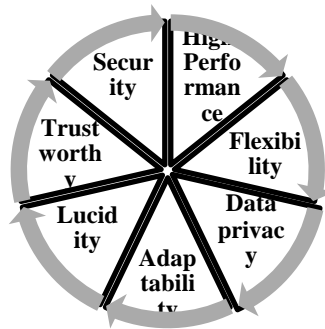
Source: Author

OBJECTIVE:

1. To study the structure of data in blockchain technology

2. To study the relevance of Blockchain technology in financial service System

Hypothesis:

H01-There is no significant change in the structure of data in blockchain technology

H02-There is no relevance of blockchain in financial services solutions

Review of literature:

Singh Nikita et al (2021)- Blockchain based e-Cheque Clearing Framework -This study work suggests a cutting-edge electronic check clearance system that is scalable. It is built on the blockchain, and all banks interested in using it must sign up for the proposed blockchain-based framework in order to provide their clients the speedier check clearance service.

Jena Rabindra Kumar (2022) -Examining the Factors Affecting the Adoption of Blockchain Technology in the Banking Sector -The study identified the crucial elements driving Indian bankers' adoption of blockchain technology. Leading banking institutions and FinTech companies across the nation provided the information needed to experimentally test and validate the extended model.

Mia Anisha et al (2022)-Blockchain in Financial Services: Current Status, Adaptation Challenges, and Future Vision-The Study illustrates the current state of blockchain-based financial applications and services, as well as the effects, implications, and rules of using blockchain technology to the banking sector

Methodology: The Study is based on the secondary data collected from published research papers, books and articles

Structure of data in blockchain technology

How block chains operate- step by step

A User makes a transaction request.

The transaction results in the creation of a Block

All network nodes receive the Block through broadcast

The block and transaction are verified by each node

Block is included in the chain.

The transaction is validated and carried out.
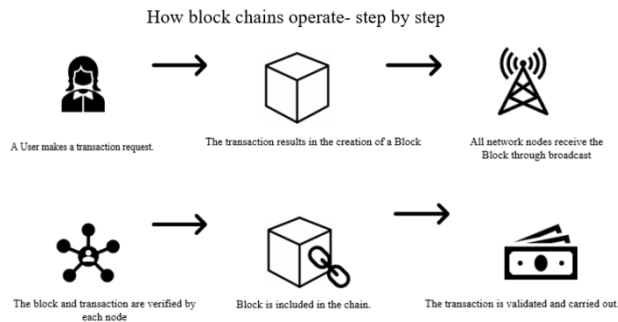
Source: Author

Financial services solutions

• Cheque Clearance system- blockchain technology may enable banks to monitor all international transactions. Banks do not require the services of middlemen or regulatory bodies to process and settle transactions swiftly.

• Purchase and Sale of Assets- Blockchain technology has the ability to completely change the financial industry thanks to its decentralised records on digital assets. By eliminating intermediaries and transmitting asset rights, it lowers the cost of asset exchange.

• Accounting and auditing with blockchain - Every transaction will be authenticated by a virtual notary using blockchain technology.

• KYC Documentation -Blockchain technology will allow the financial institutions quicker, more secure and efficient customer verification process through its integration process.

• Exchanges between Individuals- The technique will help decentralize peer-to-peer transmission applications, blockchain has no territorial restrictions, enabling peer-to-peer transfers everywhere.

Conclusion:

Both a technological and commercial innovation, blockchain technology is an innovative decentralised ledger that fosters trust. Its new architecture enables human or machine exchanges without the requirement for complete faith. Financial Institutions, Exchanges, banks, and the entire securities sector are growing more interested in blockchain technology because it may provide chances to lower costs and speed up transaction settlements.

Prior to blockchain technology being a widely used reality, established institutions, incumbents and start-ups must address technological, governmental, and adoption issues. Despite its potential, the literature on how it affects financial transactions is still disjointed, with shaky empirical discoveries and scant theoretical justifications. Managers in the financial sector therefore lack direction on how to plan for and get ready for the effects of blockchain technology on how financial transactions are

conducted.

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Digitalisation of Indian Banking Sector

Shiv Shankar Sain

Assistant Professor (VSY), Department of ABST, SMCC Government College, Aburoad, Sirohi

Abstract

The article compares the process of digitalization and outcomes from work restructuring in two banks from the India. The banking sectors in both countries have been challenged by digitalization pressures such as online and mobile banking, pressures from 'Fintech' banks, and the automation of back-office operations. Yet, the adjustment paths in the two countries differed. In India, there is an adjustment via limited lay-offs, and increased training and reskilling; however, in the India, the main outcomes revolve around branch downsizing and offshoring of employment. These outcomes are explained by differences in institutional supports for collective voice institutions, as well as the role of the state. The findings demonstrate that the embedded employment relations' institutions and actors have shaped distinct paths of adjustment to digitalisation; and show how the impact of technology on work is neither deterministic nor unidirectional.

Keywords: Digitalisation, Fin Tech, Indian Banking.

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Skilling, Re-skilling, Digitalization and the Future of Work

Shiv Jhalani[1] and Abhishek Biyani[2]

[1]*Department of Commerce & Management, Biyani Girls College, Jaipur*
[2]*Asst. Director, Biyani Group of Collges, Jaipur*

Abstract

There's a new world of work emerging from megatrends such as digitalization, automation, and climate change, among others. Of these, digitalization is having a major impact on workers, employers, and governments, as tasks and activities become digitized and automated. And from the looks of things, in the light of recent developments, this trend is only going to accelerate. A lot of things are happening at a very different pace. There are a lot of changes on the labour market. And of course, we cannot speak any more about front loading of skills and especially qualifications for a lifetime. This is what we used to do. We used to go to school and then, maybe to college or a university and receive qualification that served our career during the lifetime. This is not going to happen anymore because people will need to change jobs. And therefore, they have to have an opportunity to reskill and up skill, and sometimes even to retrain to a completely new occupation. And digital skills, of course, are very important in this mix of measures that have to be implemented.

Very often there are reports about the requirement of digital skills, without little explaining about them, what they are. Many people would think that these are basic skills of ability to process documents and what processing software or emails or social media skill. But there are also medium and advanced skills, which are very needed. And some of them are cross sectorial, such as coding or cyber security or data analytics. But a lot of them are very specific for sectorial occupations, because there are also specific software programmes used very widely in tourism, specific software programmes for construction, for manufacturing, and these are also getting distributed through supply chains. The technology transfer happens to developing countries. And even though they're not perhaps now using to the same degree, medium and advanced skills, digital skills as in advanced countries, this is happening. They are catching up and quite quickly. So, these skills are also needed, including in developing countries.

Of course, this cannot be implemented on their own by governments or by employers. This has to be a joint responsibility where individuals and workers get themselves engaged into learning. And for this, we need quite good systems of shared responsibility, not only in governance, but also in co-funding. Because we need really sufficient investments into lifelong learning to make sure that everybody has access to lifelong learning. Digitalization is here to stay, and is changing the nature, mode, and pace of work. Within this context, the skilling and re-skilling of workers is going to be essential if enterprises and industries are to maintain and increase productivity, effectively manage future shocks, sustain the well-being and livelihoods of workers, and create decent jobs. This will be crucial to guiding training and investment now and, in the future, and providing a roadmap for

meeting the evolving skills challenges of digitalization facing workers throughout their working lives and employers.

Although the future of the workplace is very dynamic, one thing is certain with high-gear digital transformation: the transition will remain constant. It is almost certain that the emphasis will turn to soft skills as technology takes centre stage in the transformation of the workplace. Soft skills, such as analytical skills, written and verbal communication and leadership skills are important for both workers and managers. Businesses face fresh ideas and developments every year that threaten the way they work and execute activities. Almost every area of business is susceptible to such changes, and workplace trends are no exception.

Keywords: Skilling, re-skilling, Digitalization, and the future of work, lifelong learning

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HR Strategies for Sustainable Growth

Anjali Maheshwari[1] and Mukul Sharma[2]

[1] Student, Bachelor of Business Administration, Biyani Girls College
[2] Faculty, Department of Commerce & Management, Biyani Girls College

Abstract

In order to fulfill the expectations of the shareholders, growth has become an inevitable imperative for all the companies. However, growth always comes with increased complexity. Additional resources including human capital resources have become vital to master this added complexity. Companies can satisfy this demand by either recruiting new employees, or by increasing their current personnel's efficiency. However, in times of extreme talent bench shortfall and rapidly increasing burnout statistics, HR departments are facing serious challenges. Firms are prone to not being able to recruit the necessary talent, diluting the company's culture and identity through intense recruitment within short periods, or overloading their current personnel quantitatively or qualitatively. It is important to understand how companies can master these challenges through strategies such as: expanding the recruitment population, becoming a desired employer, recruiting very deliberately, prioritizing tasks and services, and, finally, interlinking strategic human resource management and high performance work systems' activities. By applying these strategies, companies can reduce the risks of immoderate growth. Instead, they can capitalize on times of growth by establishing sustainable or balanced growth in order to get ahead of their competitors.

Keywords: Growth, resources, strategies

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Emerging Technologies and Trends in Data Science

Punam Mittal[1] and Rajeev Biyani[2]

[1]*Faculty, Department of Commerce & Management, Biyani Girls College, Jaipur*
[2]*Chairman, Biyani Group of Colleges, Jaipur*

Introduction:

Data science is the discipline of extracting meaningful information from data. This data can come from a variety of sources such as databases, business transactions, sensors, and so on. Because of this, it's a rapidly expanding field that offers a wide range of job opportunities. Data science plays a crucial role in the constantly changing business landscape. With the increasing use of technology, an enormous amount of data is generated daily. This raw data is highly valuable for businesses and research, and data science is responsible for gathering, processing, analyzing, and presenting it in a visual format to aid in important decision-making. Due to this boom, there is a high demand for data scientists.

Emerging technologies in Data Science:

The introduction of new technologies has led to increased productivity and better returns on investment for businesses. Today's trends include data analytics, artificial intelligence, big data, and data science. Companies are using data-driven methods to streamline their operations and make decisions based on data insights. The pandemic forced many industries to adapt quickly, and as a result, investments in data analytics and data science increased. Now, nearly every organization heavily relies on data. Here are the technologies:

- **Artificial Intelligence**

Artificial Intelligence (AI) has been present for many years. It has been used to improve interaction with technology and gather customer data over time. With its rapid processing power and data access, it's now deeply embedded in our daily lives. From speech and language recognition to predictive analytics and self-driving cars, AI is rapidly advancing and bringing innovation. It is giving companies a competitive edge and revolutionizing how businesses operate today.

- **Cloud Computing**

With the daily generation of vast amounts of data, it becomes difficult to find solutions for cost-effective storage and power. Cloud computing and services come to the rescue by providing a low-cost solution for storing large amounts of data, effectively addressing storage challenges in data science.

- **AR/VR Technologies**

AR refers to Augmented Reality and VR stands for Virtual Reality. These technologies have gained widespread attention from individuals and businesses globally. AR and VR aim to improve the interactions between humans and machines. They automate data insights using machine learning

and Natural Language Processing (NLP), making it easier for data scientists and analysts to uncover patterns and create shareable intelligent data.

• **Internet of Things (IoT)**

IoT is a network of various objects such as devices or people that have unique IP addresses and an internet connection. These objects are designed to communicate with each other through the internet. Examples of IoT include sensors and smart meters, among others. Data scientists are working to advance this technology to use it for predictive analytics.

• **Big Data**

Big Data refers to enormous amounts of data that can be structured or unstructured. These data sets are too large to be quickly processed using traditional methods and require advanced techniques. Big Data enables technologies such as dark data migration and robust cyber security, which were not previously possible. It also makes it possible to create smart bots that can analyze necessary information by processing big data.

Conclusion : Data science is poised to revolutionize the world and reach new heights as more and more businesses understand the significance of data for their growth and success. With the aid of technologies such as Artificial Intelligence (AI) and quantum computing, the future holds many exciting discoveries and advancements for data scientists, businesses, and customers alike. This field is not expected to decline anytime soon, and it will change how we interact with technology and give a competitive advantage to the businesses that adopt it. This ultimately leads to better business outcomes and improved customer satisfaction.

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Bridging the Industry-Academia Gap and Undrsanding Management: Need of Hour

Poorvi Khandelwal[1] and Rajesh Jakhotiya[2]

[1]Student, Bachelor of Business Administration, Biyani Girls College
[2]Faculty, Department of Commerce & Management, Biyani Girls College

Abstract

Industry-academia interface has always been under extensive discussions in many ways. A developed common area of interest strengthens the relationship between universities or research institutes and industry in a bigger resolution and on a precise basis between scientists and professionals in industries. Management of knowledge, understanding and communication makes a sense of newer outlook of the hydrocarbon sectors. To boost the growth of oil and gas industry globally, trained workforce and continuous strategic methods are needed which is only possible through mutual conjunction of academic and industrial human resource. Shortage of high quality collaboration in reality climbs list of discussions these days. This article gives an insight on bridging the gap between academia-industry interaction for a better way of the look of oil & gas industry scenario. The most core sector of a research institute or a university is its teaching. Many of the institutes have really phenomenal high-end applied courses which is the subject that fascinates the industry. Industry looks for human resource with proper dimension of understanding in the field. To rectify the theoretical knowledge into the practical industrial problems proper training is needed for the newly recruited trainee. The trainee plays the most important role in this system to establish the academia-industry relation. More and more involvement of undergraduate students with the industry makes a proper hit to reduce the gap. Another part of interest for the industry is the really outstanding faculties and scientists who are doing globally acclaimed research in the field of hydrocarbon and its sciences. Along with betterment of corporate level strategies industries need to have technological advancements, which are largely benefited by growing research. So, extensive collaboration with cutting edge researchers working on applied sciences is expected. In addition government should have a proper assistance for the synergy between academics and industry in the oil and gas sector to fuel the need of the hour.

Keywords: Industry-academia interface, human resource

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Emerging Technologies and Trends in Data Science

Sneha Dhaka[1] and Pratishtha Pandey[2]

[1]*Student, Bachelor of Commerce, Biyani Girls College, Jaipur*
[2]*Student, St. Xavier's College, Jaipur*

Abstract

In the recent decade, several technologies have boomed up due to recent development in many technologies. These technologies have changed the life of human being and are increasing the profit for individual, organisations like Netflix, Flipkart, etc. Today in this world, maximum people are surrounded by smart objects or using smart objects to make their life easier to live and convenient. But, on another side life is being made easier to live by analytics companies/ industries. For example, which user like which type of plays, movies, songs, etc., things are extracted by many companies. Such recommendations are being made and being provided improved services to the respective users. Such jobs are being done by Data Scientist. Whereas, Data science (a future of Artificial Intelligence) is a multi-disciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured (labelled) and unstructured (unlabeled) data. Moreover this, Big Data Science by Data Scientist. Several tools like Hadoop, etc., are used to analysis the large amount of data and used in predicting the valuable information making decisions, But, in analyzing we face several concerns like complexity, scalability, privacy leaking and trust.

Keywords: Data Science, Big Data Analytics, Technologies, Opportunities.

Introduction: Data science aims at collecting, processing, analyzing, and presenting this data in a visual format to help companies or organizations in making crucial business decisions. This boom is one of the major reasons why data scientists are in high demand. According to LinkedIn Workforce Report, the demand for data scientists is increasing at a fast pace. Yet, the number of people who apply for these jobs is very low, reiterating the fact that though there is a high demand, the supply is stagnant. With the advent of the latest trends and updated technology, the data science field is expected only to grow larger.

As a developing field, data science has an enormous scope to grow larger. The latest discoveries and trends have set it apart from major professions in ways more than one. To understand the opportunities this field holds, one must understand the emerging technologies in data science that are shaping the future, and for the better.

Methodology: Big Data refers to humongous amounts of data that may be either structured or unstructured. These sets of data are too large to be quickly processed with the help of traditional techniques, and hence advanced techniques need to be employed for the same. Big Data boasts of technologies such as dark data migration and strong cyber security, which would not have been possible without it. Smart bots are also a result of processing big data to analyze the necessary

information. According to Big data made simple, around 90 percent of the world's data has been created in the past two years alone, rather than over a long period of time. Big Data is bound to change how businesses and customers look at and interact with technology in their daily life.

By using analytics and deep learning to make better decisions and boost recruiting, Data Science effectively adds value to all business models. It is also used to crunch the previous data and to forecast possible situations and threats in order to avoid them. In fact, evaluating this information can really help to set up a workflow. Some applications of Data Science are defined as follows:

i.   **Internet search:** Search engines works so fast on queries that they will provide results in fraction of seconds and it will happen with the help of data science

ii. **Digital Advertisements:** Data science techniques are used throughout the digital marketing spectrum-from display banners to electronic billboards. That's the mean reason why digital ads get higher CTR than conventional ads.

iii. **Recommender systems:** It not only makes easy to get the relevant data in millions of products, but it also helps in adding a deal to the user experience. Several businesses are using this method to promote their products and feedback in accordance with the user's requests and data relevance. The suggestions are based on the user search history.

Result & Discussion: Data science is necessity of today's world, i.e., necessary for industries or organization to improve their product's quality (with increasing profit). But we find that there a shortage of skilled people to make decisions (based on analysis) form this large amount of data. In near future, we can focus on providing many programs or courses at graduate level at various universities (to produce more skilled people).To make realize the value of big data, we have to grow up in a team and came up with the talent to make analytic-based decisions. This paper discussed several essential terms related to data science and data analytics in details, also provide a complete state of art comparison to avoid any conflict among several similar terms like data engineer, data scientist, data science, etc.

Conclusion: Data science is set to take the world by storm and reach new milestones as more and more companies are realizing how important data is for their business growth and success. With the help of technology such as Artificial Intelligence (AI) and quantum computing, the coming years are going to be eventful for data scientists, businesses, and their customers alike, as many discoveries and developments await. This profession is not bound to see a decline anytime soon. Moreover, it will change the way you interact with technology and provide a competitive edge to the business that adopts it. That can only mean one thing – enhanced business success and higher customer satisfaction.

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Skilling Human Resource for a Balanced Economic Growth

Priyanka Soni[1], Krishan Gopal[2]

[1]*Student, Bachelor of Commerce, Biyani Girls College, Jaipur*
2Assistant Professor, Churu Balika Mahavidhyala, Churu

Abstract

In order to fulfill the expectations of shareholders, growth has become an in-evitable imperative for most companies. However, growth is always associated with increased complexity. Additional resources, especially human capital re-sources, are necessary to master this added complexity. Companies can satisfy this demand by either recruiting new employees, or by increasing their current personnel efficiency. However, in times of extreme talent bench shortfall and rapidly increasing burnout statistics, development are facing serious challenges. Firms may not be able to recruit the necessary talent, may dilute the company culture and identity through intense recruitment within short periods, or may overload their current personnel quantatively or qualitatively. This outlines how companies can master these challenges through strategies such as; expanding the recruitment population, becoming a desired employer, recruiting very deliberately, prioritizing tasks and services finally, interlinking strategic human resource management and high performance work system activities. By applying these strategies, companies can avoid the risks of excessive growth. Instead, they can capitalize on times of growth, establishing sustainable or balanced growth in order to get ahead of their competitors.

Keywords: Sustainability; sustainable human resources management; sustainable HRM; sustainable HR development; industry, economic growth, Human resource development, Educational training

Determinants of Size of Market

Balance growth theory developed by Ragnar nurkse, and supported by Lewis, Allyn Young and Rodan.

Balance growth means investment in depressed sector of an economy, lead to harmonious growth of different sectors of the economy.

According to this theory government of any UDSs need make large investment in a number of industries simultaneously. This will increase the size of market. – increase productivity.

And provide incentives to pvt sector to invest vicious circle of poverty.

Introduction : According to Nurkse UDCS should be increase their productivity and enlarge the market size by export. Nurkse primarily focused on productivity.

In B.G. theory rate of consumption, income and investment should be equal. (C=Y=I) B .G. tackle demand side problems. Balance growth is a dynamic and elastic model. This theory applicable in UDCS. Investment is necessary to overcome indivibilities on both demand and supply side. Indivisibility on supply side is lumpiness of capital (SOC) Indivisibility on demand side is – limitation imposed by size of market. Nurkse used big push theory of Rodan for three indivisibilities.

1. Indivibilities of production function

2. Indivisibility of demand

3. Indivisibility of supply for saving

4. Unbalanced growth means- unequal growth of investment, income, and consumption.

Methodology: The transformations occurring in the contemporary economic reality relating to both the developing idea of sustainability and to the fourth industrial with incredible technological progress. As part of sustainable human resource management, attention is drawn to the need for employee development, which is treated as both an element of HR function and as one of the detailed principles of SHRM. This study addresses emerging topics such as sustainability, industry 4.0, and sustainable HRM. It extends the current state of knowledge on the theme of sustainable HR development. The analytics of the results of three research projects and the data presented by Eurosat and statistics Poland shows that industrial companies in Poland have more of a short sighted perspective when it comes to developing the potential of their engineers. The HR development practices of a long term perspective and flexibility. There is also a visible lack of employee participation in the process of making training related decisions, which is another principle of SHRM.

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Industry Academia Partnership for Research and Development in Commerce and Management

Anushka Butolia[1] and Aditi Pareek[2]

[1]Student, Bachelor of Commerce, Biyani Girls College
[2]Faculty, Department of Commerce & Management, Biyani Girls College

Abstract

As industries can interfere in researching and developing in commerce and management field. As defined in interactive and collaborative arrangement between academic universities and institutions and business schools for achieving such inclusive goals and objectives in this field. A high – yielding interface between industry and academic world, in current era of knowledge. Academic world is creative and industry is something that commercialize the ideas. Industry –academic interface brings to meet the industry's expectations and needs and academic desire. Relationship between the academic and industry is not just one technology donor or receiver, but interaction, collaboration participative nature is also an important part .This collaboration needs active players in this academic and industry. There is a immense need of collaboration. Students and society stand to gain, as it can be a 'win –win partnership'.

Keywords : Collaboration , high –yielding ,immense ,interaction , tremendous .

Introduction : A fertile interface between academia and industry , in the present era of knowledge economy, a critical requirement .the constantly changing management prototype, in response to growing complexity of the business environment . Even with awareness, its engaged with academia is tentative and ritualistic than real. Organizing workshops, conferences with joint participation of faculty .Visiting faculty / professors from industries. Participation of experts from industries in curriculum development. Arranging visit of staff members to various industry. Professional consultancy by the faculty to industries . Human resource programs by the faculty. Collaborative degree programs . Practical training of students in industries. Joint research programmes and field studies by faculty.

Methodology : The research was conducted in the management colleges or schools and the corporate world where many facts were known. The very first part of the research is to know the importance of industry and academia interface which is represented through the bar graph. Everyone the students or the teachers of the management college or universities or the corporate agreed that is great importance of industry.

Result and discussion : This is designed to help students vocational self concept , acquire job relevant skills and provide informed career decisions making ability. The various challenges currently facing academia – industry collaborations are awared of identification ,evaluation, protection, commercialization of ideas .There are two key factors that are driving the trends of

technology toward industry institute interface.

Conclusion: Private sector and the government sector –had emerged as major provider of new jobs. As such, education should be applicable in the real scenario. To facilitate this, academia and industry would have to interact on a regular basis this should be new education policies.

Industry – and academia are a novel form of bridging the gap between the job requirement and the training imparted at educational institutions .The main aim of this paper is that the industry – academia engagement should not be tentative.

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Industry Academia Partnership for Research and Development in Commerce and Management

Krati Agrawal[1] and Megha Daga[2]

[1] *Student, Biyani Institute of Science and Management, Rajasthan Technical University, Kota*
[2] *Faculty, Department of Commerce & Management, Biyani Girls College*

Abstract

Industry-academia partnership for research and development in commerce and management refers to the collaboration between universities and businesses to conduct research and develop new technologies, products, and services in the field of commerce and management. This partnership can take many forms, such as joint research projects, internships, and sponsored research programs. The main benefits of industry-academia partnership include access to industry expertise, resources and funding, which can help to accelerate the pace of innovation, and increase the impact of research and development activities. Additionally, the partnership can provide students with practical experience and expose them to the latest industry trends and technologies, which can better prepare them for careers in the field. In the field of commerce and management, industry-academia partnership can help to develop new business models, improve management practices, and foster innovation in areas such as e-commerce, digital marketing, and data analytics.

The partnership between academia and industry must be cooperative and beneficial. The combined effect in the research result is the real goal of such a relationship. The contact between academics and industry in India has a limiting nature due to disparities in understanding and perceptions of each other's roles and a lack of mutual acknowledgment. The need for active industry-academia contact has been highlighted by the liberalisation of the Indian economy, breakthroughs in new technologies as a result, and transformation of the economy into a knowledge economy, among other things. With the aim of identifying and describing the activities performed by the various stakeholders involved, this paper makes a modest attempt to explore the various aspects of relationships between academics and industry. This essay outlines the numerous barriers.

Introduction: All the involved parties of industry and academia will be expected to learn collaboratively more frequently. Future key competencies rest on efficient and effective knowledge generation and sharing. In this paper, we show and assess the "Treasure Chest," a publicly accessible digital knowledge repository that was constructed jointly as part of our case study. The Strategic Research and Innovation Agenda (SRIA), which was formed cooperatively, served as the starting point and listed the primary research themes and initial, motivating research questions, or targeted learning objectives (ILO). Our cooperative industry-academia (I-A) learning process during the course of the 4-year programme generated a variety of theoretical and empirical outcomes, which were iteratively compiled and packaged into the Treasure Chest repository.

Primer institutions, like the Indian Institute of Technology, are increasingly constructing top-notch research parks that can offer a dedicated place for research, some of which are backed and funded by business partners. At these research parks, deep technology-focused start-ups have been nurtured, and the collaboration with business and proximity to academics has been the key to their success.

Conclusion:

This study looks at classic industry-academic collaborations that have had some success, like corporate internships, work-study programmes, curriculum advisory boards, guest lecturers, and capstone courses, to find areas for improvement. This paper examines a number of new trends and their effects on collaborations between academia and industry after evaluating the status quo and how well it is improving design education. Finally, this study suggests a number of fresh collaboration strategies to educators and practitioners alike as possible answers for going beyond the status quo and becoming ready for the future trends.

India's government has announced the opening of five new research parks at IIT Delhi, IIT Kanpur, IIT Hyderabad, IIT Guwahati, and THE Indian Institute Of Science and Technology to boost momentum following the success of research parks at IIT Madras and IIT Bombay.

Industry partnerships are essential for furthering research and building a skilled workforce. Industry benefits workers with specialised knowledge and hands-on experience, and universities gain access to relevant technologies and tough problems. As India ushers in the era of digitization, it is in the fortunate position of having a youthful tech-savvy populace prepared to utilise their knowledge in important domains like AI and big data to tackle significant difficulties facing crucial industries like healthcare and energies.

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Skilling Human Resources for a Balanced Economic Growth

Shikha Dugar[1] and Soniya Agarwal[2]

[1] *Faculty, Department of Commerce & Management, Biyani Girls College*
[2] *Student, Biyani Institute of Science and Management, Rajasthan Technical University, Kota*

Abstract :

Income and health depend upon the level of education, skill formation, etc. The formation of human capital increases these skills and improves the quality of life of the masses. Better quality of population means more economic reviving. Human capital affects economic growth and can help to develop an economy by thicken the knowledge and skills of its people. The level of economic growth driven by consumer spending and business investment determines the amount of skilled labor needed. Skilled and the knowledgeable human resources make a sensible use of all resources at their disposal and increase the volume of output and income for a country. They are well versed in using modern technology and thus help to bring development in a country.

Keywords: contemporary economy, three main directions, the immense dynamics, dynamic evolution.

Introduction: In contemporary economy, often referred to as Knowledge and Skill-based Economy, human resources development (HRD) must be a continuous process. Education and training are directed to increase human capital accumulation and to promote the economic and social benefits of lifelong learning. By investing in learning, education and training, countries can improve economic performances, increase productivity and incomes and create a better social and economic environment. Lifelong learning turns individuals into architects of their own career and helps them face the challenges of skill overtaking by rapid changes of the economic world. Knowledge-based Economy versus Skill-based Economy Skill-based economy represents a new concept, which is necessary to describe a specific development level of knowledge-based economy.

Nowadays, the main objective of developed countries in the world has been the transformation and merger of national economies as knowledge-based economies. The desire and efforts to acquire this status have deeply altered the significance, structure and content of learning. Against the background of global economy and an unprecedented stress on world-level competition, mere accrual of knowledge is no longer enough. It is true that the characteristics of the economic and social environment condition competitiveness (of individuals, companies and overall economies) based on the capacity to acquire and manage information, as well as the willingness to permanently assimilate new knowledge. Yet, taking into account the immense dynamics of high-performance technologies, the ability to use creativity in current, daily activities and to effectively capitalize it, with direct positive effects on economic profitability, is significantly more important. Quantifying the impact of implementation and large-scale use of

modern technologies is an extremely difficult process, the more so since, for this very reason, economic restructuring represents a permanent challenge.

The extremely dynamic evolution of information technologies throughout the past decade, whose effects can qualify it as a boom, has severely disturbed the economic and social environment, set off a real technological and economic revolution. Consequently, current society, generically designated as the internet society, is focused on three main directions, namely innovation, initiative and lifelong learning, taking into account the fact that science underlies present changes. Information is the actual asset, and those in its possession will always be stronger than those lacking it. Throughout the past decade, the most frequently employed designations at all levels of economic and social organization are education, learning, abilities, skills, training, human resource management, human resource development, learning society, efficient learning, human .

Objective:

1. To study the human resource for a balanced economic growth.

2. To study the relevance of skilled human resources.

Review of Literature: In this paper researcher wrote about the impact of unskilled labour on economic growth, and more precisely focused on skilled employees for reviving the economic growth.

Methodology: The study is based on the secondary data collected from published research papers and some websites, books and articles.

Conclusion: Human Resources Development or Human capital refers to workers' knowledge, skill sets, and experience in an economy. Human Resources Development and economic growth are strongly linked. Human capital influences economic growth and can aid in the development of an economy by broadening its people's knowledge and skills. Since a knowledgeable workforce can lead to increased productivity, the skills have economic value.

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Skilling Human Resource for A Balanced Economic Growth

Tamanna Sharma[1] and Lokesh Tilwani[2]
[1]Student, Bachelor of Commerce, Biyani Girls College
[2] Faculty, Department of Commerce & Management, Biyani Girls College

Abstract

How many men and women are in employment and how productive they are at work has a lot do to with the available opportunities to acquire and maintain relevant skills. Countries, enterprises and person all perceive skills development as strategic, and consequently seek to set up investment in skills. In aspiring to realize the potential of skills development, they face common challenges.

In Pittsburgh in September 2009, G20 Leaders called for putting quality jobs at the heart of the recovery, and committed to implementing recovery plans that support decent work. To that effect they welcomed the ILO's Global Jobs Pact and agreed on the importance of building and employment-oriented framework for future economic growth.

The globalization of markets is accelerating the diffusion of technology and the pace of innovation. New occupations are emerging and replacing others. Within each occupation, required skills and competencies are evolving, as the knowledge content of production processes and services is rising.

Many G20 countries have used training and retaining in their responses to the employment challenges arising from the global financial crisis of 2008. Lesson learned since those times are being applied more widely.

Ultimately, each country's prosperity depends on how many of its people are in work and how productive they are, which in turn rests on the skills they have and how effectively those skills are used. Skills are a foundation of decent work.

A strategic framework for skills development

Good-quality primary and secondary education, complemented by relevant vocational training and skills development opportunities, prepare future generations for their productive lives, endowing them with the core skills that enable them to continue learning.

Sustaining robust training policies and systems

Robust training policies and systems are grounded in the characteristics and institutions of each country. Nevertheless, a number of common building blocks can be identifies. A good skills development system will be able to; anticipate skills needs; engage employers and workers in decisions about training; make training accessible to all sectors of society; ensure viable and equitable financing mechanism; and continuously evaluate the economic and social outcomes of training.

Sharing knowledge and experience

There is plenty of scope for continuing and deepening exchanges of knowledge and experience among countries on training and skills development policies and systems. It is particularly valuable of maintaining the relevance of education and training to the world of work, and in moving from policy principles to application.

Investing in workforce skills: a widely shared objective

All G20 countries have identified skills development as a strategic objective. All are stepping up investments in skills. India adopted ambitious National Skills development policy in 2009, South Africa is adjusting training strategies under the newly created Ministry for higher education and training.

In 2008, Government, worker and employer representatives at the International Labor Conference adopted a set of conclusion on skills for improved productivity, employment growth and development (ILO, 2008a).

The European commission has embarked on a New Skills for new Jobs Initiative (EC, 2010). The World Bank is preparing a new skills strategy geared towards employability and productivity.

Benefits from adequate investment in good-quality education and skills

Skills development enhances both people's capacities to work and their opportunities at work, offering more scope for creativity and satisfaction at work.

The future prosperity of any country depends ultimately on the number of persons in employment and how productive they are at work. A rich literature exists on the links between education, skills, productivity and economic growth.

Available evidence firmly establishes that a combination of good education with training that is of good quality and is relevant to the labor market:

- Empowers people to develop their full capacities and to seize employment and social opportunities.
- Raises productivity, both of workers and of enterprises.
- Contributes to boosting future innovation and development
- Encourages both domestic and foreign investment
- Leads to higher wages
- When broadly accessible, expands labor market opportunities

Widely agreed guiding principles linking skills and work - Education and skills policies are more effective when well coordinated with employment, social protection, industrial, investment and trade policies. By using up-do-date information, those working in education and training can assess

the match between the skills they are teaching and those in demand in the workplace. When that information is put at the disposal of young people and workers by employment and vocational guidance services, it can help them to make better-informed choices about education and training.

Sustaining relevance to the world of work - General education budgets account for a large proportion of total government expenditure. Yet educational achievements vary widely both across and within countries. When general education fails in its basic objective of raising the cognitive skills of the population, the economic and social costs can be high. In some countries, possible cuts in spending on education and training in the framework of fiscal consolidation policies could substantially hinder future development. It is all the more important to manage public training resources effectively, given their importance as a key driver of long-term growth.

Demographic Change - Worldwide, the rate of population growth is declining, though it remains high in some countries and regions. Some countries face ageing societies. Others have burgeoning youth populations. Taken as a whole, the world population is marked by declining fertility and rising life expectancy. The primary consequence of both trends is population ageing. The proportion of the population aged 60 years and over will rise in the more developed regions from 22 per cent in 2010 to 33 per cent in 2050, and in the less developed regions from 9 per cent to 20 per cent. The population of working age (25–59 years) will decline in the more developed regions between 2010 and 2050 in both absolute and proportional terms, falling from 49 to 41 per cent of the total population. In contrast, the working-age population in the less developed regions will grow slowly as a proportion of the whole, from 43 per cent in 2010 to 46 per cent in 2050.

Educational attainment - Data from the UNESCO Institute for Statistics, assembled by Barro and Lee, show major progress in educational attainment over time, but also major differences between countries. Average years of schooling for those aged 15–24 years in developing countries rose from 3.15 years in 1950 to over 8.5 years in 2010. Over that same period, average years of schooling for 15–24 year-olds in industrialized countries rose from almost seven years to over ten years. In 2010, the average number of years in school for girls reached 84 per cent of that for boys in developing countries and 98 per cent in advanced countries.

Equity and inclusive growth - In many countries, the transition from school to work is a critical threshold. A successful transition is greatly facilitated by good access to vocational education and training and in-work experience. Worldwide, 80 per cent of people with disabilities live below the poverty line. Evidence of skills deficits among persons with disabilities is most apparent in countries where quotas for employing disabled people cannot be met because of low education and skill levels.

Globalization of markets - As world trade has grown, so the pattern of exports has changed. The share of industrialized countries in world exports of manufactures has been declining since the 1950s, and more sharply from the 1980s. This decline reflects the increasing specialization of the

industrialized countries in services. The correlate is a rising share of developing countries in world manufactures exports to just over a third in 2006, twice the level of 25 years ago.

Conclusion: In a nutshell, the building blocks of any skills strategy must be solid foundation skills and stronger links between the worlds of education and work. This in turn requires good-quality education in childhood; good information on changes in demand for skills; education and training systems that are responsive to structural changes in economy and society; and recognition of skills and competencies, and their greater utilization in the workplace. To be effective, policy initiatives in these areas will also need to be closely linked with economic and social policy agendas.

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Data and Analytics Architecture: Your Digital Acceleration Ecosystem

Afshan Fazal

Faculty, Department of Commerce & Management, Biyani Girls College

Abstract :

In recent years, organizations have been under pressure to adopt new data technologies while still maintaining their legacy infrastructure to achieve market-driven innovations like personalized offers, real-time alerts, and predictive maintenance. These additions of technology like data lakes, customer analytics platforms and stream processing have significantly complicated data architectures, making it difficult for organizations to continue delivering new capabilities, maintaining their existing infrastructures, and ensuring the integrity of Artificial Intelligence (AI) models.

Six shifts to create a game-changing data architecture

To revolutionize data architecture, companies are making six key changes to their blueprint which allows them to deliver new capabilities faster and simplify their existing architectural approach. These shifts cover all aspects of data management including collection, processing, storage, analysis, and exposure. While some of these shifts can be implemented without altering the core technology stack, others require a thorough re-architecting of the existing data platform and infrastructure, including both older and newer technologies previously added.

- The shift from on-premise to cloud-based data platforms is driven by the ability of cloud technology to quickly scale AI tools and capabilities for competitive advantage. Major cloud providers, such as Amazon Web Services, Google Cloud Platform, and Microsoft Azure, have

transformed how organizations of all sizes acquire, deploy, and operate data infrastructure, platforms, and applications at scale.

- Real-time data processing is becoming more prevalent as the cost of real-time data messaging and streaming capabilities decrease. This technology allows for new business applications such as transportation companies providing accurate arrival predictions, insurance companies analyzing real-time behavioral data for individualized rates, and manufacturers predicting infrastructure issues using real-time sensor data.

- Companies are moving away from pre-integrated commercial solutions to modular, best-of-breed platforms to scale applications. This involves using a highly modular data architecture that utilizes the best available technologies, often open-source, that can be replaced as needed without affecting other parts of the data architecture, pushing beyond the limitations of legacy data ecosystems from large vendors.

- The shift from point-to-point to decoupled data access involves exposing data through APIs. This ensures secure and limited direct access to view and modifies data while providing faster, up-to-date access to common data sets. This enables easy data to reuse among teams, accelerates access, and facilitates seamless collaboration among analytics teams for efficient AI use case development.

- Companies are shifting from a central enterprise data lake to a domain-based architecture, which allows for customization and "fit for purpose" designs to improve the speed of new data products and services. This approach still keeps the data sets on the same physical platform but tasks "product owners" in each business domain, such as marketing, sales, and manufacturing, to organize their data sets in a consumable way for both users within their domain and downstream data consumers in other business domains.

- Companies are moving away from rigid data models and towards flexible, extensible data schemas. Predefined data models from software vendors and proprietary data models that are built for specific business intelligence needs often have normalized schemas with rigid database tables and data elements to reduce redundancy. However, this approach requires lengthy development cycles and a strong understanding of the system when incorporating new data elements or sources, as changes can impact data integrity.

Conclusion :

As data, analytics, and AI become more integrated into organizations' daily operations, it's apparent that a new approach to data architecture is needed to establish and develop data-centric enterprises. Data and technology leaders who adopt this new approach will give their companies a competitive edge by making them agile and resilient to future changes. Data ecosystems allow organizations to collaborate and address significant societal issues while providing more value to participants and consumers.

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Emerging Technologies and Trends in Data Science

Vanisha Hasrajani

Student, Bachelor of Commerce, Biyani Girls College

Introduction:

Data science is pivotal in all the industries running in the modern-day world. From making effective business decisions to planning and forecasting future complications, data science technologies have been amazingly resourceful for different purposes. Data science aims to apply statistical and analytical approaches to studying real world occurrences.

Data science is now recognised as one of the most promising fields of study of the 21st century. The technologies of Data Science, Data Mining and Machine learning all deal with large amount of data.

According to Linkedln's emerging jobs report, the demand for data scientists has increased by more than 650% since 2012. The market's rising trajectory from 2019 USD 37.9 billion to 2026 USD 230.80 billion is clear. Many of these needs are linked to a group of technology that is see widespread use. The demand in data science and information technology is being pushed forward by the growing popularity of cloud computing, Augmented Reality, Virtual Reality, Artificial Intelligence, Machine Learning, Decision Learning , Big data analytics and other related technologies.

A data scientist's job is take raw data and turn it into useful information through extraction, manipulation, preprocessing and prediction. They can gather knowledge and insights from a wide variety of organised and unstructured datasets using data science. It's a multidisciplinary area that uses scientific methods, processes, algorithms and systems.

 Typically, business hire data scientists to assist them in learning more about their customers and how to enhance their goods based on that information. The likes of Facebook, Google, IBM, and small businesses are investing substantial resources in the study of data and the field of data science.

Data science field is emerging at a faster pace than ever before. Time to value is the key business

driver enabling business to innovate to exceed customer expectations. Data science team are helping business to be customer-centric by offering contextual recommendations, resolving issues and get more customer value.

Data science practitioners know the right framework, good processes, and optimal technological tools to design, build and deploy Machine Learning (ML) models at scale. Many software vendors and other Artificial Intelligence (AL) companies are innovating to commoditize the ML/AL algorithm such that these algorithms can be incorporated into products and services at ease.

Many software vendors offer out-of-the-box basic machine learning models in domains such as vision, language, forecasting, and so on. These basic machine models are pre-training and only need fine-tuning based on customers proprietary datasets. These models empower many data scientists to build solutions quicker for solving customer-centric problems. Since these models are offered as services,there is less reliance on infrastructure team and software developers .

Keywords: Statistics, Visualisation, Deep Learning, Machine Learning

Following is the data science technology stack that is in demand and can come as necessary for a successful career in data science and technology:

1. AMAZON WEB SERVICES(AWS)

Amazon web services is a cloud provider. It is a cloud based service that allows users to access virtual servers. The technology is offered through an Amazon Elastic Compute Cloud or EC2 instance.

2. AMAZON MACHINE LEARNING(AML)

Amazonj machine learning is a specialized ML service inside AWS that canb be used to develop ML models with predictive capabilities.

3. TEXT MINING

Nearly 80% of all data in the world is unstructured,making Text Mining a crucial analaysis and processing method. It is the practice of extraction useful information and finding patterns from large amouts of tyextual material by organizing previously unrecognised relationships and trends.

Text mining analyses and solicits customers feedback to improve cuistomer service. Also,it aids at risk management

process maintenance, spam filtering, etc. The typical process of text mining involves information retrieval, natural language processing(NLP), information extraction, and data mining.

3. Internet of Things (IoT)

The phrase "Internet of Things" (IoT) describes the wide system of interconnected computing

devices and the supporting infrastructure that allows data exchange between these devices and the cloud.

Everyday "things" are connected to the internet via the IoT. This implies that engineers can embed sensors into everyday items like vacuum cleaners, toothbrushes, automobiles, and machinery to monitor their surroundings and react appropriately.

In order to function, an IoT system often collects and shares data in real-time. There are three main parts to every Internet of Things system: Smart devices, Internet of Things (IoT) applications along with graphical user interface to promote user experiences.

This Internet of Things data science technology has the potential to provide timely warnings and alarms, which is a significant advantage. Businesses may now offer services like predictive maintenance and usage-based insurance thanks to advancements in data science technologies.

4. Automatic Predictive Service

By evaluating data gathered from Internet of Things (IoT) sensors installed in manufacturing machinery, predictive maintenance may foresee when parts will wear out and need to be replaced or serviced. This method may help businesses save money by allowing them to plan maintenance ahead of time rather than reacting to a malfunction that might lead to downtime or unanticipated costs.

5. Usage-based Insurance

Using data from the Internet of Things sensors, usage-based insurance firms develop predictive models. Insurers and other businesses use this data to assess the likelihood that a client may submit a claim after an accident, be a victim of theft, or experience damage to their home due to natural causes.

6. Streaming Analytics

Big data in motion is constantly processed and analyzed using streaming analytics.

Equipment sensors, web traffic, social media updates, stock prices, app use, and more are all examples of streaming data sources. Streaming analytics is used by businesses to make real-time or near-real-time discoveries and interpretations of patterns, visualizations, communication of insights and alarms, and triggering of activities.

Such analytics focuses on data flows rather than sophisticated analytical operations. Its primary objective is to provide the user with the most recent facts and information at all times. With those traits in mind, the following sectors make frequent use of stream analytics:

- Construction and maintenance of large equipment, transportation, and fleet operations

- Finance   • Healthcare

- Customer service/retail
- The Production and Distribution Network

- Home Safety
- IT

7. Machine Learning

Machine learning (ML) has a crucial role in data science technology and innovation. It is a part of artificial intelligence that helps algorithms learn how to improve their own prediction abilities over time without being explicitly taught to do so. With the use of historical data, machine learning algorithms can make accurate predictions.

The discipline of data science is expanding rapidly, and machine learning is an integral part of it. One popular use of machine learning is in recommendation engines. Besides these primary applications, fraud detection, spam filtering, malware threat detection, business process automation (BPA), and predictive maintenance are all very common usage.

The algorithms used in machine learning improve themselves automatically over time. Software that employs ML, for instance, improves its ability to recognize patterns in enormous amounts of data, analyze suspected causes of sickness, and spot spam emails.

When it comes to new product creation and customer service, machine learning is invaluable. Google, Facebook, and Uber are just a few of the modern tech giants that use machine learning extensively. There are four primary approaches available: supervised learning, unsupervised learning, semi-supervised learning, and reinforcement learning. Data scientists utilize different algorithms for prediction depending on the nature of the data they are working with. Best Data Science Bootcamp courses can assist you in learning about these algorithms in detail.

8. Edge Computing

Edge computing is a new technology in data science that is emerging to minimize delays and save on data transfer costs. Networks are increasingly adopting the edge computing concept. In its simplest form, Edge computing refers to offloading data processing from remote servers to more local nodes, such as the user's computer, an Internet of Things device, or an edge server. Moving computing closer to the network's edge can reduce the time spent in transmission between the client and the server. Software products and services of many kinds may benefit from using edge computing. The possibilities include security system monitoring, smart devices with efficient user interactions, Self-driving cars, improving video conferencing, designing medical monitoring devices, etc.

Big data analytics aims to help businesses make more informed decisions by identifying underlying patterns, insights, and trends in enormous amounts of data. The use of targeted advertisements, product creation based on consumer needs, and pricing optimization are just a few of the ways in which businesses leverage big data analytics. Growing amounts of structured transaction data and other forms of information not utilized by traditional BI and analytics tools are collected, processed,

cleaned, and analyzed by data analysts, data scientists, predictive modelers, statisticians, and other analytics specialists.

9. Decision Intelligence

Decision intelligence is a multi-disciplinary engineering discipline that includes theories from managerial science, decision theory, and social science. It provides a framework to provide organizational decision-making best practices to apply ML at scale. An additional M.L. data science technology, decision intelligence, is used to make better judgments. Business decisions can be made more quickly, with better insight, and with greater accuracy, thanks to increased automation and heightened human decision-making skills. With its analytics-focused data and analyzing system driven by Artificial intelligence, Decision Intelligence closes the gap between existing corporate solutions and platforms. There are a number of decision intelligence platforms that streamline the decision-making process by reshaping business issues, running them through the appropriate algorithms, and presenting the results in a style that's easy to digest and put into practice.

10. Blockchain Technology to Data Analysis

Blockchain technology assures transparency by eliminating the need for a trusted third party during the data collection, storage, and analysis processes. To examine, localize, cluster, model, and eventually graphically display data within a cryptographic distributed ledger is the process known as blockchain analytics. Blockchain analysis's primary goal is to learn valuable facts about diverse cryptocurrency users. Time stamps, cryptographic signatures, and other data are only some of the things that are included in the blocks that make up a blockchain's transaction history. Additionally, the data within each block is hashed to provide a unique identifier.

Data science technology helps scientists in two significant ways. Each consecutive hash in the chain is generated from the previous block's hash, so any changes to the chain need rehashing the whole chain. If one link in the chain is compromised, the whole thing collapses.

- Due to its decentralized structure, blockchain allows for greater visibility and precision in analytics and reporting.

- Records stored on a blockchain cannot be altered after they have been recorded. Thus, for scientists that need accurate data, this is a great resource.

11. Python and Pandas

Python is a widely used programming language supported by a rich community of free and open-source resources. As a tool for data scientists, it is capable of complicated analysis across several data sources. 'Pandas,' built on top of Numpy, is Python's most influential and widely used module. It provides the implementation of a wide variety of data objects and data operations. When it comes to data science, Pandas is one of the most well-known and influential tools available. Data structures and files may be read from and written to with the help of the tools provided by Pandas. It also has

robust capabilities for data manipulation via aggregation. A DataFrame, a two-dimensional table, is the primary data structure in Pandas. Data may be imported into a DataFrame from several sources, including CSV, XLSX, JSON, and SQL. You may modify your rows and columns, examine the statistics of your collection, find and deal with missing data, and more with only a few lines of code.

12. Artificial Intelligence

AI, or artificial intelligence, has been around for a long time. It has been used for decades to streamline the process of interacting with devices and gathering information about customers. Because of how quickly technology can digest information and how easy it is to access, it has become an integral part of our daily lives. Using artificial intelligence, computers can sift through mountains of information and make recommendations on what will and won't work. AI may also do in-depth analyses of client data to make educated guesses about future product directions, sales channels, and customer tastes. Business organizations that employ AI in data science can provide,

- Better healthcare facilities: More illnesses have been cured thanks to automated systems facilitating medical research and development. Additionally, the application of AI to analyze past data has aided in forecasting microbial and viral outcomes.

- Personalized online shopping experience: The Future of Online Shopping Is Here, And It's Personalized! The user's browsing behavior and search history are monitored to serve up targeted product ads that are more likely to appeal to the consumer and match their wants and expectations.

- Unique video gaming experience: Bots, under the system's command, are a common fixture in computer games. These NPCs may adjust their degree of challenge in response to the real player's skill. The potential of Artificial Intelligence to change and adapt is being put to use here.

- Enhanced surveillance and imaging: Using computer vision, which is employed by applications like Snapchat and Instagram, it is possible to improve the quality of photographs for better surveillance. The military and police frequently utilize image enhancement for spying purposes.

13. AR/VR Systems

The use of Augmented and Virtual Reality Technology in Data Analysis. Traditional methods of data visualization, such as bar graphs and pie charts, are inadequate for depicting the diversity of the information we collect today. Virtual reality or augmented reality works as impeccable technologies for visualization in data science. It creates a far more conducive environment for the process. For instance, virtual reality (VR) approaches may pinpoint defects and mistakes that could slow down the process or cause other problems for a company when used in the product development lifecycle. Augmented and virtual reality (AR/VR) aid the user in interacting with the data to better understand the information. Traditional 2D data representations sometimes make it challenging to spot

important details like data clusters at the intersection of many dimensions. Users are assisted in comprehending and making sense of information by its visual representation.

14. Quantum Computing

Back in the 1980s, a new field called quantum computing began to emerge. To develop innovative forms of computing, it takes advantage of quantum physics phenomena. In contrast to a standard computer bit, a qubit can take on more than one of two possible states: 0 or 1. Computing on the quantum level can filter through vast amounts of data to identify promising leads for resolving complex issues. Artificial intelligence (AI) systems can analyze data at a higher specification and detect patterns and irregularities in vast amounts of data faster than before. Thanks to the input of data processed by quantum computing. Better data analysis and machine learning model building are two areas where quantum computers excel.

RESULTS

- Students will develop relevant programming abilities.

- Students will demonstrate proficiency with statistical analysis of data.

- Students will develop the ability to build and assess data-based models.

- Students will execute statistical analyses with professional statistical software.

- Students will demonstrate skill in data management.

- Students will apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively

Conclusion :

That's all. We have already discussed 14 impeccable technologies shaping data analysis. These technologies will surely aid data science professionals to be more precise regrading data analysis, clustering, and creating artificial intelligence and machine learning model backed by real-time data. Hope you find our data science technologies list resourceful.

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Integration of Edge Computing and Cloud Computing

Kanika Gautam[1] and Dilpreet Kaur[2]

[1]Student, Bachelor of Commerce, Biyani Girls College
[2]Faculty, Department of Commerce & Management, Biyani Girls College

Abstract :

In this paper, we try to integrate edge computing with the cloud computing paradigm. There are several issues and challenges in cloud computing paradigm which can be resolved by edge computing. So, in this paper we have discussed about those issues and given an idea that how edge computing is able to resolve that issues. In this paper, first we have discussed about edge computing with its definition and data flow diagram followed by its applications in various fields like smart city, smart home, cloud offloading and image and video analysis, then at last we have discussed about the issues and challenges of cloud computing followed by the idea of how edge computing can solve that issues.

Keywords: Edge computing, cloud computing, internet of things (IoT), Zigbee, WiFi, etc.

Introduction : Cloud Computing has become very popular around 2005 . The idea of storing, processing and managing data at the clouds has really produced a great change in working and living style of us. For example: Facebook, Twitter, Whats App, Google Apps, etc. has been widely used in our daily life.

Internet of Things (IoT) first came into existence in 1999 and from then, the idea of "making each and everything as smart as they can produce their own computer sense information, so that they can be controlled and managed without the human intervention" has been implemented in many other fields like home, environment, transport, healthcare, etc., Since IoT has been becoming so much popular in the present era, so it is estimated by Cisco Global Cloud Index that data produced by people, machines, and things will reach 500 zettabytes by 2019, however, the global data center IP traffic will only reach 10.4 zettabytes by that time. It is also estimated by Cisco Internet Business Solutions Group that more than 50 billion things will be connected to internet by 2020.

So, cloud computing is not only efficient to handle such a large amount of data because if so, load on the network get increased, and processing time and response time of the applications running on the cloud get increased.

So, due to the pull from IoT it is important to overcome this limitation of cloud computing. To enhance cloud computing efficiency, the concept of edge computing comes into existence.

We are going to discuss the concept of edge computing in detail in this paper followed by the issues regarding the implementation of these concepts.

Research Methodology:

The qualitative analysis based on the research where there are smaller samples that constitutes the description for the research of cloud computing. Here, the effectiveness is based on the approach to measure the skills and the abilities to test the research with the outcomes that are not perceived to be reliable. These mainly come from the research of the personal judgements where the results are also reflecting the opinions of the wider population. The aim for these is to classify the features with focus on working with detailed description and gathering of data lile Australia how MYOB accounting software is able to make use of cloud computing techniques with this the standards are based on matching the system sets in architecture to improve the foundation of th data where the researchers also tend to be generalized with the subjective forms. The research for the quantitative pattern is also based on holding the constructs for the statistical data patterns where the models generaly attempt to explain about what has happened observed with recommendations for the different phases of the research objects.

A. Edge Computing Concepts

Edge computing is different from traditional cloud computing. It is a new computing paradigm that performs computing at the edge of the network. Its core idea is to make computing closer to the source of the data. Researchers have different definitions of edge computing. Shi et al. introduced the emergence of the concept of edge computing: "Edge computing is a new computing mode of network edge execution. The downlink data of edge computing represents cloud service, the uplink data represents the Internet of Everything, and the edge of edge computing refers to the arbitrary computing and network resources between the data source and the path of cloud computing center." Satyanarayanan, a professor at Carnegie Mellon university in the United States, describes edge computing as: "Edge computing is a new computing model that deploys computing and storage resources (such as cloudlets, micro data centers, or fog nodes, etc.) at the edge of the network closer to mobile devices or sensors" . Zha et al. [8] proposed on the basis of the above two definitions: "Edge computing is a new computing model that unifies resources that are close to the user in geographical distance or network distance to provide computing, storage, and network for applications service." China's edge computing industry alliance defines edge computing as: "near the edge of the network or the source of the data, an open platform that integrates core capabilities such as networking, computing, storage, applications, and provides edge intelligent services nearby to meet the industry agility key requirements in connection, real-time business, data optimization, application intelligence, security and privacy".

Edge computing is to migrate the cloud's network, computing, storage capabilities and resources to the edge of the network, and provide intelligent services at the edge to meet the critical needs of the IT industry in agile linking, real-time business, data optimization, application intelligence, security and privacy, and meets the requirements of low latency and high bandwidth on the network. Edge comp- uting has become a research hotspot nowadays.

B. Cloud Computing and Edge Computing

1) Cloud Computing

Before the emergence of edge computing, traditional cloud computing transfers all data to the cloud computing center through the network, and solves the computing and storage problems in a centralized way. In literature [15], the development history of cloud computing is described. In the search engine conference (sessane jose 2006) in August 2006, the CEO of Google first proposed the concept of cloud computing. In the development history of cloud computing, this is the first time to formally put forward the concept of cloud computing. With the development of search engines represented by Google, cloud computing starts to show strong vitality. Nowadays, cloud computing has gradually developed. It is a very powerful network service platform including distributed computing, load balancing, parallel computing, network storage, virtualization and other technologies. However, nowadays, with the popularization and development of the Internet of Things in people's life, the number of devices connected to the Internet of Things is gradually increasing, and a large amount of data is generated. The network bandwidth of cloud computing has been unable to meet the needs of time-sensitive systems and real-time performance.

2) Connection and Difference Between Cloud Computing and Edge Computing

The emergence of edge computing will not replace cloud computing. In the aspects of network, business, application and intelligence, the two should exist together, complement each other and develop in a coordinated way, which will help the digital transformation of the industry to a greater extent. All data onto edge nodes still need to be summarized in the cloud to achieve in-depth analysis and obtain more meaningful analysis results. Therefore, cloud computing is still playing an important role in the development of Internet of Things devices that are gradually intelligent

C. Advantages of Edge Computing

Edge computing model stores and processes data on edge devices without uploading to cloud computing platform. Due to this feature, edge computing has obvious advantages in the following aspects:

Fast data processing and analysis, real-time: the rapid growth of data volume and the pressure of network bandwidth are disadvantages of cloud computing. Compared with traditional cloud computing, edge computing has advantages in response speed and real-time. Edge computing is closer to the data source, data storage and computing tasks can be carried out in the edge computing node, which reduces the intermediate data transmission process. It emphasizes proximity to users and provides users with better intelligent services, thus improving data transmission performance, ensuring real-time processing and reducing delay time. Edge computing provides users with a variety of fast response services, especially in the field of automatic driving intelligent manufacturing, video monitoring and other location awareness, rapid feedback is especially important.

Security: traditional cloud computing requires all data to be uploaded to the cloud for unified processing, which is a centralized processing method. In this process, there will be risks such as data loss and data leakage, which cannot guarantee security and privacy. For example, account passwords, historical search records and even trade secrets can all be exposed. Since edge computing is only responsible for the tasks within its own scope, the processing of data is based on the local, there is no need to upload to the cloud, to avoid the risks brought by the network transmission process, so the security of data can be guaranteed. When data is attacked, it only affects local data, not all data.

Low cost, low energy consumption, low bandwidth cost: in edge computing, since the data to be processed does not need to be uploaded to the cloud computing center, it does not need to use too much network bandwidth, so the load of network bandwidth is reduced, and the energy consumption of intelligent devices at the edge of the network is greatly reduced. Edge computing is "small-scale," and in production, companies can reduce the cost of processing data in local equipment. Therefore, edge computing reduces the amount of data transmitted on the network, reduces the transmission cost and network bandwidth pressure, reduces the energy consumption of local equipment, and improves the computing efficiency.

Architecture of Edge Computing

With the Internet of Everything era and the development of 5G, edge computing is considered as one of the key technologies in the next generation of communication network following the Internet of Things and artificial intelligence [25]. The reference architecture for edge computing is the focus of many organizations. This section begins with an overview of the general architecture for edge computing, followed by a detailed introduction of the reference architecture proposed by the edge computing industry alliance (ECC) and the Linux foundation in sections 3.2 and 3.3, respectively.

A. General Architecture of Edge Computing

Edge computing architecture is a federated network structure that extends cloud services to the edge of the network by introducing edge devices between terminal devices and cloud computing.

The structure of cloud-edge collaboration is generally divided into terminal layer, edge layer and cloud computing layer. The following is a brief introduction to the composition and functions of each layer in the edge computing architecture.

1) Terminal Layer

The terminal layer consists of all types of devices connected to the edge network, including mobile terminals and many Internet of Things devices (such as sensors, smartphones, smart cars, cameras, etc.). In the terminal layer, the device is not only a data consumer, but also a data provider. In order to reduce the terminal service delay, only the perception of the various terminal devices is considered, not the computing power. As a result, hundreds of millions of devices in the terminal layer collect all kinds of raw data and upload it to the upper layer, where it is stored and calculated.

2) Boundary Layer

The edge layer is the core of the three-tier architecture. It is located at the edge of the network and consists of edge nodes widely distributed between terminal devices and clouds. It usually includes base stations, access points, routers, switches, gateways, etc. The edge layer supports the access of terminal devices downward, and stores and computes the data uploaded by terminal devices. Connect with the cloud and upload the processed data to the cloud. Since the edge layer is close to the user, the data transmission to the edge layer is more suitable for real-time data analysis and intelligent processing, which is more efficient and secure than cloud computing.

3) Cloud Layer

Among the federated services of cloud-edge computing, cloud computing is still the most powerful data processing center. The cloud computing layer consists of a number of high-performance servers and storage devices, with powerful computing and storage capabilities, and can play a good role in areas requiring large amounts of data analysis such as regular maintenance and business decision support. The cloud computing center can permanently store the reported data of the edge computing layer, and it can also complete the analysis tasks that the edge computing layer cannot handle and the processing tasks that integrate the global information. In addition, the cloud module can also dynamically adjust the deployment strategy and algorithm of the edge computing layer according to the control policy.

B. Edge Computing Reference Frame

ECC, jointly initiated by Huawei, Shenyang institute of automation, Chinese academy of sciences, China academy of information and communications, and other well-known enterprises, put forward the edge computing reference frame in the edge computing white paper released in December 2018. The frame of reference is based on model-driven engineering method.

	Applicable situation	Network bandwidth pressure	Real-time	Calculation mode
Cloud computing	Global	More	High	Large scale centralized processing
Edge computing	Local	Less	Low	Small scale intelligent analysis

TABLE 1 Main Differences Between Cloud Computing and Edge Computing

Conclusion:

Cloud computing is the fastest growing part of network based on computing it provides tremendous benefits to customers of all sizes: simple users, developers, enterprises and all types of organization.

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Skilling Human Resource for a Balanced Economic Growth

Kanishka Kumawat[1] and Nikita Kumawat[2]

Students, Department of Commerce & Management, Biyani Girls College

Abstract

In contemporary economy, often referred to as knowledge and skill based economy skill based economy, human resource development (HRD) must be a continuous process. Education and training are directed to increase human capital accumulation and to promote the economic and social benefits of lifelong learning. According to the principles of the new economy, HRD investments represent the key to sustainable economic growth and competitiveness. By investing in learning, education and training, countries can improve economic performance, increase productivity and incomes and create a better social and economic environment. Lifelong learning turns individuals into architects of their own career and helps them face challenges of skill

overtaking by rapid changes of economic world.

Recent literature has contrasted Human resource Development, described as the ultimate goal of the development process, with economic growth, described as an imperfect proxy for more general welfare, or as a means toward enhanced human development. This debate has broadened the definitions and goals of development but still needs to define the important interrelations between human development (HRD) and economic growth (EG). To the extent that greater freedom and capabilities improve economic performance, human development will have an important effect on growth. Similarly, to the extent that increased incomes will increase the range of choices and capabilities enjoyed by households and governments, economic growth will enhance human development. This paper analyzes these relationships and the two-way linkages involved. It will first review some of the theoretical debates on EG/HD linkages, then review the conclusions suggested by empirical analysis. Finally it will examine the policy implications of these linkages. Section II discusses the case for HD and whatproduces HD

Section III discusses similar issues for EG, and Section IV concludes, analyzing the two-way relationship between them.

Growth and its Impact on Human Resource Development

Human resource development finds its theoretical underpinnings in Sen's capabilities approach which holds "a person's capability to have various functioning vectors and to

The assistance of Dan Keniston and Tavneet Suri is gratefully acknowledged. enjoy the corresponding well-being achievements" to be the best indicator of welfare (Sen, 1985). This perspective shifts the analysis of development to the vector of not only attributes (as is the more traditional utilitarian or even the original basic needs view of human welfare, see Streeten, 1979), e.g. income, education, health, but also the vector of possible opportunities available to individuals in a particular state. Naturally, there is a link between the two--these opportunities are affected by certain attributes of the individual: a starving or uneducated person would have fewer choices than a healthy, educated person.

Components of a Human Resource Development

Index admittedly constitutes a rough proxy and simplification of the original capabilities theory.

Notably missing were measures of political freedom and income inequality. Furthermore, any quantitative ranking raises difficult empirical questions, such as accounting for the decreasing marginal utility of income, and the necessarily arbitrary weighting of each component of HD. Nevertheless, the HDRs have had a strong influence on development thinking, causing developing countries to publish their own national-level human development reports and indices and modifying their policies.

Income growth clearly strikes one as the main contributor to directly increasing the capabilities of

individuals and consequently the human development of a nation since it encapsulates the economy's command over resources (Sen, 2000).

For example, while the citizens of the Indian state of Kerala have life expectancies and literacy rates comparable to those of many developed countries, the fact that they cannot enjoy many of the benefits of citizens of such countries (such as better housing, transportation, or entertainment) demonstrates the importance of GDP as an instrument for achieving a wide range of capabilities. However, GDP also has a strong effect on literacy and health outcomes, both through private expenditures and government programs. Thus, insofar as higher incomes facilitate the achievement of other crucial human development objectives, it also has an indirect effect on human development.

At a macro level across households. At the micro level there is great potential for a positive causality—individual and household consumption can be an important element in increasing human development and may respond more closely to the real needs of the population than do government programs. However, individual consumption may not always go towards goods which contribute maximally to human development. In societies where women contribute more to family income and have more influence on household decision-making expenditures on human development-oriented goods are likely to be relatively higher. For example, among Gambian households, the larger the proportion of food under women's control, the larger household calorie consumption

Human resource Development and its Impact on Economic growth Growth

Human development, in turn, has important effects on economic growth. If a central element of economic growth is allowing agents to discover and develop their comparative advantage, an increase in the capabilities and functionings available to individuals should allow more of them to pursue occupations in which they are most productive. In this sense human development can be seen as the relaxing of constraints which may have interfered with profit maximization . Furthermore, although human development represents a broader concept, many of its elements overlap significantly with the more traditional notion of human capital. Thus, to the extent that human which have high rates of GDP growth relative to the improvement in human development indicators, including government corruption, low social expenditures, or inequitably

Health has also demonstrated positive effects on economic growth beyond its inherent desirability as an end in itself. Strauss and Thomas (1998) review a large literature documenting how improvements in health and nutrition improve productivity and incomes. Schultz (2000) finds correlations between height and income in his analysis of data from Ghana, Cote d-Ivoire, Brazil, and Vietnam. A range of labour productivity gains has been observed associated with calorie intake increases in poor countries, (Cornia and Stewart, 1995), including studies of farmers in Sierra Leone (Strauss, 1986), sugar cane workers in Guatemala (Immink and Viteri, 1981), and road construction workers in Kenya (Wolgemuth, Latham, Hall, and Crompton, 1982).

Inthese cases productivity enhancement appears to follow fairly immediately as current intakes of

calories or micro-nutrients are increased.

Education and health may also have strong indirect impacts on economic growth through their effect on the distribution of income, and education even more so through its impact on health (for example, Behrman and Wolfe, 1987b provide evidence of the impact of women's education on family health and nutrition). As education and health improve and become more broadly based, low income people are better able to seek out

economic opportunities. For example, a study of the relation between schooling, income inequality and poverty in 18 countries of Latin America in the 1980s found that one quarter of the variation in workers' incomes was accounted for by variations in schooling attainment; it concludes that "clearly, education is the variable with the strongest impact on income equality" (Psacharopolous et al., 1992). And a more equal distribution of income is known to favor growth for both economic and political economy reasons.

Education may also affect per capita income growth via its impact on the denominator, i.e. population growth. For example, a study of 14 African countries in the mid-1980s showed a negative correlation between female schooling and fertility in almost all countries, with primary education having a negative impact in about half the countries and no significant effects in the other half, while secondary education invariably reduced fertility (Birdsall, Ross and Sabot, 1995); (Jayaraman, 1995); (Strauss and Thomas, 1995); (Thomas, Strauss and Henriques, 1991); (Behrman and Wolfe, 1987a).

The two-way relationship between economic growth and human development suggests that nations may enter either into a virtuous cycle of high growth and large gains in human development, or a vicious cycle of low growth and low rates of HD improvement. In these states, levels of EG and HD are mutually reinforcing, either leading towards an upward spiral of development, or a poverty trap. The existence and persistence of these cycles depends on the strengths of the linkages previously cited between EG and HD. Countries may also find themselves in a lop-sided state, at least temporarily, with relatively good growth and relatively poor HD, or vica versa. There may be various reasons for "economic growth lopsided" nations, i.e. those which have high rates of GDP growth relative to the improvement in human development indicators, including government corruption, low social expenditures, or inequitably distributed incomes. A recent analysis of such cases raises concerns about the sustainability of this state, e.g., Ranis, Stewart, and Ramirez (2000) find that of the eight

EG-lopsided nations in 1960-70, all eight moved to the vicious cycle of low EG/low HD.

These results suggest that good economic growth not accompanied by increases in human development may prove to be ultimately unsustainable.

"Human resource development lopsided" nations, on the other hand, fared better over the last forty years, with four nations moving into virtuous cycles and four others moving into vicious cycles. In

the 50% favorable cases, early progress in human development meant that they were able to take advantage of policy reforms to generate growth. Thus, a high level of human development early in a nation's history can, with the right policy decisions, translate into a virtuous cycle of good growth and human development supporting each other. The policies involved, such as encouraging higher levels of investment, technology change and an improved distribution of income, can leverage the successes in human development into sustainable economic gains.

This contrast clearly points to an important conclusion for development sequencing, i.e., human development seems to be a necessary prerequisite for long-term sustainable growth. Human development may, moreover, exhibit threshold effects, in the sense that nations must attain a certain HD level before future economic growth becomes sustainable. This emphasis on levels differentiates human development from human capital in endogenous growth theory. While changes in human capital and labour quality matter most for endogenous growth, it is the level of human development that determines a nation's sustainable growth path.

The above findings also have strong implications for government policy. If HD improvements are indeed a precondition for sustainable EG, government policy and public funding may be necessary to move a nation above the HD threshold level. Nations stuck in vicious cycles, or low-HD poverty traps may need targeted government investments to meet the fixed costs of HD improvements that will lead to later economic growth. These fixed cost investments may include schools, hospitals, and the necessary governance improvements to effectively implement investment projects.

The crucial lesson that emerges is that the old-fashioned view of "grow first and worry about human development later" is not supported by the evidence. Improving levels of education and health should have priority or at least move together with efforts to directly enhance growth.

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Integration of Edge Computing with Cloud Computing

Sneha Dadhich

Students, Department of Commerce & Management, Biyani Girls College

Introduction:

Commerce and management, the word itself have many perspectives. It is needed in business as well as any work done by any individual. Management is needed in daily life so with this business is also improved. Business needs innovative ideas to create a new cycle in an environment.

Here, edge computing and cloud computing are regular words used in tech and businesses.

Edge computing: It is computing that takes place at the edge of corporate networks. Here edge Is defined as a place where end devices access the rest of the network- gadgets like phones, laptops, industrial robots, and sensors. The edge used to be a place where the devices connected so they could deliver data to, and receive instructions and updates from a centrally located data center or the cloud.

Now with the explosion of the internet, that model has shortcomings. IoT devices gather so much data that the sheer volume requires more expensive connections to data centers and the cloud.

Cloud Computing: It refers to the data and applications stored and run on the cloud rather than on your local computer or on-premises equipment. What is cloud? Now to put it simply, the cloud is just a big building that's filled with servers.

So this building is very large as it contains many servers and these servers perform numerous tasks, such as running applications, storing data, web hosting, and so on. And they are also networked together and they can be accessed on the internet.

What is the purpose of cloud computing?

Well, the companies that own these clouds are called cloud providers and their purpose is to sell their computers as a service. Now service is paying someone to do it for you rather than doing the job yourself. So if a company wanted to hire another company to do part or all of its computing workload it would outsource it to third parties. That is cloud computing.

Experimental/methodology:

Cloud computing methodology is used to guide industrial customer analysis. To solve the potential problem which occurs in industries. It consists of 3 phases.

Where 1st phase is the strategy.

2nd stage is planning.

3rd phase is deployment.
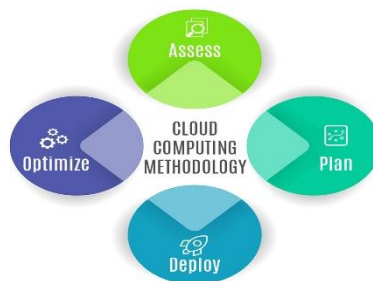
Edge computing comes in which many see as an extension to the cloud but which is different in many ways. The basic difference between them lies in the place where the data processing takes place.

At the moment, the existing IoT system possesses all its computations in the cloud using the network.

Thus it only sends the important data and it reduces the data as it is stored in edge computing.

Data analysis, result, and discussion:

Here, if the integration of edge computing and cloud computing is done, it depends on what is the purpose. Many questions arise that which one is better or which one will overtake the other.

As it's not a matter that which is better but it is intended to use for the massive amount of data storage for software and apps that don't have real-time processing needs, the cloud would be the solution. It's also not a question of edge versus hybrid data centers but rather creating a hybrid environment to house both edge and cloud capabilities effectively to optimize the benefits of each.

Edge computing helps in:

Reduced bandwidth costs, real-time computing power, substantially reduced latency issues, etc.

RESULT:

Edge computing brings three big things together. It brings mobility of applications, low latency, and location in terms of proximity.

So, think of cloud computing. Everybody knows what a cloud is and it was a huge trillion-dollar market.

Edge computing is bringing the cloud close to the application as possible and that's four times the size of the earth, the cloud computing.

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Understanding Skillset in Investment Management Career Path

Devika[1] and Kumkum Shekhawat[2]

[1]*Associate Professor, Biyani Institute of Science and Management, Jaipur*
[2]*MBA- Ist Semester, Biyani Institute of Science and Management, Jaipur*

Abstract:

The finance function intelligently allocates capital to long term assets and aims to benefit society by promoting wealth development and raising standards of living. The dynamic and demanding investment industry is considered as the epicenter of accomplishing this goal. Financial analytics and investment management is one of the key areas for developing complex business processes throughout the globe for which strategically skilled and professionally equipped workforce is the need of the hour. Augmenting skills and learning in finance may lead to intellectual growth and constructive influence of the aspirants, fetching massive pay packages and exponential extension of the career graph. In order to succeed professionally in the investing sector, one must be curious and committed to lifelong learning with developed transferrable skills and deeper understanding of the market.

The study evaluates the prospects of making career in finance for developing skills related to investment management, valuation of assets, portfolio management and wealth planning. It also tries to highlight the ways of better utilization of talent diversity by combined power of distinct but complimentary talents in finance as well as suggests structural modifications to investment teams. It suggests a collaborative platform to the industry and academia in upgrading skills, knowledge and experience of investment professional for comprehensive growth of economies in general and corporates in specific.

Keywords: Chartered Financial Analyst, Investment management, Portfolio Management, T-shaped Skills

Introduction: Human capital is the major driving force in the investment industry. Investment management decisions are the key areas of concern of any finance manager around the globe so as to flatten opportunity cost and maximize wealth gains. The industry leaders emphasize on talent investment and management in order to accomplish financial gains through financial investment decisions. This has convoluted the skill requirements of finance professionals into specialized, strategic and standardized practices so to create a more effective and adaptable investment industry, for the ultimate benefit of society in this dynamic technology driven scenario. Chartered Financial Analyst (CFA) course has been considered as the epitome of skill development in investment banking field for global processes having exemplary knowledge in financial management, portfolio management, risk analysis, investment banking, asset management etc. The multidisciplinary approach of education has catapult into attracting aspirants from all walks of life. Students after graduating from STEM courses, commerce and humanities coalesce into the fastest money making career path bringing in diversity of talent into the financial field. Interest of Indian in finance has ever been booming due to enhanced mathematical aptitude, societal pressure of perusing STEM and profession courses in Finance, instead of creative arts and humanities and attaining expertise for global placements.

Objectives:

1. To understand the future and importance of Investment management.

2. To understand skills and knowledge required in investment profession

Review of literature: The Future Of Work Investment Management (2022)-this report is about the investment skills needed in the profession, wherein it categorically focuses on the benefits of doing CFA for a successful career in the investment profession , the report talks about requisite skills, effective team building , the changing scope and nature of investment roles. Types of Diversity in Finance (2022) - The CFA institute website highlights the average age of candidates pursuing CFA course, the inclusiveness of educational and gender diversity in Finance course as well as the percentage of ethnicity interested in CFA course for honing skills in Investment banking and management sector.

Methodology: The study is based on the secondary data collected from published report, research papers, articles and websites.

Discussion: Indian market is considered to be the 3rd largest for CFA course after USA and UK. The US Bureau of Labor statistics estimates that around 9% of the Asians opt for CFA course where as 84% USA and UK nationals are doing CFA to be an expert in investment management. (Institute, CFA, 2022). The age diversity in the field of finance is highly dependent on the aspirant's role within the industry. Candidates from diverse backgrounds are being attracted to financial management courses for attaining managerial positions and decision making capacities. Globalization and multi- country business processes have also exerted a thrust on pursuing CFA course. The level of age diversity is highly dependent on an individual's role within the industry. The average age of doing CFA varies from 22 to

50 years, India having an average age 36.1 years. (Types of Diversity in Finance, 2022). CFA course consists of three levels and each level offers various job opportunities.

CFA provides expertise in the following domain
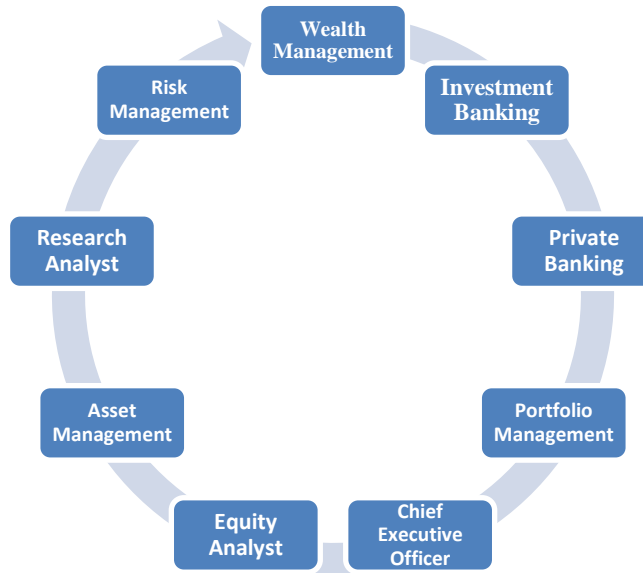
Source: Author

Requisite Skillset for Investment Professionals: The purpose of the CFA Program is to evaluate candidates' knowledge and comprehension of the foundational concepts of investment analysis, valuation, portfolio management, and wealth management. (Bo Zhou, 2020) The course is used by applicants as a way to advance their professional careers. The technology sector (through fintech) and entrepreneurs are the main influencers of the promotion of this job path in the corporates. There are some skillset needed for successful investment career among which are the valuable combination of providing broader knowledge and success gateway in the corporate field.

The skills required for making investment decisions change as a result of new data sources and economic and technological advancements and changing face of the business world. Apart from mastering the finance and investment functions through CFA program, the skills that the majority of investment professionals are most interested in learning include a fundamental comprehension of artificial intelligence and machine learning as well as familiarity with sustainability issues. Influencing, persuading, and negotiating are the three categories of soft skills that are most crucial. Most investment professionals look for ability, adaptability and a positive attitude. Leaders must figure out the best ways to blend specialist and generalist abilities into efficient teams as the investing sector becomes more complex over time. T-shaped skill (Foley, 2017) specialists can aid in bridging knowledge gaps between specialists and generalist investment specialists. For instance the investment professionals having exquisite knowledge of IT and expertise in soft skills, can easily accomplish the organizational goals and

can create a robust system within and outside the team leading to enhanced productivity.

The requisite skills for an Investment professional

Source: Author

Conclusion: The most challenging aspect of career in investment industry is that the leaders need to dynamically develop and build their skills and enhance knowledge due to changing economic environment around the globe. An investment industry that prioritizes competency, ethics, and adaptability can only well-position itself to thrive now and in the future. Investment organizations and investment professionals must make continuing education a priority for personal, professional, and organizational development. CFA or any other degree/course in finance and investment is just a stepping stone in making a thorough professional. A comprehensive and holistic skill development approach is the need of the hour.

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Developing Industry –Academia Relationship: A case study of BOSCH

Smriti Tiwari[1] and Shivangi Sharma[2]

[1] *Head-Placements & Training, Biyani Group of Colleges, Jaipur*
[2] *Student-MBA, Biyani Institute of Science & Management, Jaipur*

Abstract:

There are various ways to hire young people and make sure they have productive job once they have a degree or diploma. However, there is still a disconnect between education and employment. Formal education is highly valued in India's traditional educational system as a requirement to obtain an entry-level position. Not all students, nevertheless, are able to do so and land their first employment due to lack of confidence or willpower, are less gifted, less fortunate, or simply cannot afford to finish their formal education. They are forced to fend for themselves when they fall behind by failing the exams or simply leaving out. Youth in rural areas have increased suffering due to migration. This paper will help in motivating educational institute to partner with BOSCH for BRIDGE programme and to set up Skill entrepreneur Training centers and also provide the opportunities to trainers to enhance the employability skills for the future competencies.

Introduction: Academia serves in two ways-One is to provide the sector the trained personnel it needs to function, it also offers fresh ideas for new company endeavors and career opportunities. Some of the company has taken the initiative as Corporate Social responsibility (CSR) activity to generate employment opportunities for youth and promoting I-startups. "BRIDGE"-Bosch response to India's Development response to India's Development through employability enhancement – an Initiative by Bosch Company, aims to establish partnerships with a range of research and academia partners. Since it has been operating in India for more than 50 years, BOSCH has accumulated extensive knowledge in the field of occupational training, which aids the business in producing high-quality products. Bosch created and developed this three-month short-term programme with a focus on employment and life skills, and Bosch is delivering it through BRIDGE Centers all throughout India. The projects with the potential to address today's problems while addressing those of tomorrow are of great interest. This structured programme will be beneficial to:
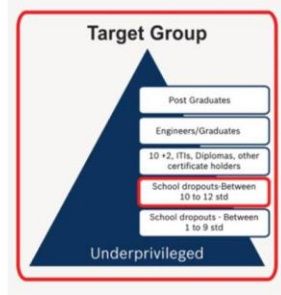
Objective:

- To study the initiative of BOSCH
- To evaluate the efficiency of the programme
- To study the programme, how its instrumental for youth employment

Review of Literature: BRIDGE"-Bosch response to India's Development response to India's Development through employability enhancement (BOSCH) defines the overall content of the programme alongwith benefits, training programme, employment opportunities, and the impact on youth after enrolling in this structured programme. It also explains the unique features, training curriculum and training Kit and the model of Public Private Partnership.

Research Methodology: The study is based on the secondary data collected from Bosch website, Training curriculum Kit, College Proposals and official communication.

Discussion: The goal established by Bosch is to open 200 skilled entrepreneur training centres across India. 25 out of the 200 centers are now operational; the remaining 150 are undergoing training and will open their own skilling centers very soon. Under this programme, 40,000 youth have been trained and employed through more than 500 bridge centers across the country. BRIDGE with placement assistance is to provide new chances for youth by teaching the appropriate skills Bridge offers the various courses which focuses on understanding the scope of Skill entrepreneurship, National building Behaviors, Corporate Collaboration. (Dubey, 2019)

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Impact of Artificial Intelligence on Accounting Operations in India

Leena Arya

Research scholar, Department of ABST, PG School of Commerce, University of Rajasthan, Jaipur

Abstract:

Because of the invention of artificial intelligence technology, it has begun to be involved into the accounting field more profoundly. Artificial Intelligence technology has played a vital role in refining business proficiency, eliminating professional inaccuracies, avoiding and monitoring operational risks, taming entrepreneurial competition, and humanising human resource productivity. Artificial Intelligence enhance the capability of computer technology to another level. While encouraging the growth of accounting work, it will also replace the human workforce and their capabilities and will cause them to face the crisis of unemployment in their professional field. According to the notion of artificial intelligence technology and its solicitation in the accounting, this paper throw the lights on the impact of artificial intelligence on the accounting industry, and shows the challenges of the artificial intelligence technology in India. Prominent growth in Artificial Intelligence has been seen during the last decade. Artificial Intelligence is now no more an imaginary innovation, but one already on the way to implementation.

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Social Entrepreneurship and Sustainability

Renu Jadon

Assistant Professor, Department of Business Administration, St. Xavier's College, Jaipur

Abstract: Social entrepreneurship can be viewed as a process by which entrepreneurs identify opportunities in the marketplace, allocation of resources and create value for the society at large. There is difference between social entrepreneurship and entrepreneurship. Entrepreneurship represents the business activities run by individual or group of people whose motive is profitability and economic self-reliance. Whereas, social entrepreneurship encompasses the business activities with an objective that are resulted in sustainability rather than immediate results. Entrepreneurship is a consequential economic factor. The development of social entrepreneurship requires a structural adjustment in society. The main objective of this paper is to examine the role of social entrepreneurship in enhancing sustainable development. This paper presents a summary of the key

literature on entrepreneurship, innovation, social entrepreneurship, sustainability, and its role as social transformers. It offers an updated view on social entrepreneurship, the driving forces, and the reasons for current interest in this phenomenon. This paper concludes with, that social business models are becoming widespread, enabling social entrepreneurs to actively participate in sustainable development. Social entrepreneurship is a viable and paramount way to bring the world more proximate to achieving the sustainable development goals.

Faced with difficulties that have arisen from sustainable development, several organizations and social reformers present their tasks and their desire to take a dynamic perspective on social responsibility. They face the challenges of sustainable development. This paper examines how social entrepreneurship helps in solving social problems, noting that social entrepreneurship analysis can provide an answer to the challenges of sustainable development. There is evidence that social entrepreneurship can play a very important role in alleviating poverty, ascertaining employment, economic prosperity, environmental equity, pollution-free ecology, good governance, fighting terrorism, assuring tranquillity, fighting corruption, etc.

Keywords: Sustainable Development, Sustainability, Social Entrepreneurship, Entrepreneurship

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A Study of Young Consumers' Perceptions towards Cruelty-free Cosmetic Products

Rose Martin

Asst. Prof., St. Xavier's College, Jaipur

Abstract:

More and more young people have been seen attracted towards cruelty-free cosmetic products in recent times. With growing ecological concerns, environment- friendly, vegan, animal cruelty-free products are being preferred by environment conscious young consumers. Younger generations, especially the millennials are preferring pure, natural, fresh cosmetics that are advertised as cruelty-free and not containing any animal extractions. This study focuses on the perceptions of the youth towards cruelty-free cosmetics and the factors that they consider before purchasing cruelty-free cosmetic products. The study was done on 220 young male and female students and working individuals of Rajasthan and belonging to the age group 15 to 35 years. The data was collected using structured questionnaires. The study depicted direct and positive effects of environment consciousness and attitude of non-violence towards living beings on the purchase intentions of the participants. It was also observed that social media, peer group and advertising impacted the

perceptions and purchase intentions of the participants. The study advocates the need for businesses for producing good quality cosmetic products that need not be tested on animals and for spreading awareness about cruelty-free cosmetics among the youth as a better way of living an altruistic and non-violent life.

Keywords: cruelty-free cosmetics, PETA, not tested on animals, vegan.

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Impact of working capital changes on firms' financial performance (A study of Axis Bank and Canara Bank)

Gurneet Kaur Suri

Assistant Professor, St. Xavier's College, Jaipur

Abstract:

Working capital is said to be the excess of current assets over current liabilities. It is used for regular business operations consisting of purchases of raw materials, payment of wages, direct and indirect expenses, carrying on production, investment in stock and stores, credit granted to customers and cash in hand. It is a life blood of a business enterprise. As soon as the heart gets blood, it circulates the same in the body. In the same manner working capital funds are obtained and circulated in business operations. As and when this circulation stops, the business becomes lifeless. So, we can say that the working capital has an important place in the area of performance, hence working capital performance indicates the adequacy of working capital in the enterprise and the efficiency as regards utilisation of working capital: Analysing of working capital statements and various ratios of its kind may depict required information for the purpose. The financial appraisal is a vital unit to measure the performance of firms. Therefore, financial statements are prepared to serve the objective. In order to analyse Financial Statement properly, users must have a basic understanding of the concept and principles underlying their preparation. Without such an understanding users will not recognize the limits of financial statements.

Keywords: Financial appraisal, financial performance, business operations, working capital.

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Augmented Localized Clustering Technique for Energy Efficiency to be used in WSN

Abraham Amal Raj B[1], Dr. Dharmveer Yadav[2], Mahaveer Sain[3]

[1]*Research Scholar, Department of Computer Science & Informatics, Maharishi Arvind University, Jaipur, Rajasthan, India*
[2]*Assistant Professor, Department of Computer Science, St. Xavier's College, Jaipur, Rajasthan, India*
[3]*Associate Professor, Department of Computer Science & Infomratics, MAISM, Jaipur, Rajasthan, India*

Abstract:

Wireless Sensor Networks (WSNs) reserve a significant spot in the modern communication system. They are energized through a finite sources akin to batteries. Hence they are required to operate on stringent energy limits. The major energy consuming activities include sensing, computing and communicating. Here communication activity usurps a higher energy requirement slot. If the volume of data to be communicated is lowered then a significant amount of energy can be conserved. This proposed article examines the spatial and temporal correlation between data accumulated by a WSN. We will employ a Localized Energy efficient Clustering Approach (LECA); in this approach the Cluster Heads (CH) are picked exploiting passive clustering technique depending on their weights. The gateway or sink node receives the data through a multi hop path over an associated principal set containing just Cluster Heads. Through a dual prediction framework, the sensor nodes will transmit only a subset of the sensed data to the cluster head. Then the cluster heads are uniformly distributed over the area of relevance through LECA keeping balanced coverage of the region. This method increases the longevity of the WSN, with optimum level of precision on collected data. The coverage improvement is best while compared with other hierarchical clustering protocols.

Keywords: wireless sensor network, cluster heads, distributed clustering, data reduction, energy efficiency

Introduction :

WSN is an integral part of the established and growing industries such as agriculture, healthcare, medicine, military, weather monitoring, environment protection, security, etc. Varied are the applications of WSN in commercial, industrial sectors. Wireless sensor networks are preferred because of their lower cost implementation, higher computational scope and reduced size.

A WSN consists of multiple sensor nodes which are placed in a manner to cover the desired region to collect one or more metrics of interest. Raw data are collected from the area of interest and are relied to the sink or the remote host. A sensor acts as the node's front end and gathers physical input. Then the electrical data is fed to the processor and the preliminary data processing is done.

This processed data is then transmitted through Radio Frequency transceiver. The entire process is powered by a finite source of energy, a battery, embedded on the node.

Since the sensor nodes are independent systems with finite source of energy their lifespan too is restricted. Most of the WSNs are deployed in a very challenging environments making charging the batteries practically impossible. To ensure the continued services of the systems' life, energy has to be conserved in the most novel way. Sensing, processing and communicating are the three major components of a sensor node and the communication component tends to primarily consume energy.

Data accuracy is of paramount interest in adopting the WSN. It depends on the sampling frequency and the efficacy of the medium. When there is an increase in the quantity of samples sent to the host then the host can reconstruct accurately the measured signal. When there is an increase in the samples relied to the sink, then data accuracy could be improved. The downside of intensified transmissions means diminished residual power on the battery. Now, we can recall that for the WSN, the crucial parameters are both nodal life time and data accuracy. Hence there is a need to optimize the nodal life time and data accuracy with application defined controls.

The regions of interest demonstrate, predominantly, gradual changes in the time domain in the environmental factors and physical occurrences. In time domain, the association among manifold points of a signal is designated as temporal correlation. The quantity of data transfer can be extensively reduced by predicting the temporal correlation of a recorded signal. Sensors that are closer will quantify values that are almost equivalent in the physical space. Redundant data can be purged by isolating the variation in weight of the given signal over the space. The proposed work encompasses clustering of nodes by their relative location.

Localized Energy Efficient Clustering Approach :

Clusters are distinctively designed to decrease the energy consumption and the network's bandwidth requirements. For attributing the clusters in the system, a single CH paired with several adjacent sensor nodes. The CH collects the data from the sensor nodes, pools it and relays to the base station. This step will drop the nodes' energy cost and lowers the likelihood of data collisions. The conventional cluster's energy standard is provided as

$$\sum \sum \{ly_{ij}(D_{ij} + E + EDA) + lagFix_i\} \dots (1)$$

$$i \in N \ j \in N$$

Where $y_{ij} = 1$, when 'j' node is a CH cluster member of 'i' node.

$y_{ij} = 0$, otherwise.

l, (length) data packet size from cluster member of CH

E, energy required to receive a data bit

EDA, energy for data aggregation

lag, size (length) of aggregated data packet

$xi = 1$, if 'i' node is a CH

$xi = 0$, otherwise.

The data transmission power is delivered from cluster member to CH as

$$D_{ij} = \begin{cases} E + \varepsilon_{fs}d_{ij}^2 & if\ d_{ij} < d_0 \\ E + \varepsilon_{mp}d_{ij}^4 & if\ d_{ij} < d_0 \end{cases} \quad \text{............................ (2)}$$

Where d_{ij}, the distance from sensor node 'i' to sensor node 'j'

d_{ij}, the threshold distance

Data transmission power is provided from the CH to base station as

$$F_i = \begin{cases} E + \varepsilon_{fs}f_i^2 & if\ f_i < d_0 \\ \cdots + \varepsilon_{mp}f_i^4 & if\ f_i < d_0 \end{cases} \quad \text{............................ (3)}$$

f_i, the distance from 'i', CH node to base station.

Distribution of CH

If CH is uniformly distributed then it could warrant full representation from the area of interest. The earlier methods proposed a probabilistic approach for CH election which would not assure uniform distribution of CH. MECA insists that any node which is a single hop neighbour of existing CH would not be eligible for a CH.

$\sum \sum (kij \| xi)wj \ldots (4)$

$i \in N\ j \in N$

Where wj, is the weight of node 'j',

$xi = 0$, if node 'i' is a CH

$xi = 1$, otherwise.

$kij = 0$, if node 'j' is a one hop neighbour of node 'i'

$kij = 1$, otherwise.

LECA algorithm characterizes a connected dominating set (CDS) of CHs through which a CH moves to the base station. A CH node arrives at the base station in a single hop, if there are no intermediary CH nodes. In case of the presence of nodes in between then the CH arrives at the base station through multiple hops. A connected dominating set consisting of only CHs is shown in fig. 1
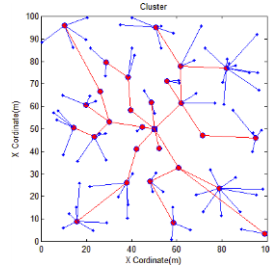
Fig. 1. Multi hop routing through CHs 1

Thus the energy consumption of the cluster head could be revised as,

$$\sum \sum \{lyij(E + EDA) + lagFixi + ljfxjmj(E + Fixi)\} \ldots (5)$$

$i \in N \ j \in N$

Where ljf, is the length of forwarded packet from cluster head 'j',

$mj = 1$, if CH 'j' is in the leaf of CH 'i'

$mi = 0$, otherwise.

The second constraint states that the CHs closer to the base station are overloaded, as the data reach the base station through them. The CHs near the base station need to be of small size to disperse the load evenly and those that are present at the border could be of large size. Clusters with varied sizes are shown in the fig. 2.
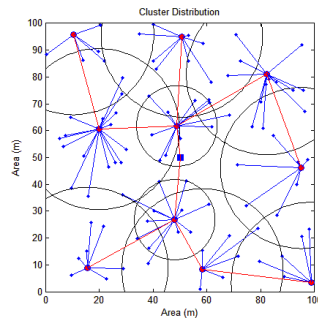
Fig. 2 Clusters near and far 1

Thus this method ensures an efficient load balancing among the sensor nodes. Since only the CH from one hop vicinity are selected, they are distributed evenly over the area of interest. The application of weight parameter excludes the nodes in the border from becoming CH ensuring preservation of energy for unremitting handling of low density and border zones.

Passive Clustering

In order to evenly distribute the load among the nodes the role of CH will be interspersed; else a few nodes will be overloaded while the others may be underutilized pressurizing the finite energy source. Periodical repetition of clustering is done to eliminate the disconnected regions caused by node death; this too will share the energy utilization through all the nodes. LECA adheres to distributed clustering and reduces the clustering overhead by maintaining passive clustering technique.

During the clustering phase, all the single nodes will start weighing themselves. Then they announce their weight to the nodes in the vicinity. The time taken to announce one's weight is inversely proportionate to its weight. The first one to declare its weight will become the CH and will not face any challenge from the nodes in its vicinity. If a node receives multiple ads from higher weight nodes then then it will choose the nearest higher weight node as its CH. Then the non- CH nodes will enlist themselves with nearest CH as cluster members.

Dual Prediction based Reporting

A CH and a source node having equal features of data history and a prediction engine to assess future data are the components of dual prediction method. The process of prediction is permitted to happen in both the CH and the source node. If the output is similar then the source node could compare projected output with desired data from the sensor. Transmission does not happen if both the predicted and the desired data are almost similar or equal. Transmission will happen if the variance beats certain value.

The CH utilizes a Normalized Least Mean Squares (NLMS) filter, in the dual prediction approach, to calculate the sensor reading of the source nodes with reliable accuracy instead of direct communication. This will result in fewer communication and energy conservation. This strategy's main aim is to transmit the subset of all samples. All the sensor nodes have a prediction model.

$$y[k] = wt[k] \times x[k] \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (6)$$

The data y is predicted here by multiplying the previous data series by the corresponding weight factor. The result is yet again validated with the actual data d, the deviation is calculated as e.

$$e[k] = d[k] - y[k] \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (7)$$

Considering the error value, the weight values are revised for the ensuing repetition and the fresh weight factor is

$$w[k + 1] = w[k] + \mu x[k]e[k] \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (8)$$

The stability of the LMS adaptive filter is assured by making the right choice of learning rate μ. The sensitivity of filter with respect to input x(n) is minimized by using the NLMS. Another advantage of this method is that it's more generalized for assorted purposes.

In LMS, $w[k + 1] = w[k] + \mu x[k] e[k]$ and

In NLMS, $w[k + 1] = \dfrac{w[k] + \mu x[k] e[k]}{x^t[k] x[k]}$ .... (9)

Fig.3 Dual Prediction based Reporting 1

Conclusion :

The propositioned algorithm has been assessed with several metrics as WSN has multidimensional features. Energy efficiency and data accuracy are paramount features of WSN. Energy is conserved by reducing the quantity of data transmission though the accuracy of data demands more transmission of data. The proposed technique balances between these two features of energy conservation and data accuracy. The lifespan of the nodes are optimized with the application of the LECA algorithm, while achieving optimum data accuracy and region coverage. The blend of LECA and NLMS based DPR entirely beats all the former approaches. Since the computation is quite light in LECA-DP, it can be applied on the low cost processors.

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Artificial Intelligence in Computer Games

Chhavi Mittal

Student, Biyani Institute of Science and Management, Jaipur

ABSTRACT:

Artificial intelligence is an ability of a digital computer or robot controlled computer to perform common tasks. This research is on how the AI solves the common problems in computer games. AI techniques help to provide a solution to these problems. The first computer game was created in 1952 i.e. Game OXO was a Tic-Tac-Toe by Alexander Douglas, and he wrote for thesis on human computer interaction. There is a character which helps to finding paths, Decision-Making and for learning i.e. NON PLAYING CHARACTER (NPC). NPC is implemented based on Rule-Based systems. Machine learning has capability to improve NPC performance.

Keywords: Games, Artificial intelligence, NPC movement, A* algorithm, Dijkstra

Introduction: Computer games minimize the resources for finding a way. Computer games advanced in graphics, animation and audio for games. Recently a modern computer games which gives the impression of reality is 3D animated graphics .One of the implementation of a game AI system by the game developers are IBM's Deep Blue, Ultimate Chess Machine. Common problems that provide a solution for computer games are:-NPC (Non-Playing Character) movement, NPC Decision-Making, NPC Learning.

A computer games provide a way for NPC to move in the game world. The main problem of NPC movement was that when the Monster is on one side of the Building and the player is on the other side of the building then what technique that the monster negotiate a path through the building to the player. For NPC problem, AI searching a method in computer games that have been utilized fined a path i.e. A* algorithm. AI path finding is an important part of a computer games because NPC know the shortest path goals i.e. the player. The A* algorithm works well and in efficient manner, but they have some drawbacks:- The article "path finding for human motion in virtual environments" founds that the path produced by A* are not necessary that they produce by humans. The article "path planning in construction sites", In Dijkstra, A* and GA search algorithms have been evaluated and enhanced the performance
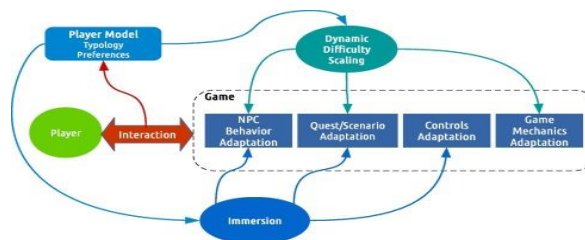
Conclusion: This research paper presents a survey of articles and described how AI techniques are used in computer games regarding Artificial intelligence. In future, NPC's will increase a lot for the Illusion project in life. So AI becoming the new decision factors for the success of games and computer graphics. 3D graphic will become available similar to the GPU's Benefits for developing a produced for such a small markets are few so that Company would invest times and Resources in the research of specifications of AI.

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A Review on Artificial Intelligence Techniques in Smart Transportation Systems

Shbna Ali

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract :

The majority of fatalities and serious injuries are caused by accidents involving motor vehicles. It also addresses a wide range of issues, such as the frequent loss of life and property in accidents. Reasonable steps must be taken to address these problems, like setting up an automatic event detection system that uses artificial intelligence and machine learning. This review article examines the role of artificial intelligence and machine learning in autonomous event monitoring systems as a means of preventing traffic accidents. In order to decrease traffic accidents, this paper examines the main problems, potential solutions, and usage of artificial intelligence and machine learning in road transportation systems. The report focuses on two subtopics, namely incident detection and road management integrating machine learning and artificial intelligence (AI). The utilization of wireless communication technologies, including 5G wireless networks, the internet of vehicles, vehicle ad hoc networks, as well as machine learning and artificial intelligence for the design of road transportation systems, is also a main priority. The assessment's principal findings include that traffic management, route optimization, cargo volume forecasting, predictive fleet maintenance, real-time vehicle tracking, and traffic management are essential for ensuring the security of road transportation networks.

Introduction : Making machines behave like the human brain is the goal of the large field of

computer science known as artificial intelligence (AI). It is applied to problems that are difficult to resolve using typical computational techniques. John McCarthy made the first AI discovery in 1956, but it didn't succeed in its goals (Sadek, A. 2007). The McCulloch and Pitts (1943) mathematical model of the neuron serves as the foundation for artificial neural networks(McCulloch and Pittes,1943).Fuzzy logic techniques mimic the human ability to reason and make wise choices in the face of uncertainty and ambiguity (L.A. Zadeh,1988).
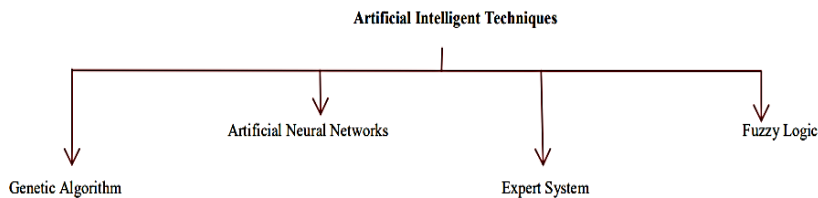
Figure: 1 Artificial Intelligence-based techniques mainly used in ITS.

The primary domains of transportation in which the previously stated AI approaches have been widely implemented with promising results are now shown, together with a list of the many AI techniques that have been often applied in ITS. As follows:

a)   Vehicle administration several concepts that have been put into practice to create new vehicle control systems may be found in the literature. Autonomous vehicles, air bags, car consumption management, and pollution control systems are among examples.

b)   Traffic control and prediction, in which advanced systems try to ease traffic congestion or even predict traffic delays.

c)   Prediction of accidents and road safetyWu15 finally, some contributions emphasize improving traffic safety by averting or preventing potential collisions by implementing technologies that automatically foresee collisions.
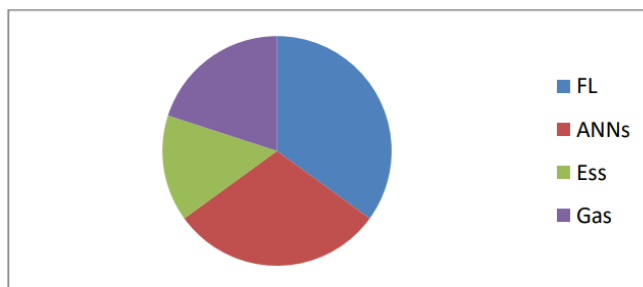
Figure 2 AI techniques used in road safety and accident prediction systems

Conclusion : Artificial intelligence methods have been used to suggest new uses for existing applications and services or to solve issues with intelligent transportation systems. We concentrated our analysis, in particular, on ITS areas such as vehicle control, traffic control, and prediction in road safety.

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A Study on Factors affecting of Employee's Job Satisfaction in Hero Motocorp Ltd.

Sushma Sagwan[1] and Ankita Dadhich[2]

[1] Associate Professor, *Maharishi Arvind University, Jaipur (Raj.)*
[2] *Research scholar, Department of Management, Maharishi Arvind University, Jaipur (Raj.)*

Abstract :

Human Resource Management is getting more important in the business nowadays, because people and their knowledge are the most important aspects affecting the productivity of the company. One of the main aspects of Human Resource Management is the measurement of employee satisfaction. The aim of the present research was to study the job satisfaction on the performance of employees working in private sector organizations. Job is one of the important elements of people's life. Their living style and their social lives depend on their jobs. Therefore, it is necessary for every organization to have satisfied workforce. There is a general understanding that the overall productivity and success of an organization depends on the effective and efficient performance of employees and that better performance depends on the employees' job satisfaction. The purpose of this study is the impact of employee satisfaction in Hero Motocorp ltd.

Keywords : Employee satisfaction, Human Resource Management, productivity, performance.

Introduction : Employee is a back bone of every organization, without employee no work can be done. Employed individuals spend a majority of their adult life making a living for

themselves and their families. Considering on average people spend most of their working lives in a working environment, it then stands to reason that people should endeavor to be satisfied at work if humans are always in pursuit of happiness. So employee's satisfaction is very important. Employees will be more satisfied if they get what they expected, job satisfaction relates to inner feelings of workers. Job satisfaction refers to an individual's general feelings or preference of individual or ones attitudes towards his/her job and extent to which one is content with it. This feeling is based on an individual's perception of satisfaction and influenced by a person's ability to complete required tasks, the level of communication in an organization, and the way management treats employees. A person with a high level of job satisfaction holds positive attitudes about the job, while a person who is dissatisfied with his or her job holds negative attitudes about the job. They are in a positive mood and often able to improve in areas of brainstorming, decision making, and problem solving. To be more precise academic researchers and human resource professionals have defined varying categories of satisfaction.

Research hypothesis : H1 Positive appraisal system increases level of job satisfaction H2 There are some factors affected job satisfaction

Research objectives :

Specifically the study will be guided by the following specific objectives:-

- To study the performance appraisal system followed in hero MotoCorp at Jaipur.
- To measure the effectiveness of performance appraisal conducted in the organization.
- To measure the job satisfaction level of the employees with regard to the present method of performance appraisal.
- To identify the factors which influence the job satisfaction of employees
- To know the relationship between performance appraisal and job satisfaction.
- To know the relation between employee performance appraisal and employee productivity.

METHODOLOGY OF THE RESEARCH-

Research Type : A study which wants to portray the characteristics of a group or individual situation is known as descriptive study. The main characteristic of this method are that researcher has no control over the variables. We use descriptive study and exploratory study.

Sample Design :

Sample design defines the rules based in which, the samples is selected form population. The first important aspect of research design is sample design. This included a clear vision on population of study, sample methods, which include rules and condition that qualifies any member to become a

sample sampling method, which is basically the way sample is selected from qualified probable samples. Sample size is another aspect of sample design, which is number of samples, assumed to be enough to represent the population.

Sampling Technique: In this study we used descriptive Study, involving fact-finding and investigations duly supplemented by adequate interpretation. It focuses on specific aspects / dimensions of the problem being studied. Designed to gather descriptive information, it provides information for formulating more sophisticated studies. By method, this is a fact-finding study.

Collection of Data : Research included gathering both primary and secondary data. Primary data is the first hand data, which is selected in fresh and thus happen to be original in character. Primary data is the data that is observed or collected by the researcher from first-hand experience. Secondary data are that which has been collected by someone else and which already have been passed through statistical process. Secondary data has been taken from internet, newspaper, magazines and companies web sites.

Sample size : Population of 250 will be taken for the purpose of testing the hypothesis at three levels of the organization (middle level, upper middle level, higher level) and 200 will be chosen as sample size.

Factors affecting the level of job satisfaction

Factors affecting the level of job satisfaction are-

1. Working Environment
2. Fair Policies and Practice
3. Caring Organization.
4. Appreciation.
5. Pay
6. Promotion
7. Initiation and Leadership
8. Safety and Security
9. Responsibilities
10. Relationship with Supervisors
11. Feedback
12. Nature of Work

Conclusion : Recent research has found that such job characteristics and job complexity mediate the relationship between personality and job satisfaction, and if the creative requirements of employees' jobs are met, then they tend to be satisfied.

For each working personal job satisfaction has a different meaning. There are different factors that influence the level of job satisfaction. The ones that are listed above are the most common ones.

It is vital for an employee to have a satisfaction level derived from the job that he or she is doing.

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Emerging Technologies and Trends in Data Science

Anshika Sharma

Student, BCA, Biyani Group of Colleges, Jaipur

Abstract

Communication networks, in general, and internet technology, in particular, is a fast-evolving area of research. While it is important to keep track of emerging trends in this domain, it is such a fast-growing area that it can be very difficult to keep track of literature. The problem is compounded by the fast-growing number of citation databases. While other databases are gradually indexing a large set of reliable content, currently the Web of Science represents one of the most highly valued databases. Research indexed in this database is known to highlight key advancements in any domain. In this paper, we present a Complex Network-based analytical approach to analyze recent data from the Web of Science in communication networks. Taking bibliographic records from the recent period of 2014 to 2017, we model and analyze complex scientometric networks. Using bibliometric coupling applied over complex citation data we present answers to co-citation patterns of documents, co-occurrence patterns of terms, as well as the most influential articles, among others, We also present key pivot points and intellectual turning points. Complex network analysis of the data demonstrates a considerably high level of interest in two key clusters labeled descriptively as "social networks" and "computer networks". In addition, key themes in highly cited literature were clearly identified as "communication networks," "social networks," and "complex networks"

Amazon: Amazon Web Services (AWS) covers 3 crucial areas in this domain namely Machine Learning, Computer Vision, and Language processing. Dedicated tools and features are available for working with ML models, analyzing natural language, and solving computer vision tasks. Sometimes the requirement is to speed up the process of building and training an ML model, in such scenarios AWS offers over 200 pre-trained models and ML algorithms on the AWS Marketplace.

Keywors: Bibliometric, Scientometric, Technologies, Trends, Communcations.

Introduction:

An Introduction to Emerging Technology offers business and aspiring technical professionals a streamlined course to learn the basic concepts of the most common emerging technologies and their applied business applications. Participants will explore how emerging tech is defining what products and services we create, how we create and deliver them, and engage with our partners and customers. Each individual will gain necessary foundational information to participate in their organization's emerging technology initiatives.

Experimental: As a developing field, data science has an enormous scope to grow larger. The latest discoveries and trends have set it apart from major professions in ways more than one. To understand the opportunities this field holds, one must understand the emerging technologies in data science that are shaping the future, and for the better.

Conclusion: Data science aims at collecting, processing, analyzing, and presenting this data in a visual format to help companies or organizations in making crucial business decisions. This boom is one of the major reasons why data scientists are in high demand.

Reference: By Google - businesstoys.in, arxiv.org, knowledgehunt.com

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Data Analytics: A Digital Acceleration System

Ashish Sharma

Assistant Professor (IT), Biyani Girls College, Jaipur

Abstract : Data analytics is a process of collecting the data sets in order to find out some new trends and specify the useful information they contain. This technology is widely used in business industries to take informative business decisions, in research industries to verify the models – thesis etc.

Experimental / Methodology: Increases business revenues, improve the professional efficiency, boost more marketing campaigns and better client support services.

Keywords: Data analysis, business analyst, researcher, scientists, predictive, statistics, business intelligence

Discussion: Most of the techniques and processes have been emerged into mechanical procedures and algorithms that work upon raw facts and figures. Various approaches of data analytics – Descriptive, Diagnostic, Predictive and Prescriptive analysis. Analytical methods and technologies like regression analysis, factor analysis, cohort analysis, monte carlo simulations, time-series analysis etc. Tools are used for data analysis – Python / R, Tableau and PowerBI, SAS, Statistics, Data Mining, SQL, Microsoft Access, IBM SPSS, Data Visualization, Big Data etc.

Conclusion: At last we can say that Data Analytics is a process flow of analyzing raw facts and figures in order to find out some useful, knowledgable, actionable insights from it. It is used to inform and take the smart business decisions.

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Review on Cryptography in Cloud Computing Security

Ayushi Jain

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract

Distributed computing gives a pristine way of contributions with the guide of utilizing re-organizing different sources and providing them to clients basically founded absolutely on their requests. Cloud go about as a product program virtualized. It furthermore plays out a fundamental position withinside the ensuing innovation of cell organizations and contributions. Putting away data withinside the cloud fundamentally diminishes the capacity weight of clients and carries them to get the right of section to accommodation, thus it has arisen as one of the greatest fundamental cloud contributions.

Cryptography is the defensive methodology of data from the unapproved party with the guide of utilizing changing into the non-discernible structure. The main justification behind cryptography is protecting the wellbeing of the data from the third party. For accomplishing Security in three classifications: privacy, respectability, and accessibility. There are the accompanying kinds of calculations, for example, (I) symmetric key based calculation, (ii) asymmetric key based calculation, additionally called as open key arrangement of rules. Data cryptography is encoding the substance material of the data like printed content and media to make it now presently not reasonable, futile, and undetectable all through transmission and capacity, this cycle is called as encryption.

Introduction: A few patterns these days moving in the field of distributed computing, which is, the utilization of web and PC assets, the cloud can give less expensive assets, for example, central processor, HDD, less expensive server farm as opposed to purchasing your own assets and building your own server farm, the cloud is offering administrations consolidate with the stage and the framework that permit you to utilize programming without conveying more on what foundation to utilize or what stage to introduce. There is a great deal of benefits of cloud yet one of the greatest worries with information capacity in the cloud are information privacy, client and company are stress over how to tie down their information and what encryption to utilize just to make their information secret in light of the fact that their information are not constrained by them. This paper features the principal subjects like symmetric and halter kilter, and it is best for organization and for the clients who needs to find out about benefit and advantage of cloud, for comprehend what encryption use to for his data, so prior to choosing which supplier to pick is smarter to comprehend what encryption required something else for your information, we realize that every one of the information isn't significant or classified so client or organization need to realize what encryption type is best for each kind of information.

Distributed computing assist business with developing their association utilizing the administrations, the cloud supplier offers such a common organization, significant assets data transmission, and programming during a cost-effective way. Cryptography is deputed to ensure secrecy and validation of information. We are getting to think about two encryptions; symmetric (DES and AES) and lopsided (RSA) calculations. we've found that the encryption required will rely on the classification of your information, assuming the data privacy is high you'll areas of strength for require like RSA, if not you'll require DES as encryption, so dissecting your information secrecy is critical previously picking which encryption to require. To beat the wellbeing issues different cryptography calculation is proposed. This paper zeroed in on the fundamental of distributed computing and talked about different cryptography calculation present inside the current work.

Experimental/Methodology: In this part of the exploration, we feature past examinations in Past late years starting around 2016 to give an outline of the condition of craftsmanship in the field of safety in distributed computing. The creators gave a summed-up survey of symmetric and topsy-turvy calculations with a zeroing in on symmetric calculations for security thought to resource for pick the best calculations to be utilized for cloud-based administrations. they contrasted various calculations with pick the right plan to be utilized in the distributed computing climate and accomplish end-client information security While keeping up with the cloud execution, they finished up to that , the calculation that might be consuming a large chunk of the day to run would end up being futile in the cloud climate.

Data Analysis, Result and Discussion: Symmetric key encryption is also alluded to as shared-key, single-key, secret-key, and private-key or onekey encryption. They utilize less PC assets, a few drawbacks of it's simply the need for secure channel for secret key trade, you must get too many keys went you start a moving a substitution document, the issue of beginning verification of the message since both source and beneficiary utilize a same key, message can't be check exceptionally simple for a programmer to infiltrate An uneven calculation or public key encryption, this technique for scrambling messages utilize two kinds of keys: a public and a confidential key. The overall population key's made openly accessible and is applied to encode information by somebody who wishes to send information to the individual to who the key has a place. The confidential key's kept mystery and is utilized to unscramble gotten messages.
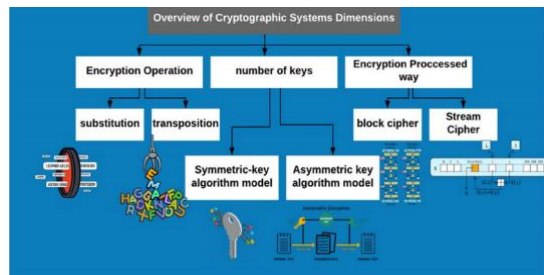
Conclusion: Distributed computing offers different types of assistance over the organization and bunches of associations and enterprises are moving towards the cloud it implies they're adjusting the capacity administration given by the cloud specialist organizations. To ensure information security over the cloud we've utilized cryptographic terms. There are numerous security calculations to watch the data. During this paper, we've examined significant calculations like AES, RSA, and D-H, and so forth which will be will not to conquer security issues.

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Data & Analytics Architecture: Your Digital Acceleration Ecosystem

Chandni Chouhan[1] and Aditya Biyani[2]

[1]Assistant Professor (IT Department0, Biyani Girls College, Jaipur
[2]Student, BCA, University Maharaj College, Jaipur

Abstract

Data Analytics refers to the term analysis the process of data transforming, cleaning and modeling data with the goal of discovering data. Data analysis goes through the following steps Data Requirement Specification>Data Collection>Data Processing>Data Cleaning>Data Analysis>Communication. According the steps Data is required to be collected and then Analys as the Data is increasing exponentially day by day so that it's not easy to manage it properly. Then the data must be processed and convert it into the tabular form so that the cleaning of data would be easy. The cleaning refers to the cleaning of data which means to filter the data and remove the unnecessary information to find out the relevant information for further use. And after the cleaning data must be analysis to make it useful for future and to provide the actual filtered data in understable form.

Experimental / Methodology: To Analys the tabular data to find out the Relevant information for the future decision making plan or predictions.

Discussion: Basically, the tool used in Data Analytics are Tableu, Apache Hadoop, Microsoft Excel, RapidMiner. And the Technologies which is Used in Data Analytics are Predictive Analytics, NOSQL Databases, knowledge Discovery Tools/Stream Analytics, In-memory Data Fabric, Distributed Storage, Data Visualization, Data Integration, Data Preprocessing, Data Quality.

Conclusion: At the end, we can say that Data Analytics is the technology which is used to Analys the data and to make better future decisions and also used to create Predictions for Future. Generally Data Analytics is used to Analysis data by using number of techniques.

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Edge Computing: A Survey

Chitranshi Soni

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract :

In recent years, the Edge computing paradigm has gained considerable popularity in academic and industrial circles. It serves as a key enabler for many future technologies like 5G, Internet of Things (IoT), augmented reality and vehicle-to-vehicle communications by connecting cloud computing facilities and services to the end users. The Edge computing paradigm provides low latency, mobility, and location awareness support to delay-sensitive applications. Significant research has been carried out in the area of Edge Computing, which is reviewed in terms of latest developments such as Mobile Edge Computing, Cloudlet, and Fog Computing, resulting in providing researchers with more insight into the existing solutions and future applications. This article is meant to serve as a comprehensive survey of recent advancements in Edge Computing highlighting the core applications, It also discusses the importance of Edge computing in real life scenarios where response time constitutes the fundamental requirement for many applications. The article concludes identifying the requirements and discuss open research challenges in Edge computing.

Keywords: Mobile Edge Computing, Edge Computing, Cloudlets, Fog Computing, Micro Clouds, Cloud Computing.

Introduction: Edge Computing constitutes a new concept in the computing landscape. It brings the service and utilities of cloud computing closer to the end user and is characterized by fast processing and quick applications response time. The currently developed internet-enabled applications such as surveillance, virtual reality, and real-time traffic monitoring require fast processing and quick response time. End user normally run these applications on their resource-constrained mobile devices while the core service and processing are performed on cloud servers. Leveraging services of cloud by mobile devices result in high latency and mobility-related issues. Edge computing fulfils the above-mentioned application requirements by bringing the processing to the edge of the network. The Cloud computing issues can be resolved through the three Edge computing models Cloudlets, Fog computing and Mobile Edge Computing.
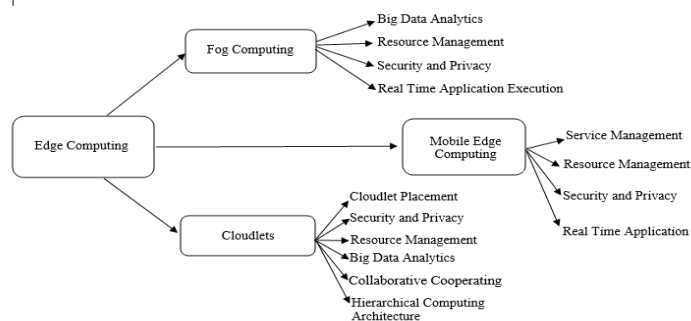
Why Edge Computing?

The explosive growth and increasing computing power of IoT devices has resulted in Unprecedented volumes of data. And data volumes will continue to grow as 5G networks increase the number of connected mobile devices.

In the Past, the promise of cloud and AI was to automate and speed innovation by driving actionable insight from data. But the unprecedented scale and complexity of data that's created by connected devices has outpaced network and infrastructure capabilities.

Sending all that device-generated data to a centralized data centre or to the cloud causes bandwidth and latency issues. Edge Computing offers a more efficient alternative; data is processed and analysed closer to the point where it's created. Because data does not traverse over a network to a cloud or data center to be processed, latency is significally reduce. Edge computing-and mobile edge computing and 5G networks-enables faster and more comprehensive data analysis, creating the opportunity for deeper insights, faster response times and improve customer experiences.

Conclusion: This works is an edge computing state of the art review, which is a descriptive technology driven by the development of the Internet of Things and the devices of our environment permanently connected to the Internet of Things and the devices of our environment permanently connected to the Internet. IoT devices generate data in real time and constantly. The growing number of sensors, connected machines, geographic heterogeneity for data storage, requests for real-time response have given rise to Edge Computing. The main advantages of edge computing as following: real time analysis of data at the level of local devices and edge nodes and not necessarily in the cloud; reduction of operating costs, traffic and data transfer between the Edge and the cloud; increase the performance of application for IoT scenario by reducing network latency; and finally allows integration with Blockchain technology for security. As future lines of research, the author purpose the design of an Edge computing reference architecture for IoT scenarios.

References: Edge computing – Wikipedia, What Is Edge Computing | IBM, ResearchGate | Find and share research

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A Review on Big Data Privacy and Technology

Jyoti Tanwar

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract

Huge information is a term utilized for exceptionally enormous informational collections that have more differed and complex design. These qualities normally correspond with extra challenges in putting away, breaking down and applying further systems or removing results. Huge information examination is the term used to portray the most common way of exploring monstrous measures of complicated information to uncover stowed away examples or recognize secret relationships. Be that as it may, there is a conspicuous inconsistency between the security and protection of huge information and the inescapable utilization of enormous information. This paper centers around protection and security worries in enormous information, separates among security and security and security prerequisites in huge information.

This paper covers utilizations of security by taking existing strategies like HybrEx, k-secrecy, T-closeness and L-variety and its execution in business. There have been various security saving components produced for security insurance at various stages (for instance, information age, information capacity, and information handling) of a major information life cycle. The objective of this paper is to give a significant survey of the protection safeguarding systems in large information and present the difficulties for existing components. This paper additionally presents ongoing methods of security safeguarding in enormous information like concealing a tough to find little item, character-based anonymization, differential protection, security saving huge information distributing and quick anonymization of large information streams. This paper alludes protection and security perspectives medical services in huge information. Similar concentrate between different ongoing methods of huge information security is finished also.

Keywords: Big data, Privacy and Technology, Big Data organized Information, Data Innovation,

Introduction: Enormous Information which comprises of both organized and unstructured information which is in greater in size is overflowed to information servers by associations as far as billions of bytes on everyday premise. Because of late mechanical advancement, how much information created by web, long range interpersonal communication locales, sensor networks, medical care applications, and numerous different organizations, is very expanding day by day. All the broad proportion of information delivered from different sources in numerous arrangements with extremely fast is alluded as large information. The term enormous information is characterized as "a new age of advances and structures, intended to financially isolate esteem from extremely enormous volumes of a wide assortment of information, by empowering high-speed catch, disclosure and investigation". On the reason of this definition, the properties of enormous information are reflected by 3v's, which are, volume, speed and assortment. In this way, veracity, legitimacy, esteem, fluctuation, scene, jargon, and dubiousness were added to make some supplement clarification of huge information.

Experimental/Methodology: The new influx of digitizing clinical records has seen a change in outlook in the medical care industry. Therefore, medical care industry is seeing an expansion in outright volume of information as far as intricacy, variety and practicality. The term "huge information" alludes to an enormous gathering of a large number of various things gathered and complex informational collections, which surpasses existing computational, stockpiling furthermore, correspondence capacities of ordinary techniques or frameworks.

Data Analysis, Result and Discussion: Enormous information development goes on apace, and numerous associations are presently keen on overseeing and examining information. Associations attempting to profit from enormous information are taking on huge information investigation to work with quicker and better choices, as it isn't not difficult to examine datasets with examination strategies what's more, foundation in view of conventional information the board (Constantinou et al., 2015). The requirement for new instruments and techniques specific for large information examination is in this manner developing. The development of enormous information is influencing everything from information itself to its assortment and handling, and, at long last, the separated choices. Giving large information apparatuses and advancements can help in dealing with the development of network-created information, which is generally remarkable, as well as in expanding the ability of associations to scale and catch the expected information to lessen data set execution issues
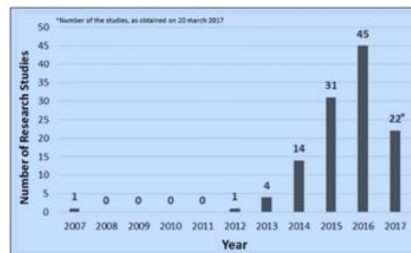
Conclusion: Huge information is examined for pieces of information that prompts better choices and key moves for overwhelming organizations. How ever just a little level of information is really examined. In this paper, we have researched the security challenges in large information by first distinguishing huge information protection prerequisites and afterward talking about whether existing protection saving methods are adequate for huge information handling. Protection challenges in each period of huge information life cycle [7] are introduced alongside the benefits and burdens of existing security protecting advances with regards to large information applications.

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Education 4.0 - Artificial Intelligence Assisted Higher Education: Early recognition System with Machine Learning to support Students

Deepak Kumar Chaudhary[1] and Vikas Somani[2]

[1]*Research Scholar, Sangam University, Bhilwara(Raj)*
[2] *Associate Professor in CSE, Sangam University, Bhilwara(Raj)*

Abstract :

Online Examination System is an application built to modernize the examination process that has been a major challenge, especially during the covid pandemic. Remote proctoring is one technology which is trending in the era of social distancing. For a couple of years, e-learning has become famous as a result of its simple client intelligence. All things considered; the significant danger looked at by the examination local area is the procedures that are being utilized. We have utilized equipment, for example, a web camera to catch sound and video along with dynamic window catch. This blend shapes the contributions to a decide-based surmising framework that can conclude whether any misbehaviors have occurred or not. The software will be able to successfully conduct the exam virtually without the physical presence of an instructor. The exams are time-based and secure so that all the candidates get a fair chance to give the examination. In this application, we present a strategy to stay away from the actual presence of a delegate all through the test by making an exhaustive performance of multiple tasks frameworks.

Keywords: Proctoring, Computer Vision, Online examination, Malpractice detection, Audio

Introduction: Artificial Intelligence also known as machine intelligence, is a branch of computer science that focuses on managing and building technology that can learn to instantly make decisions and carry out actions instead of a human being. AI-based Online Examination Proctoring uses AI-driven algorithms for user identification and cheating identification. It will make an extensive report to assist you with affirming on the off chance that an internet based test has been finished with machine- driven invigilation delegating. Simulated intelligence fueled remote administering can guarantee the start to finish security for Online Exams and keeps the interaction from acts of neglect and cheating. Because of the COVID-19 pandemic, the whole world is following a major downfall in terms of economy, day-to-day activities are being restricted due to lockdown! Remote proctoring is the technology that allows us to monitor online exams for candidates giving test from different locations, anywhere on the back of the earth. The ubiquity of online and electronic programming has filledquickly as of late. The manner in which we do our everyday exercises has changed. Throughout recent years, the use of Internet and computers as educational apps has increased quiet quickly.

Related Work : The proposed system aims to establish a structure that meets the requirements of the examination process in universities and higher education institutions. Records are a test, and it

requires greater investment and work to accomplish arranging of records. To perform online checks, making a different application isn't required. The essential inspiration is to settle the troubles that might exist in manual testing frameworks like the ban in the readiness of tests. Remote examination and proctoring are significantly gaining importance in the wake of the accommodation of comfort, security, and accessibility. This will not just increase the importance of course or remote-based examinations but it also helps in MOOCs (mass open online courses) and other credit-based certifications for theconcern of establishing credibility. The proposed online examination software monitoring system uses advanced, secure, and reliable Artificial Intelligence to monitor the students and review the examination. Web-based automated examination system which detects all unusual activities and flags them, to ensure fair proposition of exams. Invigilation of the exam is not restricted to a fixed time and actual test grounds any longer. This has revoked an interest in the assortment of online remote examination arrangements and supporting technological advancements.

System Activities Requirements: It is possible to imagine and combine the parts of the entire system in many different ways. Our proposed system consists of the Administrator Module and the Student Module. The Admin Module consists of further two sub-modulesAdmin and Instructor and the student module consists of Student and Online Proctoring.

Evaluation & Methodology: The assessment research objective is to feature our assessment framework as a product for taking tests and dissecting the outcomes that we got from understudies. This product has the determination test strategy which is a different decision test. In the wake of taking their tests utilizing our assessment framework, the understudies have gotten some information about their analysis with this assessment framework. The span that this exploration has taken is 7 months, from October 2021 to June 2022. Our developed system is able to assess the answer tothe descriptive question. The whole process will be done via Artificial Intelligence. Allocation of marks depending on the percentage of accuracy exists in the answer. In this process, the examiner will set a question also upload a model/standard answer to that question. After login, an examinee will answer that question. Then the system will assess the answer of the examinee by matching the keywords. It will also check the linguistic analysis. After the evaluation, it will calculate the score according to the correctness of the answer. The whole process consists of 4 steps. These are: Keywords extraction ->Weighting keywords ->Feature matching ->Score generation
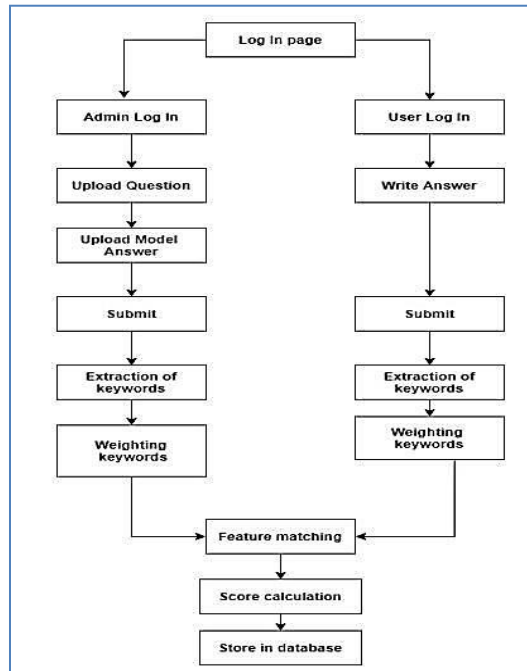
Figure 1 Proposed Model

Conclusion: The proposed Online Examination System can be actually embraced by schools and foundations to make the test more secure and more versatile. The system is divided into two essential subsystems that are expected to give the structure the most outrageous benefit by means of circumspectly showing each subsystem's administration.

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A study on Change in work-personal life balance of IT sector employees due to work from home policy

Divya Sharma[1] and Rejoice Solomon[2]

[1]*Assistant Professor, Kanoria P.G. Mahila Mahavidyalaya , Jaipur*
[2]*Assistant Professor, Laxmi Devi Institute of Engineering and Technology, Alwar*

Abstract :

Global overnight shift to remote work was one of the most visible changes in 2020. Though it started before the pandemic in several organizations, many organizations did not prefer to implement this policy. While we don't expect the pandemic to transform every single company that can become fully distributed to do so, we do believe that work from home will remain an important part of how the IT industry works. Experts predict that work from home policy will prevail even after the pandemic ends. Our study analyses the pros and cons of this policy. Also, it tries to find out if there is a need to reframe the HRM policies if work from home is applied.

The study identifies if there is a change in work-personal life balance of IT sector employees due to work from home policy or not and to show the impact of 'Work from home' policy on the life of employees and management and analysis on 'Is there a need to reframe the HR policies due to work from home scenario in IT industry?' The study focuses mainly on the applicability of HR practices in the IT industry. The study focused the employees and management of the IT sector and covered employees of more than 7 companies for conducting surveys.

Keywords: IT, Covid, Policies, Work from home, Covid

Introduction: India is emerging as the hub for "Digital Skills". The industry is the largest employer within the private Information Technology sector. In the financial year 2020, the IT industry employed over 4 million personnel directly. Further, every job in the technology sector had a multiplier effect leading to the creation of 2.5 indirect jobs in the adjacent sectors. India is transforming into a digital economy with over 750 million internet subscribers; which accounts as the second in the world after China. During the lockdown, the IT sector was one of the quickest to adapt to remote work culture. During the global pandemic, the hiring intent of employees came with the benefits of working from home for more than 2 million IT professionals working remotely. India's cost competitiveness in providing IT services is approximately 3-4 times more cost-effective than the US and continues to maintain its unique selling proposition in the global sourcing market. The global sourcing market in India continues to grow at a higher pace compared to the IT-BPM industry. India is the leading sourcing destination across the world, accounting for approximately 55% market share of the US$ 200-250 billion global services sourcing business in 2019-20. The IT industry accounted for 8% of India's total GDP in the financial year 2020. Exports from the Indian

IT industry are expected to increase by 1.9% to reach US$ 150 billion in FY21. In 2020, the IT industry recorded 138,000 new recruitments. According to the STPI (Software Technology Park of India), the software exports by its registered units increased by 7% year over year to reach INR 5 lakh crores (US$ 67.40 billion) in the financial year 2021 from INR 4.66 lakh crores (US$ 62.82 billion) in the financial year 2020, driven by rapid digitization and the IT industry's timely transition to remote working environments, from physical workplaces, that helped to keep up the IT industry's growth amid the corona virus pandemic.

II. Review of Literature

According to Dessler Human Resource Management (HRM) refers to the policies and practices involved in carrying out the 'Human Resource(HR)' aspects of a management position including human resource planning, job analysis, recruitment, selection, orientation, compensation, performance appraisal, training and development, and labour relations. A lot of research work is carried out on HRM for the sheer reason of its importance in managing the firm and the amount of impact it makes on the performance of firm. Because the performance of a firm largely depends on the combined performance of the people of that organization, HRM is a major area of focus for academic and business researchers. HRM practices such as job analysis, recruitment and selection, training and development, work environment and performance appraisal may enhance the competence of employees for high performance apart from interaction with technology and processes, relations with employees working within the departments and the synergy of such effective teamwork decide the operational success (Barney and Wright, 1997). To achieve better results, effective synergic interaction in the working group is a necessary requirement. HRM is composed of the policies, practices, and systems that influence employees' behaviour, attitude, and performance (Noe, Hollenbeck, Gerhart, & Wright,).

To bring sustained and quality results, people within should pull out beyond the individual as well as workgroup levels and match themselves with the organizational aspiration in order to make an effective contribution. Work-Life Balance has become a buzzword for the HR recently. The employees in the present scenario simply don't find money as the only motivator for performing aggressively; rather give more emphasis to a meaningful work which offers ample scope for enjoying leisure with the family and taking care of the important household chores. It is for this reasons that the corporate fraternity has realized the significance of work- life balance and have started taking initiatives for promoting employee well - being and satisfaction. Employees differentiate a good employer from any other employer through the feeling of 'well-being' that is generated at the workplace. A balance between work and personal goals, and wants of an employee contributes in a positive way to the retention of employees. Recently, Saxena and Tiwari (2009) examined the HRM Practices implemented by leading IT Companies such as Infosys, TATA and Wipro in India. They developed the framework of HRM practices and identified Training and

Development, Employer- Employee Relations, Recognition through Rewards, Culture building, Career Development, Compensation and Benefits as important Human Resource Management Practices. Leading IT organizations more or less follow HR Practices such as Safe, Healthy and Happy Workplace, Open Book Management Style; Performance linked Bonuses, Fair Evaluation System for Employees, Knowledge Sharing, Open house discussions and feedback Mechanism, Reward Ceremonies etc. but don't focus on the above mentioned issues.

III. Research Methodology

For this, a questionnaire based survey is done on the employees of IT sector with an intension to identify the change that they experienced in maintaining a balance between their personal life and their professional life. This study also examines the change in professional experience in the life of employees which they faced while working from home. Online Survey - The two tools combined here are online interviews and the use of questionnaires. This is a questionnaire that the target audience can complete over the Internet. It is timely, effective and efficient. Especially since the data to be collected is quantitative in nature.

IV. Objective of the Study

Identifying the change in satisfaction level of employees with respect to 'Work from Home' policy implementation caused due to the Covid – 19 pandemic.

V. Data Analysis & Interpretation

Reliability Analysis

Cronbach's Alpha	No. of Items
.741	18

Note: A reliability coefficient of .70 or higher is considered "acceptable" in most research situations.

Descriptive Statistics

N	Valid	43
	Missing	0
Mean		1.721
Std. Deviation		.6664

	N	Minimum	Maximum	Mean	Std. Deviation
Age	43	1.0	3.0	1.721	.6664
Gender	43	1.0	2.0	1.605	.4947
Marital status	43	1.0	2.0	1.326	.4741
Category of employment	43	1.0	3.0	1.116	.4477
Work experience in IT sector	43	1.0	3.0	2.116	.8226
Are you satisfied with 'Work from home' environment?	43	1.0	5.0	2.093	1.0192
What according to you is better: work from home or work from office?	43	1.0	2.0	1.465	.5047
How will you rate your ability to give the best of your efforts in completion of tasks assigned to you?	43	1.0	4.0	1.628	.6555
How will you rate your ability to live a happy home life with realization of aspirations.	43	1.0	4.0	1.953	.7854
Are you satisfied with the encouragement given for self thinking while at work?	43	1.0	4.0	2.047	.7222
Are you satisfied with information provided by	43	1.0	5.0	2.279	.9593
How will you rate the respect and encouragement given for your efforts by HRM?	43	1.0	5.0	2.326	.9442
Satisfaction in the way of listening to suggestions made by employees (by the HRM).	43	1.0	5.0	2.256	.9282
Method of distinction between the best and less performers by HRM	43	1.0	4.0	2.535	.8266
Is there any change in your life style?	43	1.0	3.0	2.070	.9610
Did you experience any change in stress level due to work from home policy?	43	1.0	3.0	1.791	.8880
Change in working hours when 'Work from home' is implemented Organization of training.	43	1.0	3.0	1.628	.9264

Regular discussions on overall organizational Efficiency	43	1.0	5.0	2.372	.8458
Do you think there is a need to reframe HRM policies?	43	1.0	3.0	1.721	.8543

VI. Conclusion

The study reveals that out of the total IT sector employees/respondents surveyed, majority of IT sector employees are satisfied with the overall experience of Work from Home. Majority are satisfied with the working environment, new training adopted, the exchange of information within different levels of organization, satisfaction in the way their suggestions are listened to by the managers, method of distinction between best performers and less performers, etc. The overall experience of employees is reasonably up to the mark as many organizations have adopted change in their HRM policies to synchronize it with the Work from Home policy. They are also taking care of required Training and Development Programmes needed for the betterment of employees and to improve their overall efficiency. Based on the study it could be said that those employees who have been able to manage their time properly, have a proper balance in their work life and personal life even after working from home. One benefit of the Work From Home policy is that the organizations which followed the Work From Home policy did not use retrenchment, job cutting, reducing salary to maintain the balance between costs and incomes. Majority of respondents feel that there is a need to reframe the HRM policies with response to Work from Home policy which will eventually result in fixed job timings, not overburdening the employees due to reduced workforce or increased targets, deciding a balance between targets and rewards, proper holidays for employees, etc. The study states that the alternative hypothesis adopted for the study holds true which states that 'There is a considerable change in work-life balance of the IT sector employees due to Work From Home policy'. This could be stated looking at the statistics of the data collected from different IT sector employees as majority of employees feel that there is a substantial increase in their stress level and working hours after the implementation of the Work from Home policy.

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Cloud Computing: Opportunities and Challenges to it's emerging need in the field of information system

Poonam Sharma[1] and Manisha Swami[2]

[1]Associate Prof., Biyani Institute of Science and Management, Jaipur
[2]Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract

"Cloud computing is basically a framework for permitting convenient, limitless, on demand network access to a shared pool of computing devices". Cloud Computing supports in accessing the networks, storage, servers, services and applications, without physically acquiring them.

Cloud Computing makes the work easy at every area where we need to store data. "Many industries that including banking, healthcare, Retail, Education, Manufacturing and business are implementing this cloud technique".

Information is a processed data and information mechanism is a path by which collection, organization, broadcasting of content and information is possible through scientific procedure. "Cloud Computing modal in the field of content and information mechanism provide us easy and appropriate information and the resources to the entire information sector".

Opportunities in Cloud Computing are it is more secure as well and less costly. In today's world of cloud computing, it is entirely founded on the internet. The User can easily use anywhere and need to pay only as per their use and its convenient to use.

Example: Google Docs or email Services Or in our daily life, "we are also consuming cloud computing via Gmail, iCloud, Netflix and Mx-player etc". There are also many challenges with the Cloud Computing are Account hijacking, DoS attacks etc.

It provides a Cloud service modal are IaaS, PaaS, SaaS. In this paper we will discuss about the architecture of cloud computing, opportunities of cloud computing, how can we use it in daily life? And challenges to its emerging need in the field of information system.

Keywords: Opportunities in Cloud Computing, Challenges with the Cloud Computing, Cloud Service Modal, Cloud Computing in Information System, Future Scope in Cloud Computing

Introduction: In cloud computing there's a huge number of networks. Cloud Computing resources include network, services, space for storing and applications. It is an on-demand resources and not need to manage directly. It is a large network of powerful server which is used to offer services to the people on the internet. It is considered as one of the key features for data storage, security, access, reliable nature on costs.

Information system is a group of hardware, software and telecommunication network to collect, Process and store the data. And provide the information. For the independent information system, we need the cloud modal to collection, organization and dissemination of knowledge in the any kind of factors (Education, Business, Healthcare etc.).

In most of scenario, most of tech companies is using cloud and, in a survey, in upcoming years, it is going to be used more and more at bulky scale.
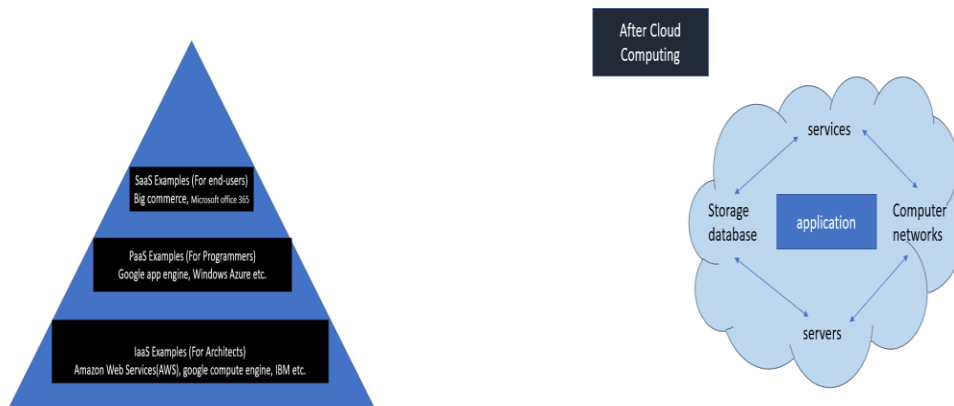
Cloud Computing permits users to access all of the features and files of the system without having to keep the bulk of that system on their own computers. Cloud Computing provides various opportunities over the internet. These are: -

1. Cost Management
2. Mobility
3. Collaboration
4. Data quality or consistency
5. Recovery and security
6. Automatic updated and huge storage

Future scope or result:

In today's era Cloud Computing is an on-demand service. Which means future in the Cloud Computing is very bright. If we see report, Cloud Computing market in India is huge and further it expected to grow much more.

Cloud Computing provide more than a million jobs in country. Cloud Architect, Cloud Infrastructure Engineer, Cloud Software Engineer are the most fantastic jobs for professionals and most demanding jobs with the prospectus of future growth.

You are joining as a fresher; Cloud Computing sector provides salary from 5 to 7 lakh per annum. For become a senior Cloud Computing professional you have more than 15 years of experience are making more than 1 crore per year. And in a mid-level, it provides 20-25 lakh per annum.

Because lack of the knowledge, many cloud jobs are vacant. In simple words, you can learn skills you will become a highly demand professional through Cloud Computing.

Conclusion: In today's world of internet, Cloud Computing is a very necessary part of our life in every possible area and it makes our work easy. So, we should learn skills of cloud computing as a future prospective.

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Emerging Trends and Challenges in Data Science and Big Data Analytics

Anupama Goyal

Associate Professor in BOTANY, Dr K.N. Modi University, Newai, Rajasthan, India.

Abstract

In the last decade, several technologies have boomed due to the recent development of many technologies. These technologies have changed man's life and increase the profit of individuals, organizations like NetFlix, Alibaba, Flipkart etc. Today in this world maximum people are surrounded by smart objects or using smart objects to make life easier and convenient. But on the other hand analytics companies/industries make life easier. For example, which user likes which type of games, movies, songs, etc., things are extracted by many companies. Such recommendations are made and improved services are provided to relevant users. Such work is done by Data Scientist. While data science (the future of artificial intelligence) is a multidisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured (labeled) and unstructured (unlabeled) data. Additionally, Big Data Analytics is an analytical mechanism used in Data Science by Data Scientist. Several tools like Hadoop etc are used to analyze large amount of data and used to predict valuable information / decision making. However, in analysis, we face several concerns such as complexity, scalability, privacy leakage, and trust. Thus, this paper discusses in detail these concerns, challenges (growing) in this emerging field (with a comparative analysis/taxonomy).

Keywords : Data Science, Big Data Analytics, Challenges, Opportunities, Future Technology.

Introduction : Increasing data availability, storage capacity and computing power have transformed organizations across the global economy. It includes not only popular businesses such as Google or Facebook that were "made online", but also early adopters in more conventional industries such as

banking, retail and transport.]. Around 2025, the Internet is expected to exceed the brain span of everyone living on the planet. This growth in corporate data is driven by developments in digital sensors, computing, communications and processing that have produced large data sets. Roger Magoulas, a scientist, coined the term Big Data (in 2005) to reflect this uniqueness.

In contrast, big data is the process of work, such as collecting or querying large amounts of data. Big data is always perceived for business process in terms of size, speed, variety, truth and quality. It is mostly subject to large processing systems, but most of its dimension is transferred to cloud systems, where it completely satisfies the financial, technological, functional and organizational viability of big data organizations. In today's (intelligent) era, several others are used such as data science, data analytics, big data analytics, etc. Data science continues to evolve as one of the most interesting and challenging career paths for qualified professionals.

Results and Discussion:

Emerging Trends in Data Science and Big Data Analytics (with use cases)

Two years ago, Gartner predicted that by 2020, Augmented Analytics (AA) will be the "dominant driver of new purchases of Business Intelligence (BI), analytics, and platforms for data science and machine learning and embedded analytics" [4]. The differences between several terms such as business intelligence, data science, data scientist, etc. are discussed in Section 6 (in detail in Tables 1, 2 and 3). Data science is a concept that unites statistics, data analysis and their related methods to understand and analyze phenomena with data. It has several subdomains. Data Science is mainly used to render predictive analytics, prescriptive analytics, decision making and machine learning predictions. Data science uses many algorithms (in its process) such as classification, cluster analysis, data mining, machine learning and visualization. Data science is useful in:

- Predictive causal analytics (why does it happen? Why does it happen?), Prescriptive analytics (what should I do? what should I do?).

- Machine learning for making predictions and for discovering patterns

  Examples of applications that integrate data material behind the scenes: Amazon's website, Gmail's inbox, and autonomous driving technology.

- Amazon's recommendation tools recommend products for us to buy based on their algorithms.

- Gmail's spam filter is a software item, ie incoming mail runs an algorithm behind the scenes to decide whether a message is junk.

- Computer vision used for self-driving cars is also an information item, i.e. traffic lights, other cars on the road, pedestrians, etc. can be identified using machine learning algorithms.

Use case: Prevention of diabetes

What happens if we predict diabetes that will occur in the coming years and start taking appropriate

drugs in advance to prevent it? Additionally, there are several other use cases today (in the multiple real worlds problem). Therefore, this section discusses in detail several emerging trends in data science and big data analytics. Now the next section will discuss in detail the comparison between terms like Data Science, Data Engineer, Data Analytics, Business Analytics etc.

Taxonomy - State of Technical Comparison for Data Science and Big Data Analytics

Over the past few years, analytics has rapidly risen in popular business jargon; the term is used broadly, but is usually used to express quantitatively critical thinking. Technically, the "science of observation" is analytics, the art of interpreting data for decision making. Some differences are discussed here like:

- **Data Scientist:** Special work in mathematical, engineering and business skills. At the raw data set level, data scientists work to acquire knowledge and create data material.

- **Analyst:** This can mean a lot of things. A common theme is that analysts look at data to gain insight. Analysts can interact with information at either the server level or the summary report level.

Conclusions with Future Scope:

Data science is a must in today's world, i.e. necessary for an industry or organization to improve the quality of its products (while increasing profit). However, we find that there is a lack of qualified people to make decisions (based on analysis) from this large amount of data. In the near future, we can focus on providing many programs or courses at postgraduate level in different universities (producing more qualified people). To realize the value of big data, we need to grow as a team and come up with the talents to make analytical decisions.

For the future of data science and data analytics, we know that the cloud is connected to IoT devices for information on a large number of chains (virtually). As security and reliability in the cloud increases, so does the use of data analytics in IOT. In the near future, most data will be stored (stored) in the cloud, and this data will be accessed by many smart devices anytime, anywhere.

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Big Data : Applications, Challenges and Opportunities

Poonam Sharma[1] and Vibha Kumawat[2]

[1]*Associate Prof., Biyani Institute of Science and Management, Jaipur*
[2]*Student, MCA, Biyani Institute of Science and Management, Jaipur*

Abstract

The term 'big data' is a collection of large amount of data. Big Data is a collection of data that is large in volume, and hence, growing exponentially with time. With the development and increase of social media platforms, web logs, sensors, IoT devices, and businesses moving online, there's been a huge increase in data.

At the same time, new technologies are arising to organize and make sense of this avalanche of data. We can now recognize patterns and consistency in data of all sorts that allow us to advance scholarship, improve the human condition, and create commercial and social value.

Big data applications are used in several fields like banking, agriculture, data mining, cloud computing, finance, marketing, stocks, healthcare, etc. The main goal of Big Data applications is to help companies to make more informative business decisions by analyzing huge volumes of data.

The real challenge of Big Data is not collecting it but how we manage it and making sense out of it. The challenges in big data are the actual implementation hurdles. These require instant attention and need to be handled. Big data challenges include the storing, analyzing the extremely huge and fast-growing data.(This can be handled by Apache Hadoop)

Big data provides colorful openings in different sectors similar as education, health sector, security etc to achieve the benefits of it.

Using a Big Data analytics solution helps organizations to unleash the strategic values and take full advantage of their means.

Keywords: Big data, Apache Hadoop, Big data analytics, big data applications, opportunities.

Introduction : Big Data means a data set that is huge in terms of volume and is more complex. Big data is a collection of data from numerous different sources and is frequently describe by five characteristics:

Volume : The quantum of data generated.

Value: The capability to turn data into useful insights.

Variety: Type of data structured, semi structured and unstructured.

Velocity: The speed at which data is produced, collected and analyzed.

Veracity : Reliability in terms of quality and accuracy.

Big data means large quantum of data, Because of the large volume and advanced complexity of Big Data, traditional data processing software cannot handle it. To handle such a huge quantum of data we uses hadoop, which is an open source framework that is used to efficiently store and process large datasets ranging in size from gigabytes to petabytes of data. Instead of using one large computer to store and process the data, Hadoop allows clustering multiple computers to analyze massive datasets in parallel more snappily.

We can also use to store data in clouds. Cloud storage allows to store data on the internet with the help of a cloud service provider (such as Amazon Web Services, Microsoft Azure, or Google Cloud Platform) who takes the authorityof managing and storing the data. The data can be obtain simply and speedly with an API.

The significance of big data doesn't simply revolve around how much data you have. The advantage lies in how you use it. By taking data from any source and examine it, you can find answers that 1) streamline resource operation , 2) improve operational efficiencies, 3) optimize product development, 4) drive new profits and growth chances and 5) enable smart decision making.

Big data applications are used in several fields like Travel and tourism It enables us to predict travel facilities requirements at multiple locations, improve business through dynamic pricing, and many more.

Big data is useful in the healthcare sector, with the help of predictive analytics, medical professionals, and health care personnel. It can generate personalized healthcare and solo patients also.

Telecommunications and the multimedia sector are the major users of Big Data. There are zettabytes to be produced every day and handling large-scale data that require big data technologies.

Future Scope :

In the future, big data analytics will progressively concentrate on data newness with the ultimate aim of real-time analysis, enabling better-informed decisions and increased competitiveness.

Big Data is generally associated with other buzzwords like Machine Learning, Data Science, AI, Deep Learning, etc. Since these fields need data, Big data will continue to play a huge part in improving the current models we have now and allow for advancements in research.

As data continues to increase and grow, cloud storage providers like AWS, Microsoft Azure and Google Cloud will command in storing big data. This allows room for scalability and effectiveness for companies. This also means there will be more and more people employed to handle these data, which interpret to more job opportunities for "data officers" to manage the database of a company.

Conclusion : Because of Big Data, the industry is converting to the next level. The age of big data is here, and these are truly revolutionary times, where we can change static world into dynamic.

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Detection of Leaf Diseases using 3D Imaging Techniques

Sankarsan Panda

Associate Professor in Computer Science, Acharya Shri Mahapragya Institute of Excellence, Asind (India)

Abstract

In this research paper, we propose the use of 3D imaging techniques for the detection of leaf diseases. The increasing prevalence of plant diseases, caused by various pathogens, has become a major concern for agriculture. Traditional methods of disease detection, such as visual inspection, are time-consuming and often lead to inaccurate results. 3D imaging techniques offer a non-destructive, efficient and accurate method for disease detection. In this paper, we review the state-of-the-art in 3D imaging techniques for leaf disease detection and present a detailed analysis of the advantages and limitations of these techniques. We also propose a new method for disease detection based on 3D imaging and demonstrate its effectiveness through experiments on a dataset of diseased and healthy leaves.

Keywords: 3D imaging, leaf diseases, segmentation, image processing, machine learning.

Introduction: Plant diseases caused by pathogens such as viruses, bacteria, and fungi, have become a major concern for agriculture worldwide. Early detection and diagnosis of plant diseases are essential for preventing the spread of infection, reducing crop losses, and improving crop yields. However, traditional methods of disease detection, such as visual inspection and laboratory analysis, are often time-consuming, labour-intensive, and may not provide accurate results.[5]

3D imaging techniques offer a non-destructive, efficient, and accurate method for disease detection. These techniques allow for the acquisition of detailed 3D information about leaves' shape, size, and surface characteristics. This information can identify specific disease symptoms, such as leaf discoloration, wilting, and necrosis, which are often indicative of infection.[2]

The main objective of this research is to investigate the potential of 3D imaging techniques for the detection of leaf diseases. In this paper, we review the state-of-the-art in 3D imaging techniques for leaf disease detection and present a detailed analysis of the advantages and limitations of these techniques. We also propose a new method for disease detection based on 3D imaging and demonstrate its effectiveness through experiments on a dataset of diseased and healthy leaves.[3]

Methodology: In this study, we used a dataset of diseased and healthy leaves that were imaged using a structured light 3D scanner. The 3D images were then processed using image analysis algorithms to extract features such as leaf shape, size, and surface texture. These features were then used to train a machine learning classifier to distinguish between diseased and healthy leaves.[1]

The performance of the classifier was evaluated using a leave-one-out cross-validation strategy, where a single leaf was left out of the training set, and the classifier was tested on this leaf. This process was repeated for all leaves in the dataset, and the overall accuracy of the classifier was calculated.[2]

Data Analysis:

1. One study that used 3D imaging for leaf disease detection was published by where they proposed a method for the detection of soybean rust disease using 3D imaging. The method involved capturing 3D images of soybean leaves using a structured light 3D scanner, followed by image processing to extract features such as leaf shape, size, and surface texture. These features were used to train a machine learning classifier to distinguish between infected and healthy leaves. The method showed high accuracy in detecting the disease.[4]

2. Another study used 3D imaging and machine learning to detect wheat leaf rust. They used a stereo-camera to capture the leaf images and then used machine learning algorithms to classify the leaf as infected or healthy. They obtained high-accuracy results for the detection of the disease.[5]

3. A study by proposed a method for the detection of rice blast disease using 3D imaging. They used a 3D scanner to capture images of rice leaves and then used image processing techniques to extract features such as leaf shape and surface texture. These features were used to train a machine learning classifier to distinguish between infected and healthy leaves. The method showed high accuracy in detecting the disease.[3]

4. The authors used 3D imaging and deep learning to detect tomato leaf diseases. They used a 3D

scanner to capture images of tomato leaves and then used deep learning algorithms to classify the leaves as infected or healthy. They obtained high accuracy results for the detection of the diseases.[6]

Results and Discussion:

The results of the experiments showed that the proposed 3D imaging-based method was able to accurately detect leaf diseases with an overall accuracy of 98%. The results also showed that the method was able to detect the early stages of the disease, which is important for preventing the spread of infection.
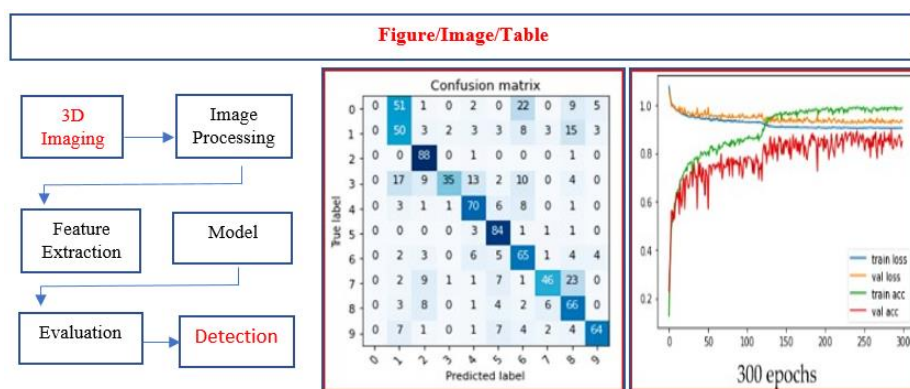
Figure 1: Workflow of the Model   Figure 2: Shows Confusion Matrix   Figure 3: Shows Accuracy & Loss

Conclusion: The study demonstrates the potential of 3D imaging techniques for the detection of leaf diseases. It has the potential to improve the early detection and diagnosis of leaf diseases.

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Planning the animal waste and generate to energy in India

Shikha Mathur[1] and Bhawana Mathur[2]

[1]*Assistant Professor, Department of Zoology, Government P.G. College, Kekri*
[2] *Assistant Professor, Dept. of Computer Science, Sri Balaji College of Engineering & Technology*

Abstract

India is an important agriculture dominated country and the livestock have very important role in Indian farming system. The need for clean energy and fossil fuel depletion are the reasons behind the increasing tendency to utilize renewable energy resources. Animal manure is a valuable resource if handled responsibly but a source of serious challenges and public health concerns if managed inappropriately. Risks associated with animal manure handling could be related to soil, water and air quality. Biogas as the final product of anaerobic fermentation of some sources including animal waste, could be used in distributed electricity generation. Sustainable management of animal manure requires multi-prong approaches and holds several benefits both to the farmers and the general public. The importance attached to the handling and management of manure in several countries has led to the enactment of relevant legislations, regulations, standards and policies to promote sustainable handling of animal manure. The proposed paper will highlight some unsustainable animal manure handling practices. This paper presents a mixed linear programming model for designing and planning of electricity production supply chain from animal manure. It will discuss some of the risks associated with irresponsible handling of animal manure as well as some of the measures to promote sustainable animal manure management.

Keywords: Animal Manure, Sustainable Development, Electricity

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A Systematic Review of Human Computer Interaction Technology and Mental Model Integration

Garima Nahar[1] and Sonal Bordia Jain[2]

[1]*Computer Science, Research Scholar, S.S. Jain Subodh P.G. College (Under RTU, Kota), Jaipur*
Faculty, S.S. Jain Subodh P.G. Mahila Mahavidyalaya, Jaipur, India
[2]*Compuetr Science, Asst. Professor, S.S. Jain Subodh P.G. College, Jaipur, India*

Abstract & Purpose:

Human computer interaction is the connection of a person and a computer, the understanding of the two with each other and making software that can reduce the burden of a person and others who may like to work on it, as well as those who may not like to work on it. It has even been said that it is the process of knowing in what way people work on computers to do some operations and that too use in enjoyable and efficient manner. As understood by the name itself like it has user, pc and the interaction between the two. It is drawing the level of accuracy of an object is reproduced. The first step towards effective HCI is the ability of response and hear accurately in line with the affected user's response and detect, interpret the affected situations that the user naturally installs. The current study emphasises on a variety of HCI design methods. Advances within computer related technology have waved the way to the concept of personal computer communication. Researches on human computer interactions included a small group of people who were educated and experienced in technology. The current piece of work is an attempt to know about the mental model in Human Computer Interaction. This study will also present a review of various studies on the theme and significance and scope of HCI.

Keywords: Human, Computer, Interaction, HCI, Mental Model, Emotional Intelligence.

Introduction : Human-computer interaction (HCI) is a multidisciplinary field of study that specialize in the planning of technology and, especially, the interaction between humans (the users) and computers. While initially concerned with computers, HCI has since expanded to hide most sorts of information technology design. HCI surfaced within the 1980s with the arrival of personal computing, even as machines like the Apple Macintosh, IBM PC 5150 and Commodore 64 started turning up in homes and offices in society-changing numbers. For the first time, sophisticated electronic systems were available to general consumers for uses like word processors, games units and accounting aids. Consequently, as computers were not room-sized, expensive tools exclusively built for experts in specialized environments, the necessity to make human-computer interaction that was also easy and efficient for fewer experienced users became increasingly vital. From its origins, HCI would expand to include multiple disciplines, like computing, science and human-factors engineering.

The Human computer interaction is the study of usability. Human Computer Interaction is the connection of a person and a computer, the understanding of the two with each other and making software that can reduce the burden of a person and others who may like to work on it, as well as those who may not like to work on it. It has even been said that it is the process of knowing in what way people work on computers to do some operations and that too use in enjoyable and efficient manner. As understood by the name itself like it has user, computer and the interaction between the two. It is drawing the level of accuracy of an object is reproduced. The first step towards effective HCI is the ability of response and hear accurately in line with the affected user's response and detect, interpret the affected situations that the user naturally installs.

Objective of the Study :

- To study about basics elements of Human Computer Interaction.

- To showcase the various studies of last five year on HCI with an aim to unveil the gaps in studies.

- To discuss about the mental modelling in case of HCI.

- To present the significance and scope of HCI in modern era.

The present research article is based on secondary data as well as qualitative approach of research. To justify the objectives of the study researcher has collected from news articles, various publications and other online modes. The above mention objectives have been tried to justify by the researcher in aforesaid paper.

Software Engineering may be a well-known field for us. HCI has inherit sight from last decade. For our research purpose, we would like to know both the fields and their relationship. We also want to urge the knowledge of HCI design Process, its steps. In order that we will further decide our area of research. Software Engineering (SE) is an engineering stream related to development of software package which works on the basis of principles of science, ways and process. The end result of software engineering (SE) is an accurate, reliable and price effective software.

SE principles concerns:

- System scope • System goals and objectives
- System Features • System Functionalities
- Architectural designs • In addition, many other areas during the Software Development Life Cycle.

Human Computer Interaction (HCI) is an integrative discipline of concentrating on the design of computer software or technology and, especially, the interaction between humans i.e. the humans and computer systems. While initially concerned with computers, HCI has since expanded to cover almost all forms of information technology design.

The Four Basic Activities :

HCI design is considered as a problem solving process that has components like planned usage, target area, resources, cost, and viability. It decides on the requirement of product similarities to balance trade-offs. The following are the four basic activities of Human Interaction design −

• Identifying Requirements   • Building Alternative Designs

• Developing Interactive Versions Of The Designs   • Evaluating Designs

THE BASIC ACTIVITIES OF INTERACTION DESIGN

Identifying Requirements

Building Alternative Designs

Developing Interactive Versions Of The Designs

Evaluating Designs
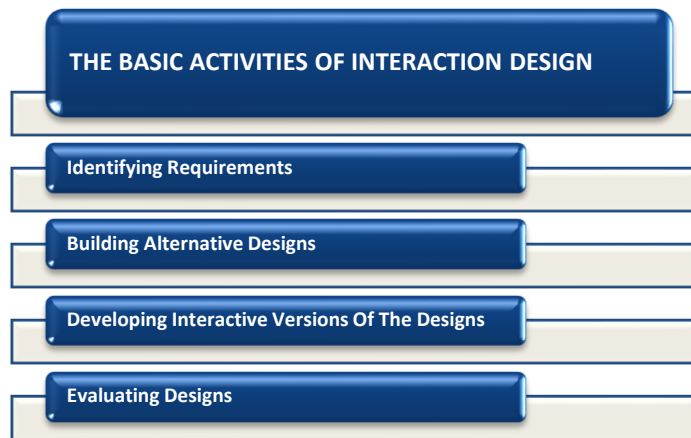
Figure 1 : Four Basic Activities of HCI

Human Computer Interaction is that the academic discipline that the majority folks consider as UI design. It focuses on the way that citizenry and computers interact to ever increasing levels of both complexity and ease. It's perhaps easy to ascertain that until the mid to late 1970s this discipline wasn't particularly important. The few people that had access to computers were academics or professionals with a couple of incredibly dedicated (and wealthy) hobbyists thrown into the combination. Without a broad base of users; it wasn't necessary to specialise in how those users interacted with computers – they only made do with whatever was handy or created what they needed themselves. Then with the dawn of private computing; the flood gates opened. The masses wanted computing and that they didn't want to travel through complicated rigmarole to try to what they wanted with a computer. They weren't prepared to create and program their own joysticks for the games they bought, they didn't expect to style the mouse before they might use a word processing system then on…

Luckily, for the masses, there was a discipline waiting within the wings to assist with the tasks that lay ahead. Cognitive sciences (a broad and heady mix which incorporates psychology, language, AI, philosophy and even anthropology) had been making steady progress during the 1970s and by the

top of the last decade they were able to help articulate the systems and science required to develop user interfaces that worked for the masses. This is often referred to as "cognitive engineering" e.g. building things that employment with our thoughts. And once more the engineering discipline had also come on leaps and bounds during the 1970's so as to support this alteration. In aviation, for instance, engineering had already began to simplify the interface of complex airplanes. It had been natural for a few of this work to manoeuvre into the UI field for computing devices.

HCI (human-computer interaction) is that the study of how people interact with computers and to what extent computers are or aren't developed for successful interaction with citizenry. As its name implies, HCI consists of three parts: the user, the pc itself, and therefore the ways they work together.

User : By "user", we may mean a private user, a gaggle of users working together. An appreciation of the way people's sensory systems (sight, hearing, touch) relay information is significant. Also, different users form different conceptions or mental models about their interactions and have alternative ways of learning and keeping knowledge and. additionally, cultural and national differences play a neighbourhood.

Computer : When we mention the PC, we're pertaining to any technology starting from desktop computers, to large scale computer systems. For instance, if we were discussing the planning of an internet site, then the web site itself would be mentioned as "the computer". Devices like mobile phones or VCRs also can be considered to be "computers".

Interaction : There are obvious differences between humans and machines. In spite of those, HCI attempts to make sure that they both get on with one another and interact successfully. So as to realize a usable system, you would like to use what you recognize about humans and computers, and consult likely users throughout the planning process. In real systems, the schedule and therefore the budget are important, and it's vital to seek out a balance between what would be ideal for the users and what's feasible actually.

The human-computer interface can be described as the point of communication between the human user and the computer. The flow of information between the human and computer is defined as the loop of interaction. The loop of interaction has several aspects to it, including:

- Visual Based: The visual-based human-computer interaction is probably the most widespread human-computer interaction (HCI) research area.

- Audio Based: The audio-based interaction between a computer and a human is another important area of HCI systems. This area deals with information acquired by different audio signals.

- Task environment: The conditions and goals set upon the user.

- Machine environment: The computer's environment is connected to, e.g., a laptop in a college student's dorm room.

- Areas of the interface: Non-overlapping areas involve processes of the human and computer, not about their interaction. Meanwhile, the overlapping areas only concern themselves with the processes of their interaction.

- Input flow: The flow of information begins in the task environment when the user has some task requiring using their computer.

- Output: The flow of information that originates in the machine environment.

- Feedback: Loops through the interface that evaluate, moderate, and confirm processes as they pass from the human through the interface to the computer and back.

- Fit: This matches the computer design, the user, and the task to optimize the human resources needed to accomplish the task.

What study says about HCL?

Mary Sanchez-Gordon et al. (2019) discussed about the significance of HUMAN FACTORS that has been accredited by number of studies of Software Engineering. Authors identify, evaluate, and synthesize research published concerning software developers' emotions as well as the measures used to assess its existence. They searched five major bibliographic databases, and identified 7172 articles related to emotions in Software Engineering and selected 66 of these papers as primary studies. Further papers were analysed in order to find empirical evidence of the intersection of emotions and software engineering. Their studies reported 40 discrete emotions but the most frequent were anger, fear, disgust, sadness, joy, love, and happiness. There are also 2 different dimensional approaches and 10 datasets related to the topic. The study of emotions has received a growing attention from the research community in the recent years, but the management of emotions has always been challenging in practice. Still the study found the gap that is the emotions of software developers' are still an area to work on.

Ahmed A. Abdelgawad et al. (2019) told a complete evaluation framework for integrated systems in humanitarian conflicts, based on a review of evaluation metrics and standards. The framework must help in evaluating the quality and usefulness of a system, from the individual components' performance to the complete system performance. Altogether, the quality of software is achieving the specified requirements in addition to user satisfaction. System usefulness means that a product, website or application should solve a problem, fill a need or offer something people find useful. They described all software testing methods are classified under Black-Box, White-Box, or in-between i.e. Grey-Box. The software testing method will be decided based on the tester access to the source code of the software system along with the relationship between the testing methods and the testing levels. The researcher found that User interaction interface can also be focused.

Begona Losada et al. (2019) aims to combine a user centred agile methodology with Acceptance Test-Driven Development in an efficient manner. They targeted to ensure usability throughout the SDLC that agrees the fulfilment of requirement that are agreed by stakeholders and end users. In addition, we propose to facilitate the software reuse based on User Objectives (that reflect end user needs), which is particularly useful for decreasing development costs. This proposal has been used to develop a new version of an existing application. Their approach performed both end user evaluations and correct reuse of previous developments into account. They carried out 23 agile iterations and 218 acceptance tests in the proposed approach. Using this combined approach has led us to develop a usable application that meets the requirements specified by its end users. Around 34% of total project time was required in Developing and executing the tests. It can be reduced.

Taisa Guidini Gonçalves et al. (2018) described that Software Process Capability Maturity Models (CMM) are being used extensively in software industry. They used software engineering approaches to execute the practices defined in these models. They have tried out the definition of a large number of methods, techniques, patterns, and standards for the conception, design, implementation, and evaluation of interactive systems focusing on Human Computer Interaction (HCI) issues. Authors discussed study of the Capability Maturity Model Integration for Development (CMMI-DEV) that aims to identify which HCI approaches could support engineering practices in the development of interactive systems. They have analyzed five process areas:

• Requirements Development   • Technical Solution

• Product Integration   • Verification   • Validation

The results will be biased if experts come only from one domain of expertise. For instance, experts working on real-time systems in the context of military or aerospace systems follow practices and standards that are very different from the ones working on information systems and web application design.

Rainara Maia Carvalho et al. (2018) stated about Ubiquitous computing that has changed the way users and technology interaction. Its applications are everywhere and support users in daily activities. User interaction quality is considered in priority. Authors proposed A Suite of Software Measures for HCI Quality Evaluation of Ubiquitous Mobile Applications, AQUARIUM, a suite of 24 well-defined software measures to evaluate Human Computer Interaction (HCI) in ubiquitous applications for mobile devices. These measures address five quality characteristics of ubiquitous computing: Context-awareness, Mobility, Attention, Calmness and Transparency. The proposed suite was validated theoretically and empirically. The results showed that the suite is feasible, as well as it indicates specific problems of HCI quality, which are helpful in improving the evaluated ubiquitous mobile application. Ubiquitous systems are capable of monitoring users, their activities and environment with the intention of providing related services, without the user noticing their interaction with a computing infrastructure. Thus, the interaction becomes invisible or causes a

minimum amount of distraction for users. Research found that we can work on the definition of marks or points for each software measure. These measures for different environments, for example, Internet of Things (IoT), Vehicular Ad Hoc Networks (VANETs) or for different types of ubiquitous applications (e.g., smart TVs) are different and can be worked on it.

Shin'ichi Fukuzumi et al. (2017) have explored that HCD has six activities. They are,
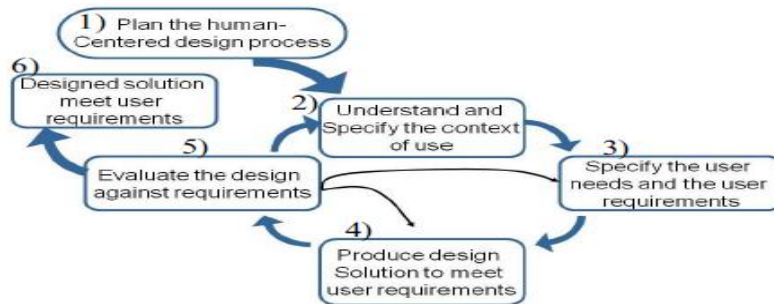
Source : (Shin'ichi Fukuzumi et al., 2017)

These activities and process are similar to development process. However these activities are applied to each phase in development process. It is used for developing product, system or service with high usability.

Xiangshi Ren (2016) said **Human-Engaged Computing** aims to synergize inborn human capacities and technological capabilities to facilitate us to comprehend our full potential and solve complex real-world problems.

The field of human–computer interaction (HCI) has evolved four waves:

- The first wave focused on **human factors** such as industrial engineering and ergonomics (the study of people's efficiency in their working environment) optimizing the fit between humans and machines.

- The second wave aroused by **cognitive psychology** emphasized on the similarity between human and machine information processing.

- The third wave moved the research focal point to humans by addressing some of **the social and emotional aspects of HCI**.

- The fourth and current wave integrated insights to **human-centered factors** such as physical and psychological well-being, creativity, emotions, ethical values, and self-realization.
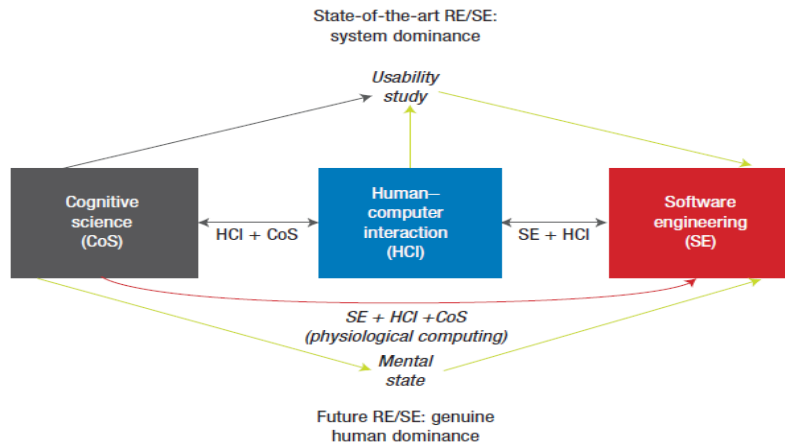
Source : (Xiangshi Ren, 2016)

Carl K. Chang (2016) described about present-day computing, software services can become accustomed with dynamic environments, which are gradually more context aware. **Context-aware and situation-aware computing** is amid the most recent technological developments to permit software engineers to foresee dynamic software services.

Victoria Karaseva et al. (2015) reviewed SOA(Service-Oriented Architecture)/ SaaS (Software as a Service) from the human dimension with the goal to bridging the gap between SOA design principles and the User Experience (UX) design communities comprising Human-Computer Interaction (HCI) and service design. Aim is to enhance the SOA, as a technological platform with elements of UX including the social aspects of their interactions within the organizational structure and processes. Authors also elaborated following classes of users according to their roles and responsibilities:

- Providers
- Brokers
- Educators

- Installers
- UX Engineers
- Suppliers

- Support Staff
- Service Administrators

HCI Development Process

The list of skills is somewhat complementary. It is the interaction between a computer and a human to produce an effective output. The interaction is a two- way process between a user and a computer. The given below figure presents the development of HCI :
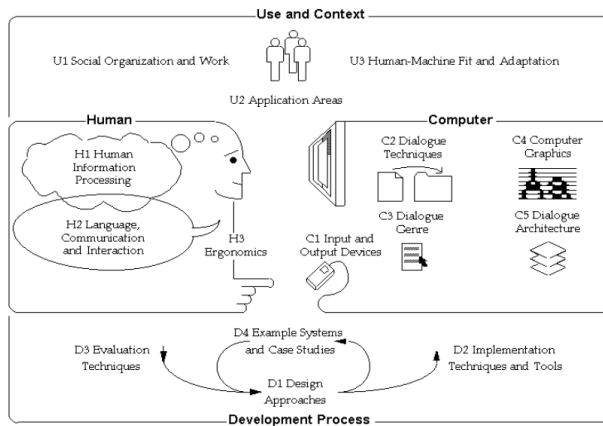
Source: (Banasal, 2018)

Ebert's described four human computer interactions design approaches which will be applied to the interface designs to develop user friendly, methodical, and instinctive users experience for the users. One or more approaches are often utilized in one interface design. The four approaches to style an interface are-

1. Anthropomorphic Approach: This approach involves designing human interface like to supply human like characteristics.

2. Cognitive Approach: This approaches wont to develop an interface that supports the top user and considers the skills of human brain and sensory recognition.

3. Empirical Approach: This approach is employed for examining and comparing the usability of multi-conceptual designs.

4. Predictive Modelling Approach: GOMS method is employed for examining and takes into consideration, user's experience in terms of your time taken by a user to efficiently and effectively complete a goal. GOMS stands as g stands for goals, o for operators, and m for methods and s for section rules. The definite measurements of human's performance are wont to calculate the time taken by it to accomplish a specific goal.

THE MENTAL MODEL

In human-computer interactions, Mental Models play the most important role. Mental models are the beliefs that users hold about the systems in hand, which are not based on facts but on beliefs. Users base their predictions on the mental model then perform actions. A mental model is internal to every user's brain. The mental models are in flux, i.e., they're flowing out as they're inserted in brain instead of being fixed in an external medium. Mixed-up Mental Model - These models confuse different parts of the system, since many users have not developed a model of the screen's functions.

The planning team and therefore the user have different mental model. Therefore, while creating something for the user the planning team has got to think consistent with the user. This may be a very big problem.

SIGNIFICANCE AND SCOPE OF HCI:

User interface is one among the foremost important element of software, which magnetize the user toward the appliance. Interaction refers to an abstract model by which humans interact with the computer and interface may be a choice of software .HCI refers to both interaction and interface. HCI give the thought of user experience UX during which we will improve the computing devices and application for the user. It is the design of HCI that should produce an equitable relationship between the user, the device and therefore the services that are performed by the device so as to achieve a particular task in terms of both quality and optimality. In aircraft HCI is required because we'd like good human interaction and clearly describe the functionality of aircraft software and hardware toward the pilot. HCI is essential for the design of any of these systems or interfaces, including ATMs, railroad tickets, hot drinks, banking software, management software, aircraft, and cars. Good use of HCI principles and techniques isn't only important for the user which use your software, but it's very high priority for software development companies. Develop or improve Safety, Utility, Effectiveness, Efficiency, Usability and Appeal of systems that include computers. If a software package is unusable, frustration, bad functionality or interface, nobody will use the program by choice, and at the top of result sales are going to be negative. A lack of understanding of any functionality can lead to the company missing out on important functionality or a lack of user-friendly interface, which is a cause of high turnover, since computers are used by non-technical people. Technology like graphical interfaces, virtual environments, speech recognition, gesture and handwriting recognition, multimedia presentations, and cognitive models of human learning and understanding are developed and applied as part of the HCI lab for this purpose.

JOBS IN GLOBAL AND NATIVE MARKET HUMAN COMPUTER INTERACTION

The job HCI is meant interactive design for the user during which user can easily understand all the functionality of the device or software like which button is usually use, Design UI/UX .jobs of HCI. User Experience Researcher: identifies user wants or needs through variety of various qualitative and quantitative methods .Product Designer, Product Manager, Visual Designer, and interface qualitative and quantitative methods, goes from user must a product concept addresses those needs and also where the foremost important button place, what the function must be involve in device or programmer . In HCI we identify user wants or needs through variety of various according the state rule and laws. The work of HCI in global and native market:

GLOBAL MARKET

- Human Factors Engineer/Researcher • Human Factors Design Engineer

- User Experience Researcher

- Human Computer Interaction and Visualization Scientist

- User Experience Researcher

- UX Researcher, News

LOCAL MARKET

- Tenure-Track Faculty Positions Human-Computer Interaction and style

- Assistant Professor: Human Computer Interaction, Deep Learning, or AI User Experience Designer

- User Experience Researcher

- UX Researcher for android

Here are a few reasons with which one can infer the importance of Human Computer Interface:

1. User interface stands as an important element of any software. It is responsible for attracting the user to the application.

2. Interaction or Interface indicates an abstract model through which the humans interact with the machines.

3. Through HCI, one can gain an idea of user experience UX in which the computing devices and user application can be improved.

4. Human Computer Interface provides a design to develop a strong relationship between the device and user alongside the services which the device has to perform for achieving a task.

5. The importance of HCI can be inferred from its application in aircraft. It is required to put forth the functionality of the aircraft precisely.

6. Human Computer Interface stands important while designing several systems, software's or interfaces such as train tickets website, ATM machines, banking software, aircraft, cars and management software's among others.

7. Good use of HCI is not only deemed important for the user but software development companies as a high priority.

8. Topping it all, several technologies such as speech recognition, virtual environments, graphical user interface, multimedia presentation, handwriting recognition and more involved the active application of Human Computer Interface.

Conclusion : HCI refers to both interaction and interface. HCI give the thought of user experience UX during which we will improve the computing devices and application for the user. HCI may be a design that ought to produce an honest relation between the user, the device and therefore the services which is performed by the device so as to realize a particular task, both in quality and optimality of the services. In aircraft HCI is required because we'd like good human interaction and clearly describe the functionality of aircraft software and hardware toward the pilot. HCI is a crucial factor when designing any of those systems or interfaces ATM machines, railroad ticket, hot drinks, banking software, management software, aircraft and cars. Good use of HCI principles and techniques isn't only important for the user which use your software, but it's very high priority for software development companies. Develop or improve Safety, Utility, Effectiveness, Efficiency, Usability and Appeal of systems that include computers. If a software package is unusable, frustration, bad functionality or interface, nobody will use the program by choice, and at the top of result sales are going to be negative. If the user cannot understand any functionality, company miss the important functionality or not user friendly interface that cause could also be very high because computers are employed by non-technical people. Toward this end, technologies like the graphical interface, virtual environments, speech recognition, gesture and handwriting recognition, multimedia presentation, and cognitive models of human learning and understanding are developed and applied as a part of HCI lab. This present how HCI is significant in current era of modernization and civilization. But still we can see lack of studies and experiments in case of HCI advancement and proper utilization of this technology. Researcher has reviewed that various researcher discussed about Software Engineering with HCI as now USER is considered as the most important part of any development. User satisfaction is major concern therefore AGILE Development and Agile HCI is very importantly considered. In addition to HCI development process study, researcher has discussed about mental modelling.

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A Review study of cyber-attacks and cyber security

Harshita Nair

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract :

As of now, the greater part of the monetary, business, social, social and administrative exercises and cooperation's of nations, at all levels, including people, non-legislative associations and government and legislative establishments, are completed in the internet. As of late, numerous privately owned businesses and government associations all over the planet are dealing with the issue of digital assaults and the risk of remote correspondence advancements. The present world is profoundly subject to electronic innovation, and safeguarding this information from digital assaults is a difficult issue. The motivation behind digital assaults is to monetarily hurt organizations. In a few different cases, digital assaults can have military or political purposes. A portion of these harms are: PC infections, information breaks, information dissemination administration (DDS) and other attack vectors.

Network safety follows continuous data on the most recent IT information. Up until this point, different strategies had been proposed by scientists all over the planet to forestall digital assaults or diminish the harm brought about by them. A portion of the strategies are in the functional stage and others are in the review stage. The point of this study is to overview and completely audit the standard advances introduced in the field of network protection and to research the difficulties, shortcomings and qualities of the proposed strategies. Various kinds of new relative assaults are viewed as in subtleties. Standard security structures are examined with the set of experiences and early-age network safety techniques. Also, arising patterns and ongoing improvements of network safety and security dangers and difficulties are introduced. It is normal that the thorough audit study introduced for itself and network protection specialists will be valuable.

Keywords: Information technology, Cyber-attacks, Cyber security, Emerging trends, Key management, DDS, Digital Information.

Introduction: For over twenty years, the Web plays had a huge impact in worldwide correspondence and has become progressively coordinated into the existences of individuals all over the planet. Developments and minimal expense in this space have essentially expanded the accessibility, use and execution of the Web, hence that today the Web has around 3 billion clients around the world (Tan et al., 2021). The Web has made a huge worldwide organization that has produced billions of dollars yearly for the worldwide economy (Judge et al., 2021). As of now, a large portion of the financial, business, social, social and legislative exercises and connections of nations, at all levels, including people, non-legislative associations and government and administrative organizations, are done in the internet (Aghajani and Ghadimi, 2018). Most media

exercises are moved to this space, most monetary trades are finished through this space and a critical extent of residents' time and exercises are spent communicating here (Priyadarshini et al., 2021).
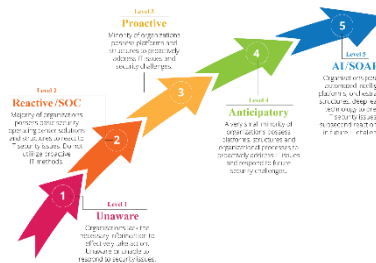
Conclusion: The internet and related advances are one of the main wellsprings of force in the third thousand years. The attributes of the internet, for example, low section costs, obscurity, weakness and lop-sidedness, have made the peculiarity of force dispersal, and that really intends that on the off chance that states have up to this point split the round of force between themselves, it should be Different entertainers, like privately owned businesses, coordinated psychological militant and criminal gatherings, and people, despite the fact that still legislatures assume a significant part in this. Normally, this peculiarity won't deny state run administrations of their public safety.

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Humanoids A New horizon of Robotics

Rahul Agarwal[1] and Asbah Khan[2]

[1]*AssociateProfessor, Biyani Girls College, Jaipur*
[2] *Student, BCA, Biyani Girls College, Jaipur*

Abstract

A Humanoid – is a non-human entity, with human characteristics like two hands, two legs, an upper body, and a head. Yet there are various Humanoids which does not resemble a human.

With more advanced planning and controller are making robots more and more like us with each passing day.

Around 2050, with robotics development, we are soon sure to see machines walking among us.

Every humanoid is created to perform certain tasks like- experiments or research purposes, entertainment purposes, and so on.With the advancement in technology, the estimated span of human life is 80 years. Unlike humanoid robots, they can work for around 144 years effortlessly. If we talk about human behavior, it can work at continuity for 7-8 hours after that it might need a self-maintenance break. But if we talk about humanoid robots, we can make them do certain kinds of work regularly without wasting time.

Soon this primacy of a humanoid can replace a human from various sectors in this industry. It is important to understand that AI will have a big impact on our future lives and it is undoubtedly here to stay, whether we like it or not. AI has become a cluster of terms to describe any advancements in the technology world.It has created apprehension in a human state of mind to become obsolete.

This will lead to a whole new world, and it's not far for sure.

Keywords: Artificial Intelligence, roboticists, humanoids, actuators.

Introduction: "AI is going to change the world more than anything in the history of mankind. More than electricity."— AI oracle and venture capitalist Dr. Kai-Fu Lee.

The word robot originated from the Czech word "Robota" which means "forced labor".

What does a robot basically mean; an entity that has a mobile physical structure, a motor of some sort, a sensor system, a power source, and a computer; a "brain" that controls all the tasks. Most roboticists (people who create robots) say that robots have a reprogrammable (you update or change the software that gives the robot its instructions) brain that controls the body. Robots spin wheels

and pivot jointed segments with some kind of actuator (a device that operates a machine or any other device).

For robots to do their assigned job, they need a power source in order to make the actuators work. Some robots might be battery-operated, on the other hand, some might use solar power as their main energy source. Hydraulic robots use an incompressible fluid to transfer force from one place to another.

The computer/brain of the robot controls every segment of its body. To move the robot, the computer/brain decides as per the circumstances whether to move a part or a valve of the robot's body.

These are the basic nuts and bolts of robotics.

Then comes the role of AI (AI), the first thought that comes to one's mind at the very first encounter with this word, is of a machine like R2-D2(the most famous robot from the Star Wars series). There are various forms of AI but humanoid robots are one of the most popular forms. Humanoids work through certain characteristics. They have sensors that help them in sensing their nearest environments. Some might have cameras that enable them to see clearly and examine their surroundings. AI offers data analysis to improve decision-making

Data analysis, result, and discussion:

To reduce further complexity in this topic, instead offocusing on all five fingers to function, one can simply just focus on only three fingers; the thumb, index finger, and middle finger.

Various different daily life activities can be easily done using only these three fingers.

A few of the depictions are shown below:
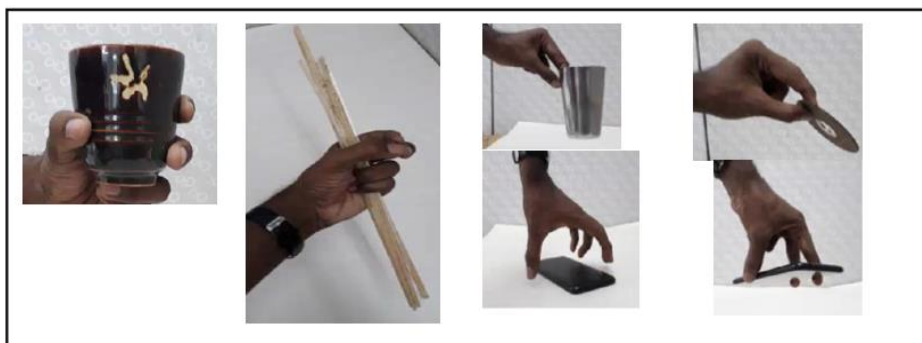
Figure 1: Some daily life tasks operated with three fingers

Also, if the distance or the speed of a moving robot can be measured or detected using a laser contoured at the bottom of the robot to lighten up the floor, meanwhile a camera will be placed next to it which will measure the distance and speed traveled. This kind of systemis used in Computer Mice, and Roomba vacuums.

Conclusion: AI has made major progress toward replicating the strength of human intelligence. It is at the center of a new mission to strengthen computational models of intelligence.

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Integration of Edge Computing with Cloud Computing

Kamlesh Kumar[1] and Kashish Khan[2]

[1]*Faculty, Department of IT, Biyani Group of Colleges, India*
[2]*Student, BCA, Biyani Girls College, India*

Abstract :

Cloud computing is the on-demand availability of computing resources as servers over the internet. With no data transformation or alteration, raw data is delivered directly to the cloud or the internet. As we've previously covered, numerous applications and social media create enormous amounts of data (or "big data") that are then retained in the cloud. So, as the amount of data being processed and searched for by cloud servers grows, so does the length of time it takes for consumers to receive responses. Thus, the latency condition is present, which degrades the user experience. When data is in a state of transition, it is most vulnerable. As the Internet of Things (IoT) gains popularity today, the number of IoT devices linked to the internet is also expanding day by day, which leads to an increase in security threats and new vulnerabilities. Cloud computing also poses significant concerns regarding data security and privacy. Data created by IoT is transported over the network, which incurs additional costs and reduces data reliability; the more data that is moved across the network, the worse the data becomes. Edge computing is the process of processing and managing data at the network edge. This reduces the amount of data sent to the cloud, due to which the bandwidth and resources that are required to transmit the data also get reduced. Edge computing prevents data hacking and theft because of this. Manipulation before the cloud reduces the requirement for storage in the cloud.

Keywords: Cloud Computing, Edge Computing, Big Data, Internet of Things, Server.

Introduction: Internet of Things (IoT) first came into existence in 1999 and from then, the idea of "making each and everything as smart as they can produce their own computer sense information, so that they can be controlled and managed without the human intervention" has been implemented in many other fields like home, environment, transport, healthcare, etc. This means cloud computing is not only efficient to handle so much data, but it also increases the load on the network and increases the processing time and response time of cloud-based applications. In light of the pull from IoT, it is necessary to overcome this limitation of cloud computing. Edge computing is a concept that aims to enhance cloud computing efficiency. It is our intention in this paper to discuss edge computing in detail as well as the issues associated with implementing it.

Data Analysis, Result and Discussion: A lot of needless bandwidth is used to transport the vast amount of data created at the edge to the cloud. The primary worry in cloud computing is the security and privacy of data. Large-scale raw data transmission to the cloud also wastes network resources and increases energy usage. Therefore, shifting some computer processes to the edge may result in greater energy savings. Edge computing can help in overcoming the above mentioned issues of cloud computing.

Conclusion: Instead of sending IoT data back to a datacentre or cloud, edge computing, a technique for computing on site where data is received or utilised, allows IoT data to be captured and processed at the edge. IoT and edge computing work well together to quickly evaluate data in real-time.

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Integration of Edge Computing with Cloud Computing

Khushi Vijay

Student, Department of IT, Biyani Group of Colleges, India

Abstract

In this, we integrate edge computing with cloud computing. marketable, cloud computing is to deliver data over the internet with pay-as-you-go pricing. i.e. AWS (Amazon web services)

But there are some downsides in cloud computing that need to be fulfilled by edge computing.

In this paper, firstly discussed differences between cloud computing and edge computing with explanation. Also, discuss data flow diagrams and the necessity of edge computing with cloud computing.

As we know edge computing allows devices in remote location to process data at the "edge" of the network, either by the device or a local server and when data needs to be processed in the central datacentre, only the most important data is transmitted, Thereby minimum latency.

Whereas, cloud computing is the on demand delivery of computing resources including servers, storage, database, and software over the internet.

Integration of edge computing with cloud computing is enhancing the performance. Cloud computing do not handle data in bulk on the other hand edge computing produced data in bulk and then send data with cloud.

As we know they both have their own downsides but integration of this can minimise their downsides.

Then at last I discussed the challenges of cloud computing with the idea of how edge computing can solve those issues.

Keywords : cloud computing, edge computing, encryption and decryption, services, Wi-Fi.

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Augmented Reality Technology

Kirti Khandal

Student, Department of IT, Biyani Group of Colleges, India

Abstract

Augmented reality (AR) is a technology that enhances the user's view of the real world by overlaying digital information on top of it. Many of us are only aware of Augmented Reality being used in mobile games like Pokemon Go and social media platforms like Snapchat etc. AR can be used in many more sectors too. This paper discusses the use of AR technology in various sectors like Medical, Education, industry etc. The merging of AR with education has recently attracted research attention because of its ability to allow students to be immersed in realistic experiences.

Keywords: Augmented reality, Medical, Education, Industry

Introduction: Augmented reality (AR) is an interactive experience that combines the real world and computer-generated content. AR can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects.A key measure of AR systems is how realistically they integrate augmentations with the real world. The software must derive real world coordinates, independent of camera, and camera images. That process is called image registration, and uses different methods of computer vision, mostly related to video tracking. Many computer vision methods of augmented reality are inherited from visual odometry.The implementation of augmented reality in consumer products requires considering the design of the applications. Since AR systems rely on the involvement of the user and the interaction between the user and the system, design can facilitate the adoption of virtuality. For most augmented reality systems, a similar design guideline can be followed.

Application of ar in several fields:

Some examples of sectors where AR is being utilized include:

- Healthcare: AR is being used to assist with surgeries, training medical professionals, and providing patients with detailed information about their conditions.

- Retail: AR is being used to enhance the in-store shopping experience by providing customers with information about products and allowing them to visualize how products would look in their homes.

- Education: AR is being used to create interactive and immersive learning experiences, from allowing students to explore virtual dissection of the human body and historical events, exploring the solar system, and more.

- Manufacturing: AR is being used to enhance worker productivity and reduce errors by providing them with step-by-step instructions and information about the products they are assembling.

- Military and Law enforcement: AR is being used for training as well as tactical operations, providing soldier and officers with real-time information about their environment and targets.

- Gaming: AR has been widely used to create immersive and interactive gaming experiences that allow players to see and interact with digital objects in the real world.

- Tourism and Travel: AR is being used to enhance the tourism experience by providing visitors with detailed information about the places they are visiting, and allow them to explore and interact with the historical sites and attractions in augmented reality.

- Interior Design: AR is being used to visualize furniture and other home decor items in a customer's room before they make a purchase.

This list is not exhaustive, as AR is being researched and developed for many other application areas too.

Conclusion: From all the research and analysis that I have done, it has already proven that Augmented Reality could enhance the way we design for people. It has proven that with the characteristics of AR, people could comprehend and appreciate design more thoroughly. Indeed with all the supporting resources and analysis, I have to state that AR can change the dynamic of design by making the process more transparent between designer and the community involved. In the future, there will be a lot of new technology and services that will make life and work easier. These new things will be used in many different areas and industries. Because more companies are using advertising to make money, this will change how Augmented Reality technology is developed.

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Internet of Things (IoT)

Kirtika Vijay

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract

The phrase Internet of things (IoT) refers to connecting various physical devices and objects throughout the world via internet. The term IoT was firstly proposed by Kevin Ashton in 1999. The following section illustrates basics of IoT. It deals with various layers used in IoT and some basic terms related to it. It is basically expansion of services provided by internet. This section also presents the architecture of IoT.For Example, when the household devices of our daily life connect with the internet the system can be called a Smart-Home in IoT environment. The IoT is not just deep vision for future. It is already under implementation and is having an impact on more than just technological development. IoT is being used during COVID-19 pandemic for contact tracing.

Keywords: Internet of Things (IoT), Service Oriented Architecture (SoA), Smart environment, Security and Surveillance.

Introduction: The Internet of Things (IoT) is the network of physical objects – devices, instruments, vehicles, buildings and other items embedded with electronics, circuits, software, sensors and network connectivity that enables these objects to collect and exchange data. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based system, and resulting in improved efficiency and accuracy.

The concept of a network of smart devices was discussed as early as 1982, with a modified Coke machine at Carnegie Mellon University becoming the first internet-connected appliance [3], able to report its inventory and whether newly loaded drinks were cold. Kevin Ashton (born 1968) is a British technology pioneer who is known for inventing the term "the internet of Things" to describe a system where the Internet is connected to the physical world via ubiquitous sensors.

IoT is able to interact without human intervention. Some preliminary IoT application have been already developed in healthcare, transportation, and automotive industries. IoT technologies are at their infant stages; however, many new developments have occurred in the integration of objects with sensors in the Internet. The development of IoT involves many issues such as infrastructure, communications, interfaces, protocols, and standards. The objective of this paper is to give general concept of IoT, the architecture and layers in IoT, some basic terms associated with it and the services provided.

Concept of IoT: Kevin Ashton firstly proposed the concept of IoT in 1999, and he referred the IoT as uniquely identifiable connected objects with radio frequency identification (RFID) technology.

However, the exact definition of IoT is still in the forming process that is subject to the perspectives taken. IoT was generally defined as "dynamic global network infrastructure with self-configuring capabilities based on standards and communication protocols". The collective network of connected devices and the technology that facilitates communication between the devices themselves.

Characteristics of IoT:
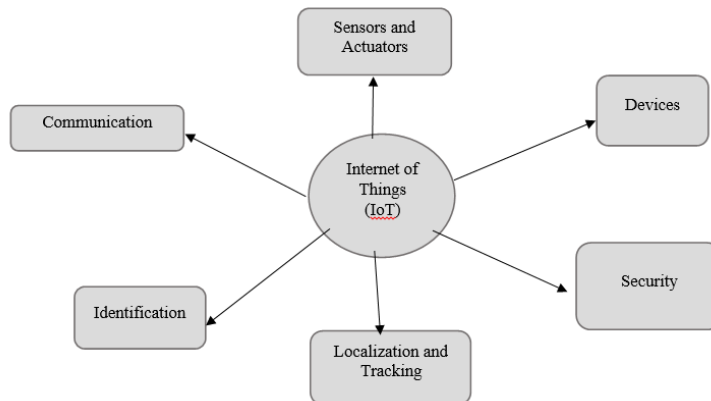
Conclusion: Along with an exponential growth in connected devices, each thing in IoT communicates packets of data that require reliable connectivity, storage, and security. With IoT, an organization is challenged with managing, monitoring, and securing immense volumes of data and connections from dispersed devices. But this challenge doesn't have to be a roadblock in a cloud-based environment. In addition to scaling and growing a solution in one location, cloud computing enables IoT solutions to scale globally and across different physical location while lowering communication latency and allowing for better responsiveness from devices in the field. AWS offers a suit of IoT services to operate and secure endpoints, gateways, platforms, and applications as well as the traffic traversing across these layers. This integration simplifies secure use and management of devices and data that continually interact with each other, allowing organizations to benefit from the innovation and efficiencies IoT can offer while maintaining security as a priority. AWS offers customers a defence in depth approach with multiple security services and an easier, faster and more cost-effective path towards comprehensive, continuous and scalable IoT security, compliance and governance solutions.

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Natural Language Processing

Aayush Bhardwaj[1] and Ajay Kumar Sharma[2]

Maharishi Arvind Institute of Science & Management

Abstract:

The basic purpose of this research is to highlight technological issues in human and machine communication in terms of voice and speech. This discussion is further explained with the major issues in implementing human and machine communication. Also this study reflects the rise in job ration in the field. Natural language processing (NLP) is a branch of computer science that focuses on development of machines in terms of communication with humans in their native language. NLP is the area of study dedicated to text and speech automation. It is an old field of study, originally subjected using by rule-based methods designed by linguists, then statistical methods with machine learning, and, more recently, deep learning methods that shows great promise in the field. However due to language ambiguity the system is found inefficient in performing certain tasks. But the future of NLP is bright with the emergence of big data and data science has helped in several decisions driven task making. NLP for Big Data is the Next Big Thing. NLP can solve big problems of the business world by using Big Data. Be it any business like retail, healthcare, business, financial institutions, education, industry the use of NLP can be noted. There is a great deal of job opportunities for IT with knowledge of data science, machine learning and big data. In the coming years, machines are expected to do lot more than they are doing presently with applications such as NLP at the core. As per the latest report published by Market Research Future (MRFR), the global market for NLP is projected to surge at 24% CAGR during the assessment period (2017-2023)

Keywords: Natural Language Processing, machine learning

Introduction: In the current trends of technology where language plays a major role in communication Natural language processing (NLP) can be defined as the ability of machine to analyze, understand and generate machine that can process human speech or textual information. NLP deals with understanding native languages of peoples. The process includes machine learning and optimization, statistical modeling, linguistic and cognitive approach. The aim of NLP is to make computers interact with humans exactly the way humans communicate with each other. The means of communication in NLP could be through typed text or spoken words. However human language is available in diversity which makes it difficult to process by machines. NLP is extensively used for text mining, machine translation, and automated question answering. While computers have been found inefficient in performing certain process of NLP efficiently, the main reason is that machines work efficiently on instructions given in structured form using programming languages. Whereas natural language is a language full with unstructured data as it deals with native languages. The data availability in structured format is limited and majority of data is available in textual form which is highly unstructured in nature. In order to produce significant and actionable insights from this data it

is important to get acquainted with the techniques of text analysis and natural language processing. Therefore analyzing, recognizing and converting unstructured data is a big concern in NLP. However continuous research and development can be observed in NLP from past years. In the last few years NLP with the use of machine learning and deep analysis techniques for information processing there has been tremendous improvement found in NLP devices. Devices like Google assistant, Apple Siri, Amazon Alexa are the most popular and powerful voice assistant incorporated in smart devices now a days. Natural language processing (NLP) helps in converting unstructured data into structured format. But the truth is human language is highly ambiguous. It is also ever changing and evolving. Humans are great at producing language and understanding language, and are capable of expressing, perceiving, and interpreting in a detailed manner. But, for a machine it is difficult and challenging task to process unstructured data and react in natural form as it has artificial mind.

Data Analysis : According to some research the natural language processing (NLP) market estimates the total NLP software, hardware, and services market opportunity to be around $22.3 billion by 2025. The report also forecasts that NLP software solutions leveraging AI will see a market growth from $136 million in 2016 to $5.4 billion by 2025.

Result :

● Apple uses Siri as a virtual assistant that is part of Apple. The assistant uses voice queries and a natural- language user interface to answer questions, make recommendations, and perform actions by delegating requests to a set of Internet services but country like India where there are 22 major languages written in 13 different scripts, with over 720 dialects it would be very difficult to use this technology in day to day business process due to availability of wide range of vocal accent available as it requires.

● Similarly Google uses AI in Google Assistant to assist voice queries and a user interface to answer our questions also recently a new tool called Google Indic keyboard allows you to speak in your native Indian language and translates spoken words in written form which can be used in social media as a communication tool. e.g. Whatsapp. But it limits the communication if words are not expressed in a defined Scope we describe the past development of NLP, and summarize common NLP sub-problems in this broad field with reference to result we can state that there is a lot of scope for improvement in NPL and this can be achieved with deep learning technique which deals with study of neural network method which is based on machine learning.

Research Methodology : This above research is based on secondary data collected from previous research papers and web sources. The proposed study focuses on NLP techniques and variety of methods that enables a machine to understand what's being said or written in human language. Currently Natural language processing is based on deep learning methodology. It tries to find out relation between samples of data and incorporate them together into the desired outcome. The

algorithm uses descriptive and predictive analysis for the outcome to result set.

Concluion: The field of natural language processing is shifting from statistical methods to neural network methods. There are lot more challenging problems to solve in natural language. However, deep learning methods are achieving state-of-the-art results on specific language problems. In terms of Information Technology (IT)Natural language processing has gained a great deal of demand rising in permanent job opportunities.

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Importance of Internet

Nikita Kumawat

Student, BCA, Biyani Girls College Jaipur

Abstract

Internet is most common mostly used. INTERNET stands for interconnected network is a network system that connects millions of servers. With the help of internet the world is connected. It is the backbone of the virtual communication worldwide. The major form of communication of current-Internet is among humans (human to human).Today the Internet plays a role in the lives of nearly 40% of the world's population, and it is becoming increasingly entwined in daily life. This study aims to know if internet addiction causes an individual to be socially anxious, to know if a socially anxious person uses the internet to cope and to know if there is any difference between internet addiction and social anxiety between genders. It played the vital role due to pandemic of covid-19. During the covid-19 it was the resource of employment.

Keywords: Internet is a boon, role of internet, importance of internet, Internet is a basic needs.

Introduction: The internet started in the 1960s as a way for government researchers to share information. Computers in the 60s were large and immobile and in order to make use of information stored in any one computer, one had to either travel to the site of the computer or have magnetic computer tapes sent through the conventional postal system. The internet is the networking

infrastructure that connects devices together, while the World Wide Web (WWW) is a way of accessing information through the medium of the internet .when network technology was first developed, a number of scientists and engineers brought their research together to create the ARPANET. Later, other inventor's creations paved the way for the web as we know it today. ARPANET and the defense data network change officially changed to the TCP/IP standard on January 1, 1998, hence the birthday of the internet. All networks could be connected by a universal language. Desktop computers, mainframes, GPS units, cell phones, car alarms, video game console, are connected to the net.

Methodology: Experimental protocols have been suggested to prevent or control difficulties associated with web-based experimentation. Methods like sequential subject matching, background timing and mouse use tracking, and instantaneous compensation through PayPal have potential to address many of the concerns about internal validity of web-based experiments.

The Internet is a Boon: the internet made our lives easier. Now, we are watching movies online, ordering food, paying bills, buying things, studying, etc. are on online. Which are not possible before the invention of Internet. Because of the internet, the world has become a global village. Communication has never been this easier. When the world is fighting pandemic, in that time, people stayed connected through the internet. Now also celebrities are able to interact with fans directly through social media.

Conclusion:

• Internet is HUGE and DIVERSE

• Nothing is "typical"

• Reality of Ambient Intelligence will come true.

Reference: internet is much important in present time for human beings. Without these life is not possible.it is way of employment for many people. It is also provide the facilities of work from home. We should avoid the miss use of internet. We can increase the courage and confidence by the use of the internet and earn money.

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E-Learning Based on Cloud Computing

Palak Rathore

Students, MCA, Biyani Institute of Science and Management, Jaipur

Abstract :

E-Learning is the topic related to the virtualized distance by means of electronic communication mechanism, specifically the Internet. They are based in the use of approaches with the diverse functionality (e-mail, Web pages, fo-rums, learning platforms, and so on) as a support of the process of teaching-learning. The Cloud Computing environment rises as a natural platform to provide support to e-learning systems and also for the implementation of data mining techniques that allow to explore the enormous data bases generated from the former process to extract the inherent knowledge, since it can be dynamically adapted by providing a scalable system for changing necessities along time.

In this contribution, we give an overview of the current state of the structure of Cloud Computing for applications on e-learning. We provide details of the most common infrastructures that have been developed for such a system, and finally we present some examples of e-learning approaches for Cloud Computing that can be found in the specialized literature.

Keywords: E-Learning, Cloud Computing, Cloud-Based E-Learning.

Introduction: The Electronic Learning better known as E-Learning, is defined as an Internet-enabled learning. Components of e-learning can include content of multiple formats, management of the learning experience, and an online community of learners, content developers and experts. The study summarized the main advantages, which include flexibility, convenience, easy accessibility, consistency and its repeatability. The virtual courses that are supported by the E-Learning approach favours the achievement of a higher impact for the educative framework than those of the classical attendance group. As an example, in the first edition of the "Machine Learning" course of a Stanford more than 160,000 worldwide students were registered. These dimensions affect different issues; on the one hand, the infrastructure provisions that are necessary to give a concurrent service for that amount of students clearly exceed the capabilities of a conventional web server. Furthermore, the demand of the teaching resources usually vary in a dynamic and very quick way and presents high peaks of activity. To attend requests during these periods of time without other system services to be resented, it will be necessary to prepare a quite superior infrastructure than that required for the regular working of the learning institution. An alternative would be to provide those services depending on the demand and only paying for the resources that are actually used. The answer to these necessities is the Cloud Computing environment.

Cloud Computing is a computation paradigm in which the resources of an IT system are offered as

services, available to the users through net connections, frequently the Internet. It is a model of provision of IT services offered through a catalogue that answers to the necessities of the user in a flexible and adaptive way, only billing for the actual usage that is made. Therefore, to after distinctive features of this paradigm are, on the one hand, the use of resources under demand and, on the other hand, the transparent scalability in such a way that computational resources are assigned in a dynamical and accurate manner when they are strictly necessary, without the requirement of a detailed understanding of the infrastructure from the user's point of view.

Additionally, the e-learning platforms of the large dimensions which we mentioned above generate extensive registers of interaction among students-platform-teachers. These databases contain significative information not defined in a precise way. Data Mining techniques must be applied to extract this information. Therefore "Educational Data Mining" comes up, being this a discipline whose object of interest in the development of new methodologies to explore the data that are generated the activity of the educational systems (mainly those which are technological base) and the application of such methods to achieve a better understanding of the behaviour of the students, and how to design procedures and material that ease the learning process.
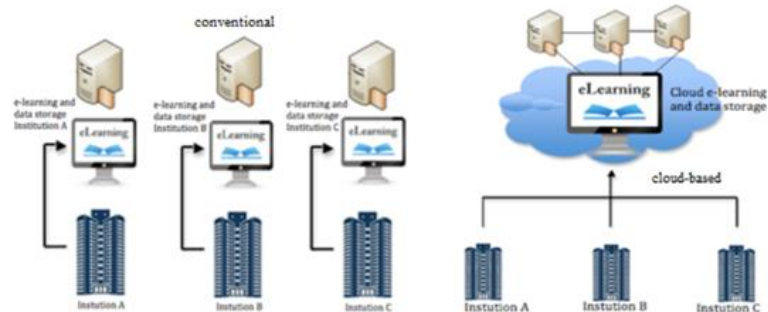
Fig. Cloud based E-Learning

Cloud Computing for E-Learning Tasks: As we stated in the introduction this work, with the huge growth of the number of the students, education contents, services that can be offered and resources made available, e-learning system dimensions grow at an exponential rate. The challenges regarding this topic about optimizing resource computation, storage and communication requirements, and dealing with dynamic concurrency requests highlight the necessity of the use of a platform that needs a scalable demands and cost control this environment is cloud computing.

Along this section we will introduce the main advantages and drawbacks to be addressed for e-learning systems. Then, the significance of selecting Cloud Computing for this kind of tools will be stressed. The organizational and infrastructure necessary for the virtual platform is described next. Finally, we will review sum of the e-learning applications that have been already developed within the Cloud Computing platform.

Conclusion: In this work we have exposed the components of e-learning, focusing on the flexibility, convenience, easy accessibility, consistency and repeatability of this of systems. In large-scale resource management and provisioning, according to the huge growth of large-scale resource management and provisioning, according to the huge growth of users, services, education contents and media resources. We have settle the goodness of a Cloud Computing solution.

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Blockchain : Future in 2025

Preeti Tanwar and Tanu Kumari

Students, BCA, Biyani Girls College, Jaipur

Abstract :

The blockchain is a decentralized data of every transaction beyond a peer-to-peer network.

Blockchain is the electronical data/record of transactions. The form of blockchain, in which each record and data, is called block and put in single line,called sequence. They are used for maintaining the record and data of transactions made with crypto currencies, like Bitcoin. It is essentially a ledger that is in a electronical form which is distributed and redundant all of the network of the computer systems. This is necessarily realize as Distributed Ledger Technology. Applications of blockchain: Health care, Voting system, Criminal tracking,Cyber risk reduced,Transaction speed increased.

Characteristics of Blockchain:

• Decentralization

- Immutability
- Transparency

How Does Blockchain work?

Following are the steps:-

- A new transaction is made.
- The transaction is then transmitted to a network of peer-to-peer computers disperse across the world.
- This network of computers then solves the equations to confirms the validity of the transaction.
- Once confirmed to be legitimate transaction, they are clustered together into blocks.
- These blocks are then chained together creating a long history of all transaction that are permanent.
- The transaction is complete.
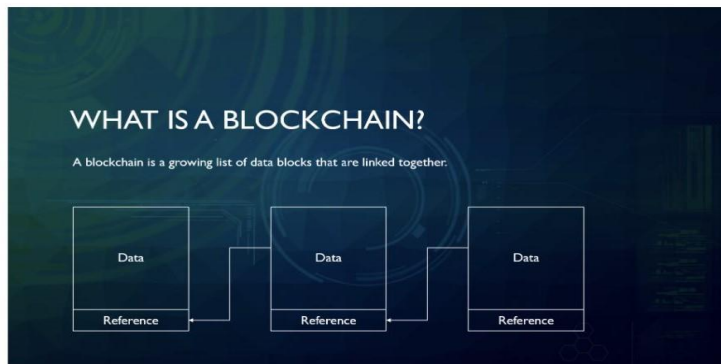
Keywords: BlockChain, API, Cyber Risk, Distributed Ledger Technology.

Conclusion: The technology will affect every industry in the world, including manufacturing, retail, transportation, healthcare, and real estate Companies as Google, IBM, Microsoft, American Express, Walmart, Nestle, Chase, Intel, Hitachi, and Dole are adopter of blockchain. Nearly $400 trillion across various industries is set to be transformed by blockchain.

Reference :

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Evolution of Artificial Intelligence Research in Human Resources

Priyanka Dadhich

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract:

The target of the article is to explore the development of the use of Man-made brainpower (computer-based intelligence) in the space of HR (HR). It presents a scene of the exploration that pre-owned artificial intelligence in the space of HR, through the quantitative unmistakable examination of diaries and procedures, enlisted in the foundation of the Library of Online Information (B-on), in the period between the long stretches of 2000 and 2018. 32 examination distributions have been recognized that address the utilization of Computerized reasoning in the HR region. The concentrate likewise raised the circulation of man-made intelligence application in HR subjects and the rate in every one of these topics. Thus, it was reasoned that there are not many explores on simulated intelligence applied to HR and a scattered use conduct.

The development and advancement in the field of computerized reasoning are examined. Darwin demonstrated the way that complicated and versatile frameworks can emerge normally from a cycle choice following up on irregular variety. This is the way that a complex versatile plan can be made without a keen creator. Inside the man-made brainpower local area to deliver versatile intricacy, so of the specialists deny the force of developmental cycles to make machine knowledge.

Keywords: AI in HR, Human Resources Management, Human Resources Artificial Intelligence, ANN in HR, B-on

Introduction: Artificial intelligence (AI) takes ground quickly in our life and the executives. The world was frightened at the point when Alpha-Go crushed Isedol, common renowned expert goes players in 2016. Also, it took win over Chinese go player Kerzey, considered as the main of the world in 2017. DeepMind, auxiliary of Google Letters in order who created it, imagined AlphaGo Zero to battle with AlphaGo who had no human adversary after sequential triumphs. It was a match between two fake insight programs, and transformed into a broad triumph for AlphaGo Zero, who figured out how to play go without help from anyone else through support learning strategy. This was a great and sensational occasion that caused individuals from one side of the planet to the other to feel the noteworthy ascent of the man-made reasoning. What makes the computerized reasoning the hot plan of our day is, nonetheless, the report at the World Financial Gathering in 2016 estimating 510 million work misfortune till 2020 because of the new innovative upheaval principally comprising of the man-made consciousness furthermore, huge information (World Financial Discussion, 2016). Furthermore, this was not the primary advance notice of the damaging impact of the computerized reasoning. In 2013, Frey and Osborne gauge that 47% of the positions in USA are profoundly dangerous to be supplanted by PCs during 10 to 20 years coming (Frey and Osborne,2013).

Disregarding various definitions, we can characterize it computer-based intelligence as a customized calculation with a learning capacity, expecting to be human-like however to outperform human in its capacity. It is a fundamental definition yet can catch a significant quality of computer-based intelligence. The most fundamental nature of the computerized reasoning is that it is a modified calculation particular on registering and dissecting, and it has an immense force of figuring, investigating and foreseeing. Be that as it may, it is presently broadening its application region, and advance to the broader simulated intelligence where specialists wander on the chance and techniques which prompts different meaning of artificial intelligence. As a matter of fact, there are different sort of man-made intelligence as we can find in the table. Computer based intelligence starts from particular to the judicious processing (frail simulated intelligence) and develop into more human-like limit, serious areas of strength for called. Solid artificial intelligence is recognized from artificial intelligence in three perspectives. In the first place, it has a learning capacity like human.

Data Analysis, Result and Discussion:

This segment incorporates the examination and understanding of the information gathered from the surveys. The survey was appropriated to 150 respondents. After guaranteeing the respectability and the dependability of the information, 19 reactions were gotten and examined. The first part is the age, occupation and association examination of the respondents. Out of 19 respondents, 15 respondents (78.9%) ie greater part of the respondents have a place with the age gathering of 20- 30 years followed by the age gatherings of 31 - 40 years and 51 years and above. This is displayed in figure 1 given below. From the figure 2 underneath, the control of the respondents can be investigated. Greater part of the respondents are corporate workers (31.6%) trailed by other class (31.6%) and the business classification (26.3%). The least number of the respondents have a place with the functioning proficient class.

Figure 1: Age analysis of the respondents
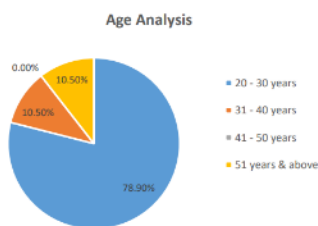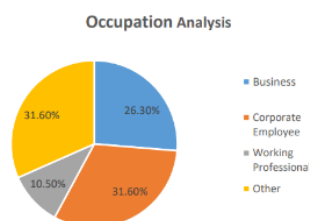
Figure 2: Occupation analysis of the respondents

Fig: Application of AI

Conclusion: The fuse of HR exercises for competitors in light of artificial intelligence without a doubt has a more prominent impact in upgrading the effectiveness of the association. In spite of the fact that simulated intelligence applications don't have close to home and mental capacities like

people, these strong man-made intelligence-based HR applications might have the option to decipher, estimate, analyse, and it is a amazing asset for any sort of association.

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Dynamic Analysis of Spyware

Yashika Jangid

Student, BCA, Biyani Girls College, Jaipur

Abstract:

Spyware is a category of harmful software that sneakily installs itself on victims' computers. Once activated, it quietly observes user activity, logs their online browsing activities, and steals their passwords. Modern anti-spyware programmes function similarly to classic virus scanners. In other words, they compare the signatures of unknown programmes to those linked to known instances of malware. These methods, however, are easily circumvented by code obfuscation, need frequent updates to signature databases, and are unable to detect new spyware.

Keywords : Obfuscation, circumvented, instances, stealthily, BHO (browser helper object)

Introduction : Spyware is a significant security risk in the today's Internet era. Spyware is harmful programme that makes an effort to stealthily monitor user activity, record their online browsing patterns, or access sensitive information like passwords. The information is typically transmitted back to the spyware distributor, where it is (ab) used for marketing research or targeted advertising. This contrasts with other forms of malware, such as viruses and worms, which typically intend to harm other computers by spreading to them. As the spyware issue has gotten worse, a number of commercial solutions that are designed to find and get rid of unwanted malware have been released. These tools are comparable to anti-virus programmes in that they detect spyware.

Spyware Analysis Methods : Spyware is a broad term for a class of harmful software that tracks a user's activities without her knowledge and usually for the advantage of a third party. There are numerous types of spyware, and each one carries out evil deeds to varying degrees. We specifically focus on spyware that uses Microsoft's Internet Explorer's hooks to track a user's actions in this

paper (as well as in our earlier work). The browser helper object (BHO) interface is used for this. Briefly stated, browser helper objects are Windows dynamic linked libraries that the Internet Explorer launches with already Loaded. BHOs are typically used to add a few modest, unique add-ons or utilities to the Internet Explorer browser. Open-source, generic system emulator Windows 2000 was deployed as a guest operating system using Qemu's simulation of an Intel x86 machine. The fact that our investigation focuses on spyware components that are implemented as BHOs for Internet Explorer led us to choose Windows and the Intel x86 architecture. Figure 1 depicts a high-level perspective of the system and the analytical procedure. An unidentified BHO is initially installed on the guest OS before being evaluated. After that, Internet Explorer starts up and loads the BHO component. The test generator is also turned on.
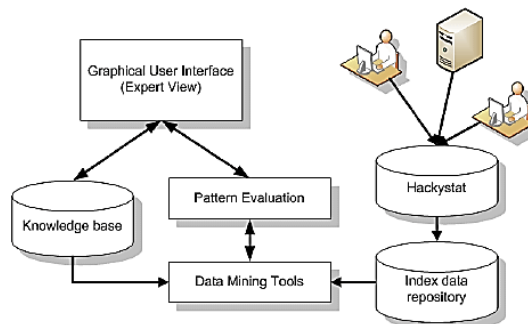
Samples of spyware : Zango promotes its products as ad-supported freeware, including games and screen savers. Spyware in the instant messaging programme of the company. More specifically, our system notices that every time a website is visited, the BHO reads the current URL and copies it to a shared memory region that has already been opened. The data is later read by the spyware assistance process zango.exe from this shared memory area. The Zango example emphasises the significance of keeping an eye on shared memory spaces that a BHO might use to write data to other processes. Additionally, it shows the value of complete system analysis by enabling us to follow sensitive data to the spyware assistant.

Conclusion : In this study, we introduced a brand-new dynamic analysis technique to categorise unidentified browser helper objects and record their activities. Our system's objective is to automatically recognise spyware that has been placed in the form for the Microsoft Internet Explorer, of browser assistance objects. In order to achieve this, we keep an eye on how Internet Explorer and installed browser auxiliary components handle private user data (such the URL that a user accesses or the content of the loaded web pages, for example). When a BHO spills private information outside of the browser process, it is categorised as spyware. In addition to classification, the analysis offers a detailed and rich account of the actions taken by BHOs. The experiment yields significant.

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Space Debris : We Polluting Space Too !

Rahul Agarwal[1] and Mansi Kumawat[2]

[1]Associate Professor, Biyani Institute of Science and Management, Jaipur
[2]Student, BCA, Biyani Girls College, Jaipur

Abstract:

After exploring and utilizing space for more than 50 years for research, study and defense purposes, the region above the atmosphere of earth is highly polluted by orbital debris.Space debris or orbital debris known as space junk are parts of the non-functional satellites, thermal blankets, booster stages of the rockets and many more.The satellites are placed in the several orbits like LEO (Low Earth Orbit), an earth centered orbit ranging from 200 to 2000 km, GEO (Geostationary Earth Orbit), at an altitude of 36000 km,and Higher Earth Orbit, according to their mission. Space debris can be caused by collisions along with satellite and spacecraft, an old debris hitting the satellites as the number of orbital objects persevere to evaluate at a forces take away from orbit. Since the risk is increasing exponentially and is of great concern for all the space-faring nations, there is a need for the active removal of space debris. Hence, in this paper, the authors have analyzed and studied problem that space debris poses, and some of its removal techniques that have been proposed by scientists and space organizations. The authors have also providing her ideas on removing the space debris and would like others to think about it because future is unpredictable what is predictable can be convertible.

Keywords: Orbit, Kessler Syndrome, Stuff in Space, Payload, ESA

Introduction: Outer Space isthe region beyond a planet's atmosphere. It consist of two satellites—

natural and human made. Human made satellites have a variety of uses, including communication relay, weather forecasting, navigation (GPS), broadcasting, scientific research, and Earth observation.Is that all in the outer space? No. Since the beginning of the space era in 1957, tons of rockets, space ships and satellites have been launched into space and, at least initially, no one foresaw what to do with them at the end of their useful life. The European Space Agency (ESA) estimates that there are some 900,000 objects over 1cm in size that have no use orbiting the Earth.When these satellites stop functioning, or when satellites collide with each other it result into million of piece revolving around the earth in their orbital speed called space debris. Thus, Space debris (also known as space junk, space pollution, space waste, space trash, or space garbage) are defunct human-made objects in space—principally in Earth orbit—which no longer serve a useful function. It incudes-- Payload: these are mainly satellites (includes fragments produced by wear and tear and collisions).Rockets: remains of stages used to propel missions in orbit (includes fragments produced by wear and tear and collisions).Mission-related objects: for example, dropped tools, screws, cables, cameras, etc.

Space waste is classified by size as-- less than 10 cm (Tracked and no efficient shielding), 1 to10 cm (Bigger objects may be tracked), Less than 1 cm.(Can't tracked and Valuable shielding exists).

It caused by Defunct satellites, Missing equipment, Rocket stages and Weapons.The biggest satellite collision is the 2009 collision between the Iridium 33 communications satellite and the derelict Russian Kosmos 2251 spacecraft, which resulted in the destruction of both satellites and turned into million pieces causing space junk and this junk spreading all over the earth overtime.
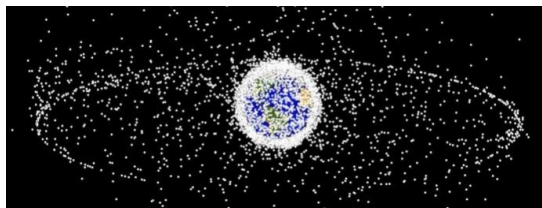
Fig: Space junk oribiting around earth

Data analysis, result and discussion:

There are several space debris removal concepts such as ESA's drag augmentation method, JAXA's electro-dynamic tether method, and solar sail propulsion method, and Texas A.M University's slingshot method. The solution involves steps to clean up the mess, mitigate damage, and avoid future debris. There are systems in place to track the debris and avert disasters. Various space organisations have been working on reducing the amount of trash by adopting better designs of rockets and other objects. For example, making rockets reusable could vastly cut down waste. The

UK's TechDemoSat-1(TDS-1),launched in 2014,would drag the satellites to re enter the atmosphere and burn up. Shift satellites to Graveyard orbit(300km + Geostationay satellites orbit), this technique also called as Self removal. We can deal with the debris using growth mitigation,external removal technique like Remotely controlled vehicles,Laser methods, Nets, and Harpoon. All these technique is somehow reduce the problem but it does not create efftective solution. What new can be done is, design a satellties in such a way that after the fuel drain out of the satelliesi,e, when is become useless there should be a real time machine which will burn out the inactive satellites. So it can reduce the space junk over outer space.

Conclusion: If nothing is done to prevent increase of debris over space, we could reach a point of no return, just as with global warming, hindering future missions and the development of future generations. At the end we will be harming ourselves when all of a sudden all artificial satellites hitting each other causing Kessler syndrome.

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3. SPACE JUNK - Fast And Dangerous

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Cyber Security

Riya Kumawat

Student, BCA, Biyani Girls College, Jaipur

Abstract:

Cyber security is the application of technologies, processes, and controls to protect systems, networks, programs, devices and data from cyber attacks. Cyber law is the part of the overall legal system that deals with the Internet, cyberspace, and their respective legal issues. Day by day these type of attackers are increase and hack important data of an organization. Everyone who is connected to the Internet needs cyber security. This is because most cyber attacks are automated and aim to exploit common vulnerabilities rather than specific websites. Cyber security is the protection of software, hardware, and data internet connected systems from cyber-attacks. Many organizations are still employing relaxed password policies, leading to simple, generic and easy-to-hack passwords for critical accounts, which have access to the sensitive and valuable data.

Keywords: Cyber law, Cyber space, Cybercrimes, Cyber Security, Steganography, Cryptography

Introducton: Cyber Security is a process that's designed to protect networks and devices from external threats. Businesses typically employ Cyber Security professionals to protect their confidential information, maintain employee productivity. The main element of Cyber Security is the use of authentication mechanisms. For example, a user name identifies an account that a user wants to access, while a password is a mechanism that proves the user is who he claims to be. We can divide cyber security into two parts one is cyber, and the other is security. Cyber refers to the technology that includes systems, networks, programs, and data. And security is concerned with the protection of systems, networks, applications, and information. In some cases, it is also called electronic information security or information technology security.

Types of Cyber Security:

1.   Critical infrastructure security.

2.   Application security.

3.   Network security.

4.   Cloud security.

Internet of Things (IoT) security.ODOL

Methodology: The master name index is a very simple but extremely useful security methodology. A record is prepared about anyone who has had a significant interaction with a member of the security department. Names to be included in the master name index are obtained from security incident reports, which include names of complainants, victims, suspects, and witnesses.

Cyber law in cyber security: Cyber Law also called IT Law is the law regarding Information-technology including computers and the internet. It is related to legal informatics and supervises the digital circulation of information, software, information security, and e-commerce. IT law does not consist of a separate area of law rather it encloses aspects of contract, intellectual property, privacy, and data protection laws.

Conclusion: Cybercrime is indeed getting the recognition it deserves. However, it is not going to restricted that easily. In fact, it is highly likely that cybercrime and its hackers will continue developing and upgrading to stay ahead of the law. So, to make us a safer we must need cyber security.

Reference:

Cyber Security is very important for secure our important data from hackers and unauthorized person. If there are no security in database then everyone can hack your personal information and do misused. Everyone who is connected with internet need cyber Security.

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Data Analysis Process and Its Tools

Sachin Bagoria[1] and Diksha Singathia[2]

[1]Faculty, Department of IT, Biyani Girls College, Jaipur
[2]Student, BCA, Biyani Girls College, Jaipur

Abstract:

In the information era, enormous amounts of data have become available on hand to decision makers.Due to the rapid growth of data, solutions need to be studied and provided in order to handle and extract value and knowledge from the datasets. Data is the building block upon which any organization thrives. Since we require data analysis.

Keywords: data analysis, data mining, gathering, artificial intelligence, python

Introduction: Data analysis is a process of inspecting, cleaning, transforming and modelling data with the goal of discovering useful information. It plays a crucial role in processing big data into useful information. It helps where we should be focusing you effort to grow business. Data analysis plays key role in distilling this information into a more accurate and relevant form, making it easier for researchers to do their job.

Data mining is best data analysis technique. It is a process of sorting through large data to identify patterns and relationship that can help solve business problems through data analysis. It is also know as knowledge discovery in data.
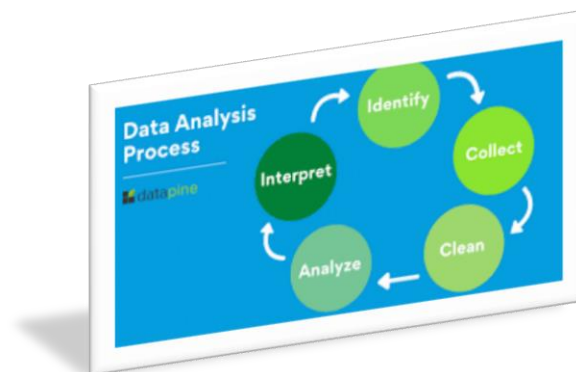
Some International Data Analysis Contest

- LTPP data analysis contest: it is international data analysis contest held by American society of civil engineers and federak highway administration. The goal of the contest is to encourage consultants academics and data scientists around the world to use LTPP data base

- KAGGLE : Subsidiary of google LLC, is online community of data scientist and machine learning . It allow user to find and publish dataset, explore and build models in web based data science environment. Hundreds of machine learning competition were run on kaggle.

Conclusion: In the information era we are currently living in, voluminous varieties of high velocity data are being produced daily. Hence, data analytics can be applied to leverage business change and enhance decision making, byapplying advanced analytic techniques on big data, and revealing hidden insights andvaluable knowledge.

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- Books of data analysis

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Emerging Trends & Technologies in Data Science

Sanjana Purohit

Assistant Professor (IT), Biyani Girls College, Jaipur

ABSTRACT:

As we all know the data – facts and figures are very important in any industry. That's why the need of data science emerges a lot. Data Science is basically a study of retrieving informative insights in any field for better decision making. It is a combined process of collection, analysis and visualization in an attractive way. It includes many types of analysis like descriptive, diagnostic, predictive, prescriptive etc.

Keywords:

Data science, visualization, analysis, prediction, decision making.

Introduction:

Basically, techniques for data science – classification, regression and clustering. It includes the tools / technologies like python, excel, sql, mathematics, statistics, machine learning etc. Data science involves in every aspect of society – education, healthcare, banking and finance, digital marketing, product recommendation system, better future prediction, internet of things, quantum computing.

Experimental / Methodology:

Discover the informative patterns (image recognition using tensorflow), real world optimization, and visualization in the form of charts.

Conclusion:

At last, we can say that Data Science is necessity in the modern era for building a huge difference to achieve success in any industry, Specially in the healthcare sector, now a days with the help of medical report analysis – several machines which predicts diseases like cancer, tumor and many more.

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Fundamental role & Impact of AI on Innovation in IT industry

Shreya Gupta

Student, MCA, Biyani Institute of Science and Management, Jaipur

Abstract:

Artificial Intelligence is a broad field & extensive concept that provides various principles in Information Technology. This research paper focuses on different technologies in AI & how they apply to improve the performance of multiple sectors. In Recent Years, AI has received increased attention from the IT Sector. The use of AI is increased & transformed in various sectors to boost the organization's performance & data safety.

Keywords : Artificial Intelligence, Information Technology, Machine Learning, Speech Recognition, Robotics, Biometrics

Introduction: Artificial Intelligence has emerged in an era when Cyber Attacks are on the rise. Nowadays, Industries & Business organizations implement AI to protect their data & confidential information from unauthorized users. AI is the backbone of various technological advancements including computation, software development & transfer of data. AI used different Technologies such as Machine Learning, Deep Learning, Natural Language Generation, Speech Recognition, and Robotics & Biometric Identification. AI performs various applications in different sectors such as Healthcare, Assembling & manufacturing industries, automotive industries & business organizations also. The digital world is becoming more and more complex manually. Scientists & Researchers have come up with innovations in the field of Technology. AI aims to create Machines that can think & work like human brains. Engineers are creating robots that help in manufacturing, assembling & commercial industries also. AI become useful for Human Communities & this popularity will affect the future of Human Society. Tools used in AI are Search & optimization, logic, Classifiers & Statistical Learning methods, and Neural Networks. Impact of AI on increased Automation Occurrence, Enhanced quality Assurance, Better Secure Systems, Better Application Deployment, enhanced Coding Efficiency, and Better Server Optimization.

Experiment/Methodology : Artificial intelligence technologies could increase global GDP by $15.7 trillion, a full 14%, by 2030 including an advanced of $7 trillion in China, $3.7 trillion in North America, and $1.8 trillion in Northern Europe, making rapid strides & they set a national goal of investing $150 billion in AI and becoming the global leader in this area by 2030. The future is becoming more and more dominated by AI.

Data Analytics/Results/Discussion : Artificial Intelligence and other technology, such as Mobile Sensing, Computer Vision, and Machine Learning, are being utilized to build Robots and web crawlers for IT operations. Technical developments in healthcare are primarily due to a mixture of Machine Learning and Big Data. It helps automate data analysis and decisions making using both past and virtual information. The rise in demand for intelligent systems to improve efficiency and productivity.

Conclusion : Artificial Intelligence (AI) has been gaining a lot of momentum in the Information Technology (IT) industry. My research Paper aims to educate the American people on Artificial Intelligence and how it can benefit the community. It is a unique phenomenon that is being massively implemented by various industries, including the Information Technology sector. Artificial Intelligence has transformed the human population & it leads to the rise of new devices and tools that are hugely important in doing business, education, and communication. All these technologies are applying to improve human interaction with machines to facilitate most operations. AI gained popularity because of its availability and ease of use in many devices. AI gains popularity with new inventions in the coming year.

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Skilling Human Resource for A Balanced Economic Growth

Yashika Agarwal

Student, BCA, Biyani Girls College, Jaipur

Abstract:

Human resource development may be identified as the process through which a society augments the skills, education, and productive abilities of its people. In essence, it means increases in human capital. Human capital is accumulated and improved upon in several ways: through programs of education and formal training, training on the job, and through individual initiative. It is generally agreed that this process, if carefully designed and implemented, promotes economic growth in any country.

Human resource development may be identified as the process through which a society augments the skills, education, and productive abilities of its people. In essence, it means increases in human capital. Human capital is accumulated and improved upon in several ways: through programs of education and formal training, training on the job, and through individual initiative. It is generally agreed that this process, if carefully designed and implemented, promotes economic growth in any country. This chapter deals with the problem of economic development from the point of view of human resource development with reference to India. There are indeed legitimate and vital social goals of education - such as universal literacy and equal educational opportunities for boys and girls - just as there are legitimate manpower aims. Furthermore, these aims are not mutually exclusive. The primary concern of this chapter is with the manpower aims of human resource development. It is assumed that a carefully conceived program of human resource development is indispensable for achieving the twin goals of social change and sustained economic growth. An effort is made first to synthesize current thinking and research in human resource development in general; second, in the light of manpower aims, an assessment is made of educational progress in India. Finally, those areas where intensive research endeavors could yield fruitful results for the education and training systems are indicated.

Keywords: Utilization of Natural Resources, Compensate for the Deficiency of Natural Resources, Utilization of Physical Capital, Increase in Produuction, Change in Technology

Introduction: Role of Human Resource in Economic Development

Human resources play an important role in the overall development of a country. Capital, natural resources, as well as other productive resources remain inactive in nature. Human resources are necessary to mobilize them. Nepal has sufficient natural resources and utilization of these resources is necessary for economic development. The role of human resource can be explained with the help of the following points.

1. Utilization of Natural resources: Human resources are necessary for the utilization of natural resources like mineral, water, forest, etc. Utilization of these resources is necessary for economic development. Thus, only human resources mobilize and utilize them properly.

2. Compensate for the deficiency of natural resources: The utilization of human resource compensates the deficiency of natural resources. Many countries are poor in natural resources like Japan, Hong Kong, Singapore, etc. but they are able to achieve high economic growth by properly utilizing the human resource.

3. Utilization of physical capital: Only the existence of physical capital can't do anything for economic development. They should be properly utilized. To, operate machinery & equipment and to run factories and industries is impossible without the involvement of human resource.

4. Increase in production: The human resources of a country help to increase the production of different goods and services. By using skilled human resources, a country can produce a variety of goods and services having high quality.

5. Changes in technology: Human resources of a country can bring new technology. Advance technology is necessary to bring development in the country. There are other roles of human resources such as the development of transportation and communication, the supply of labour, etc.

Experiment: Whatever else economic growth might involve, the importance of the human factor in it can be ignored only at great peril. Man, in the ultimate analysis, is the measure and end of all progress. It follows then, that measures which improve his skills and motivations are at least as important as the ones which improve the tools with which he undertakes productive activities. Of course this realization is not new in economic thinking.

Conclusion: Human Resources Development and economic growth are strongly linked. Human capital influences economic growth and can aid in the development of an economy by broadening its people's knowledge and skills. Since a knowledgeable workforce can lead to increased productivity, the skills have economic value.

Fig01

Refrences: Slideshare.net, Papers.ssrn.com, Merospark.com

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Role of ICT in financial independence of tribal women

Pravina Rathore, Nisha Tanwar & Dr Kamini Gaur

Faculty of B.N. University, Udaipur

Abstract:

The present study gives an insight into the utilisation of ICT based financial services by tribal women. The world has become a digital economy by and large. Numerous people utilise ICT based banking services to have quick access to their money. However, the illiterate and poor tribal classes though having full competence to the services have restrained participation in utilising ICT based financial services. Moreover, tribal women are unaware or hesitant in using these services. It's propounded that ICT based financial services will help alot in benefiting tribal women. Through these services they will become independent, active, healthy and cater to family needs more diligently. Expected that through financial independence women will be more socially active and play their pivotal role in nation building. Thus it is expected that encouraging tribal women to utilise ICT based financial services is the need of the hour.

Keywords: Tribal women, ICT, financial services, Independent, Benefiting

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The Impact of Teaching on Online - Offline Mode through Artificial Intelligence in Classroom Interaction

Renu Soyal[1] and Rohit Parewa[2]

[1]*PhD Research Scholar, Department of Psychology, University of Rajasthan, Jaipur, India*
[2]*PhD Research Scholar, Department of Computer Science, Rajasthan Technical University, Distt. - Kota, Rajasthan*

Abstract:

Artificial intelligence (AI) technology is important role in recent times, as a growing number of schools and other academic institutions are beginning to understand its many potential benefits. AI is effectively working in learning and teaching including personalizing learning for students and teachers, automating instructors' routine tasks, and powering adaptive assessments in education. AI

has supported positive interaction impact on students' satisfaction and learning outcomes such as communication, support, and presence in classroom. The purpose of this study was examined what possible scenarios are there with the arrival of AI in education and what kind of advantages and disadvantage of online and offline learning or teaching effect on classroom interaction are presented. The finding of study AI technology could use to adapt lessons to students' needs, continually providing an ideal learning environment, enhancing communication, and optimizing the lesson creation process as well as improving the feeling of connection in classroom of school. This study indicated that mostly seem to have positive perceptions towards AI, there are also certain drawbacks especially highlighted by teachers and academicians, regarding the future of teaching. Although AI technology have positive role not only in assisting students with their learning, but also advantageous for teachers too on both mode of online and offline for classroom interaction.

Keywords: - Artificial Intelligence, Teaching, Online- Offline Mode, Classroom Interaction

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Cloud Based Data Analysis and Monitoring in Farming using IOT: A Literature Review

Vinod Kumar Yadav[1] and Vipin Kumar Jain[2]

[1]PhD Research Scholar, Dept. of Computer Science, Rajasthan Technical University, Kota
[2]Research Supervisor, Rajasthan Technical University, Kota Rajasthan

ABSTRACT:

With the aim of to offer superior agricultural development, the cloud-based data analysis and monitoring system provide data gathering services like soil moisture, humidity, light and temperature to utilize maximum technical lead in field of agriculture. Cloud-connected wireless sensors capture data from the field and machine learning algorithms analyse that real-time information, giving farmers a better understanding of crops conditions. What is the importance of data analysis in agricultural and biosystems engineering? Data analytics can help farmers monitor the health of crops in real-time, create predictive analytics related to future yields and help farmers make resource management decisions based on proven trends. Reducing waste and improving profits. It helps in empowering the farmers by providing knowledge about the nature of their farm land, their climatic conditions, providing better access to natural resources, improved agricultural technologies, effective production strategies services. Cloud data with the goal of discovering useful

information, suggesting conclusions, and supporting decision- making. Data analytics allow us to make informed decisions and to stop guessing.

Keywords – Cloud based data, Data Analysis, Data Monitoring, Resource Management, Decision Making

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A Review of Web Application Development with Hybrid Agile Practices

Prerna Vyas[1] and Sachin Jain[2]

[1]*Assistant Professor, School of Computer & Systems Science, Jaipur National University, Jaipur*
[2]Assistant Professor, School of Computer & Systems Science, Jaipur National University, Jaipur

Abstract:

Model driven based development is a useful way to its remuneration such as code transformation, escalating The output and dropping person based error potential. Agile software development Increases software plasticity and users approvals were use iterative method. These two development approaches are useful to combined and develop web applications properly. Here are some challenges and some benefits to using these approaches. In this paper, we will discuss these two crucial problems combining model firm development and agile software development results in not only fast development and forbearance of the user interface design and also efficient process tracking. We defined an agile model based approach for web applications and implementation study has been carried out to support the answers we gave these two crucial problems.

Keywords: Agile, software development

Introduction :

Model firm development or MFD is a method; proposes to produce the source codes from models [1], [2]. Sculpt are the abstracted representation of the system elements [3]. Created sculpts were transformed to source codes by MfD tools with automated code generation property [4], [5]. This is very useful attribute, it reduces the human factor on software coding, it leaves the coding part only to computers. Developers only focus on creating the system models efficiently [6]. Models are used for web applications on different approaches like WebML [7], [8], UWE [9], [10] and OOHDM [11]. These methodologies are mostly based on Unified modeling Language. Some other method is

Replicate model driven development which is based on prototyping the web applications [12]. Replicate model are the dynamic user interface prototypes created by mockup development tools [13], [14]. These tools provide to transform the mockups to executable web pages created by Hyper Text Markup Language (HTML), Cascade Style Sheet (CSS), JavaScript codes and other web development technologies [15]. The critical advantage of using tools than hand-coding is to utilize the last technologies, low error rate and pace

Other side, agile practices [16], [17] aim to deliver executable software quickly. In Agile we do not use any perticuler development method and even do not consider any documentation and schema for any project because agile are iterative manner process, project is developed in small pieces and that's why we called that this agile practices provide us more flexible structure and response feedbacks properly around from overall lifecycle.In review of literature, here are some life cycle diagrams combining the agile practices on model driven development [19]. One of the prior studies in literature is the agile model driven development

(AMDD) high level life cycle [10],[11]. It generally proposes a life cycle complete two main phases: inception phase and development phase. The inception phase is the general purpose modeling part

of the overall system. In the development phase Iterations are implemented .one another life cycle is the Hybrid MDD development method [12]. It is a developed method of the AMDD high level life cycle. It consists two main phases like high level life cycle, but it defines the three development teams working parallel. These teams are called as hybrid model development team, agile development team and business analyst team.

There are also MDD SLAP method [13], which is developed by Motorola Company in order to work their own company agile systems, and Sage MDD [15] method, which is developed in order to use on developing multiple agent systems. The methods are constituted with the criteria of involvement and target platform they are developed for

AMDD High Level Life Cycle	First life cycle combining agile practices with model driven engineering	General projects
Sage MDD	Based on the integration of the different models incrementally and iteratively	Multi-agent systems
Hybrid MDD	Described the parallel working teams on AMDD High Level Life Cycle	Small or medium size general projects
MDD-SLAP	Identify the relation between agile principles and model-driven practices and implemented on Scrum method.	Telecommunication systems

(Table 1). Main AMDD life cycles in literature

To examine the cost evaluation of web projects have different properties over others [29]. So web projects have small team groups and not trustable to evaluate the project with code line numbers. So that, the main factors which are personnel, product, platform and project factors have been develop for good estimation. And as a result of estimation, the result give the cost tendency of method. The main contributions of this work are:

1. To provide an hybrid agile supporting model-driven approach to modified for web applications,

2. To propose a life cycle, implemented on real projects for developers.

3. To provide the cost evaluation of the approach.

2. Proposed Approach : This approach is based on the Hybrid MDD [17] method. The Hybrid MDD method is customized for web applications. The dynamic prototyping method for web applications called model driven development [12] is utilized on the life cycle. We defined which parts are created by using model automatically and their parts are created by handcrafted coding. And after this part, another part are integrated properly.web applications and system architecture can have as two programming parts called client-side programming or scripting and server-side programming or scripting[25]. Codes of Client-side are not generated on servers. Server-side codes are generated on server and send to clients. In our approach, we try to coding all client-side parts via model transformation. Client-side part is developed from models with automated code generation like android with java and server-side part is developed by handcrafted codes. Finally, these parts are integrated and final software is come into view.

2.1. The Steps of the Approach

The approach is progressed gradually and incrementally. Three teams are worked parallel goes through the life cycle. These teams are the model driven development team, agile development team and business analyst team. Model development team is responsible of the model structure and construction, creation of web models with their attributes and functions and the automated code generation parts. Agile development team is able of the test environment creation and handmade codes. Business analyst team is responsible of the interaction with customer, creation of the requirement of the system. These teams work with high cooperation as the result of agile principle. The steps of the method are basically illustrated (Fig. 1)
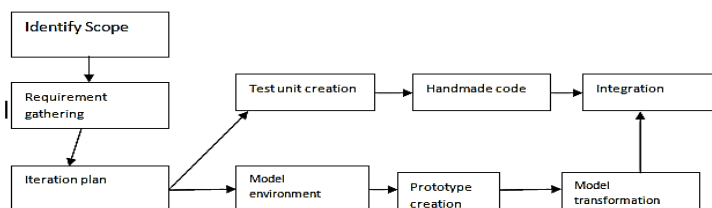

Fig the main step of the approach

The approach starts with rectify the project scope by business analyst team. The business analyst team analysis all requirements by collaboration with users. Then requirement analyst, over all projects is divided the iterations by the order of their precedence. The development phase starts with most important precedence iteration and this point, all three teams work simultaneously working Agile development team creates the test units; while MDD team decides the proper model development tool and sets up and business analyst team interacts with users and mentors.

Agile team members create handmade code like database creation, database connection classes every team members of completed the iteration and loop of the process later model-driven development team creates the manifest model with assigning their fields and methods. For creation of this the scope should be make all client side code via only model based form. Only server-side codes will be coded by handmade coding. Because in last phase of the above diagram handmade based parts and codes are integrated. These process repeats until the all loops is completed.

2.2. Implementation of the Testing Phase

In this approach, test-driven development (TDD) [18] method is operate some functionality of the project. TDD proposed to create the test units before the source code is created. So according to this approach, all of iterations and loop start with the initializing the test units. And then the integration of mixing part for all iterations and steps, iteration test is implemented. Once all the iterations are completed, integrated system is tested for compatibility, reliability and integrity.

2.3. Customer Role on the Approach

User and customer interaction with the developers is a very important part and significant part of these approaches. In the process all the parts of iteration and loop remains and have to be presented to customer and take feedbacks. And then feedback was evaluated. Many of time of the process, joint development is proposed. So that's why this model design is proposed to implement with a customer representation and their satisfaction.

2.4. Agile Practices Utilization

Agile practices tell us the overall structure of the approach. Agile modeling [20] is basically utilized for creating and estimating the structure of any project to picking any one agile approach from agile umbrella for this purpose. Agile modeling is a function for modeling properly to the agile principles. The general utilization of the agile practices in our approach is clarified via below table

Agile Practices	Utilization in the Approach
Iterative and incremental development	The approach progresses iteratively and incrementally
Working software over comprehensive documentation	The models are used for documentation in the approach, instead of creating external documentation
Rapid feedback	All stakeholders work together with high interaction and responds to the feedbacks immediately
Continuous integration	Models are created part by part and regularly integrates
Test-driven development	All test units are developed before creating the source codes throughout the process
Pair programming	Mockups and requirements are created with customer representation

In the paper, scope to provide a life cycle for web application development to using hybrid agile model. The proposed approach is based on the integration the client size based codes or program and server-size based codes or program. To speed up the process, simultaneously working teams are proposed. Reason for this, the life cycle of the Hybrid MDD method is utilized as frame. Model web prototyping method called Mockup sometimes it is called iterative loop method and it has been implemented as the life cycle of hybrid agile to speed up and to more use agile practices.once we come up these hybrid agile model its utilized or developing more faster and flexible it is useful for best feedback ,analyst process.

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PROGRAMME AT A GLANCE
Date: January 25, 2023; Monday (Day-5)

Theme: New Perspective in Education Industry

Timing	Programme
08:00 AM -09:00 AM	Registration & Refreshment
09:00 AM -09:05 AM	Lighting of the Lamp and Ganesh Vandana
09:05 AM -09:15 AM	Yoga Performance by student of BGBC
09:15 AM- 09:20 AM	Opening and Welcome Remark : Prof. Manish Biyani, Chair BICON 2023, JAIST University, Japan.
09:20 AM- 09:45 AM	Inaugural Address by Chief Guest Dr. Mohan Lal Yadav (IAS), Commissioner, School Education, Rajasthan, Jaipur
09:45 AM -10:15 AM	Address by Guest of Honor Prof. B. L. Jain, Registrar , Jain Vishva Bharati Institute, Ladhnu, Rajasthan
10:15 AM -10:30 AM	Special Lecturer by Prof. Sanjay Biyani, Director, Biyani Group of Colleges, Jaipur
10:30 AM -11:00 AM	**Tea Break**
11:00 AM -11:30 AM	Session 1: Efficient Resource and Effective Governance through School Cluster by Dr. M. R. Bhadhu, Deputy Director, Rajasthan Council of School Education , Jaipur
11:30 AM -11:40 AM	Conclude by Chair Person Dr. Shruti Tiwari, Deen, School of Education, Suresh Gyan Vihar University, Jaipur
11:40 AM -12:10 PM	Session 2: Standard Setting and Accreditation for School Education Prof. Ayushman Goswami, RIE, Ajmer, Rajasthan
12:10 PM -12:20 PM	Conclude by Chair Person Dr. Kalpna Pareek, Professor, SSG Pareek College, Jaipur
12:20 PM -12:50 PM	Session 3: Challenges of New Education Policies by Dr. Dinesh Chahal, Professor, Department of Education, School of Education, Central University of Haryana, Mahendergarh, Haryana
12:50 PM -01:00 PM	Conclude by Chair Person Dr. Pramila Dubey, Dean, Education Department, Rajasthan University, Jaipur
01:00 PM -01:35 PM	Invited Talk 4: Bridging gap between Society and Industry through best practices in Edu. by Dr. Rajesh Kumar, Lead Academics, EdIndia Foundation, Mumbai
01:35 PM -01: 55 PM	Conclude by Chair Person Dr. Pramila Dubey, Dean, Education Department, Rajasthan University, Jaipur

01:55 PM -02:40 PM	**Lunch Break**
02:40 PM –03:15 PM	Special Talk with Youngest Entrepreneur by Dr. Shakti Singh Rajawat, Raghuraj Academy Senior Secondary School, Jaipur
03:15 PM - 03:55 PM	Oral Presentation (Each Participant)
03:55 PM - 04:20 PM	Open discussion
04:20 PM -04:30 PM	Cultural Performance
04:30 PM -04:45 PM	Memento Distribution, Prize Distribution &Closing remarks and Group Photo
04:45 PM – 5:00 PM	Closing Ceremony (Outer area)

TABLE OF CONTENTS (DAY-5)

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Invited Lecture-1

NEP 2020 for Quality Higher Education

Prof. (Dr.) Dinesh Chahal

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Affiliation & Contact :

Professor, Department of Education, School of Education, Central University of Haryana, Jant Pali, Mahendergarh-123031, INDIA

E-Mail: dineshchahal@cuh.ac.in, Mobile: 9416313411

Educational Qualifications: Ph.D. in Education, M. Ed, M.A. History, NET (History) and NET (Education)

Research Area: Teacher Education & School Education

Academic /Administrative Experiences:

- Former Member University Court and AcademicCouncil,CUH

- Coordinator NSS and YRC

- More than 19 Years Teaching and ResearchExperience.

- Completed 5 Ph. D. and 5 M. Phil. under mysupervision.

- Completed 3 Research Projects.

- Published 40 papers in reputed National andInternational journals.

- Participated in more than 300 seminars/workshops/conferences as resourceperson in India and abroad

Professional Affiliation:

- **Working with many Ministries in different capacities :**Ministry of Youth Affairs and Sports, Ministry of Human Resource Development, Ministry of Defence, Ministry of Culture, Ministry of Health and Family Welfare, Ministry of Home Affairs, Ministry of Parliamentary Affairs, etc.

- Resource Person (Many Universities in India) for Academic Staff Colleges /PMMMNMTT Centers /Faculty Development Centers.

- Resource Person and Motivational Speaker specially for youth in many colleges/ Universities/ Organizations at State & National levels.

Achievements :

- Prime Minister Scholarship

- Chief Minister Scholarship

- ICSSR Fellowship for Ph.D.

Abstract

NEP 2020 for Quality Higher Education

Prof. (Dr.) Dinesh Chahal

Professor, Department of Education, School of Education,Central University of Haryana, Mahendragarh

Abstract:

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. Universal high-quality education is the best way forward for developing and maximizing our country's rich talents and resources for the good of the individual, the society, the country, and the world. India will have the highest population of young people in the world over the next decade, and our ability to provide high-quality educational opportunities to them will determine the future of our country.

This National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, including SDG4, while building upon India's traditions and value systems. Being an educator it is quite essential to understand the various components of 2020. NEP 2020 has ensured the quality higher education and aimed to develop good, thoughtful, well-rounded, and creative individuals. It is discussed clearly in the policy that HEI would focus on the multidisciplinary system of education considering holistic development of the children. Along with this development

of character, ethical and Constitutional values, need to be promoted through the curriculum transaction at every stage of higher education. Inclusion of social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects has given importance in the policy. Moving to large multidisciplinary universities and HEI clusters is thus the highest recommendation of this policy regarding the structure of higher education. By 2040, all higher education institutions (HEIs) shall aim to become multidisciplinary institutions and shall aim to have larger student enrolments preferably in the thousands, for optimal use of infrastructure and resources, and for the creation of vibrant multidisciplinary communities. Since this process will take time, all HEIs will firstly plan to become multidisciplinary by 2030, and then gradually increase student strength to the desired levels. The most important initiative under the policy is recommendation for establishment of educational institutions in underserved regions to ensure full access, equity, and inclusion. There shall, by 2030, be at least one large multidisciplinary HEI in or near every district. There is also a scope for International students as it is mentioned that International Students Office at each HEI hosting foreign students will be set up to coordinate all matters relating to welcoming and supporting students arriving from abroad. No one should be left behind is the heart of the policy as efforts will be made to incentivize the merit of students belonging to SC, ST, OBC, and other SEDGs. The National Scholarship Portal will be expanded to support, foster, and track the progress of students receiving scholarships. Hence the policy is going to transform the whole educational structure of the country towards positive developments and quality education.

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CONTRIBUTED PAPERS

Impact of New Education Policy 2020 on Higher Education

Anupama Goyal

Associate Professor in Botany, Dr KN Modi University, Newai Tonk

Abstract:

The New Education Policy announced by the Government of India (NEP 2020) was a welcome change and a fresh news amidst all the negativity surrounding the world due to the challenges posed by the Covid-19 pandemic. The announcement of NEP 2020 was completely unexpected for many. The changes NEP 2020 recommended were something many educators never saw coming. Although education policy has affected school and higher education equally, this article focuses primarily on NEP 2020 and its impact on higher education. This article also outlines the main features of the NEP and analyzes how they affect the existing education system.

Keywords: New education policy, higher education, Covid-19

I. Introduction:

National Education Policy

The National Policy on Education (NPE) is a policy formulated by the Government of India to promote education among the people of India. This policy covers basic education in colleges in both rural and urban India. The first NPE was declared by the Government of India by Prime Minister Indira Gandhi in 1968, the second by Prime Minister Rajiv Gandhi in 1986 and the third by Prime Minister Narendra Modi in 2020.

Quality higher education must focus on developing individuals who are outstanding, thoughtful, versatile and creative. It must enable one to study in depth one or more specialized areas of interest and to develop character, ethical and constitutional values, intellectual curiosity, scholarly nature, creativity, spirit of service and skills in 21st disciplines, including sciences, social sciences, arts, humanities, languages , personal, technical and professional subjects. The new education policy brings some major changes to the current system, and the main priorities are multidisciplinary universities and colleges, with at least one in or near each district, redesign of student curricula, pedagogy, assessment and support for better student experiences, and the establishment of national research. A foundation to support excellent peer-reviewed theses and the effective start of studies at universities and colleges.

Holistic and multidisciplinary education should seek to improve all human capacities – mental, cultural, social, physical, emotional and moral – in an integrated manner. Such comprehensive

education will be a long-term method for all undergraduate programs, including medical, technical and professional. Optimal learning environment and student support offers a holistic approach including adequate curriculum, interactive pedagogy, consistent formative assessment and adequate student support.

Study objectives : The primary objective of this research is to study the impact of the New Education Policy 2020 on higher education. The study also outlines the main features of the NEP and analyzes how they affect the existing education system.

Research methodology : This research is a descriptive study. Necessary secondary data was collected from various websites including Government of India website, journals, magazines, other publications etc. This data was then analyzed and reviewed to arrive at conclusions and conclusions.

II. Distinctive Characteristics not related to Higher Education :

The new NEP was introduced to formalize changes in the system from school level to college/university level. In view of the development scenario, learning content will henceforth focus on key concepts, ideas, applications and problem-solving angles. The National Education Policy is expected to have a positive and long-term impact on the country's higher education system. The fact that foreign universities will be allowed to open campuses in India is a commendable initiative by the government. This will help students experience global quality education in their own country. The policy of introducing multi-disciplinary institutes will lead to renewed focus on all fields like arts, humanities and this form of education will help students to learn and grow holistically. Students will thus be equipped with a stronger knowledge base.

The NEP introduces many reforms and new trends in the higher education sector. Some of the prominent features are:

• **Unified regulatory body for higher education:**

The NEP aims to establish a Higher Education Commission of India which will be the sole regulatory body except for legal and medical education.

➢ **Program for multiple inputs and outputs:**

Several entry and exit options will be available for those wishing to leave the field midway through. Their credits will be transferred through the Academic Credit Bank.

➢ **Technological option for adult education through applications, TV channels:**

Quality technology-based adult education options will be developed such as apps, online courses/modules, satellite TV channels, online books and ICT equipped libraries and adult education centers etc.

➢ **E-courses will be available in regional languages:**

Technology will be part of education planning, teaching, learning, assessment, preparation of teachers, schools and students. The e-content will be available in regional languages, starting with 8 major languages - Kannada, Odia and Bengali among others to join the e-courses available in Hindi and English.

➢ **Foreign universities setting up campuses in India:**

The new law will allow 100 of the world's best foreign universities to operate in India. According to a HRD ministry document, "Such (foreign) universities will be granted special exemption in terms of regulatory, administrative and content standards at the level of other autonomous

III. DETAILED ANALYSIS OF THE IMPACT OF NEP ON HIGHER EDUCATION

Regulatory system of higher education:

A significant change in the NEP 2020 is the proposal to establish the Higher Education Commission of India (HECI), as an umbrella body for higher education, excluding medical and legal education. This usually begs the question, what will happen to the current UGC and AICTE? HECI focuses on reforming the higher education sector; the bill will separate the academic and financial aspects of the sector. Under the new law, HECI will have no financial power

Graded accreditation and graded autonomy:

The concept of "empowerment and autonomy to innovate" is one of the key elements of NEP 2020, which supports the strategy of "phasing out" from affiliated universities to autonomous institutions. The increased flexibility offered to autonomous institutions also gives hope for curriculum enrichment. It also states that with the appropriate accreditations, autonomous degree-granting colleges could develop into research-intensive or teaching-intensive universities if they aspired to do so.

Internationalization at home:

NEP 2020 also allows foreign universities and colleges to come to India, thereby challenging indigenous institutions to improve the quality of education they provide. India's higher education

sector is buzzing all around as an opportunity to pave the way for foreign universities to set up campuses in the country. India has one of the largest networks of higher education systems in the world with over 900 universities and 40,000 colleges

OPTIMAL EDUCATIONAL ENVIRONMENT AND SUPPORT FOR STUDENTS

Institutions and faculties will have the autonomy to innovate in matters of curriculum, pedagogy and assessment across a broad range of higher education qualifications.

- All assessment systems must also be decided by the college, including those leading to final certification. The Choice Based Credit System (CBCS) will be revised to inculcate innovation and flexibility.

- Colleges will move to a criteria-based grading system that assesses student achievement based on learning objectives for each program.

- Universities should also move away from high-stakes exams to more continuous and comprehensive assessments.

- Each institution integrates its academic plans – from curriculum enhancement to the quality of classroom transactions – into its larger Institutional Development Plan (IDP)

- Quality support centers and expert academic and career counseling will be made available to all students.

- Norms, standards and guidelines for system development, regulation and accreditation of ODL will be prepared and a framework for ODL quality will be created, which will be recommended for all universities.

- All programmes, courses, curricula and pedagogy across subjects, including those in the classroom, online and ODL modes, as well as student support will focus on achieving global quality standards.

IV. CONCLUSION

The policy introduces a range of changes and largely reads as a very progressive document with a firm understanding of the current socio-economic environment and a perspective of future uncertainty. Fundamentally, educating a new generation of students must address the increasing dematerialization and digitization of economies, requiring a whole new set of skills to keep pace. This seems to be an even more important advantage now that the pandemic has accelerated the trend towards digitization and disruptive automation. Overall, NEP 2020 addresses the need to develop professionals in fields ranging from agriculture to artificial intelligence. India must be prepared for the future. And NEP 2020 paves the way forward for many young aspiring students to be equipped with the right skills.

Actions to be taken by governments

(a) Allocate appropriate government funds for SEDG education

(b) Set clear targets for higher GER for SEDG

(c) Increase gender balance in university admissions

(d) Improve access by establishing more high quality higher education institutions in aspirational constituencies and special education zones

(e) Develop and promote high quality higher education institutions that teach in local/Indian languages or bilingually

(f) Provide more SEDG financial aid and scholarships in public and private HEIs

(g) Conduct outreach programs on higher education opportunities and scholarships among SEDGs

(h) Develop and support technology tools to improve participation and learning outcomes.

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Social and Emotional Learning: Transforming the Education System

Mahak Chhabra[1], Mudit Rathore[2]

[1]*Research Scholar, University of Rajasthan, Jaipur (India),* [2]*Research Supervisor, University of Rajasthan, Jaipur (India)*

Abstract :

Social and Emotional Learning play an important role in transforming education systems. Social and Emotional skills are a part of everyday life and begins developing from birth. Children's social and emotional development helps him forming close and secure relationships with others and understanding their own emotions as well as others within their homes, cultures and societies. Just like other important skills like language and cognition, social and emotional skills must be also taught and taken as skills which will positively impact one another and together promote lifelong effective learning and peaceful societies.

Social and Emotional learning focuses on developmental process of learning and using knowledge , skills and attitudes for building relationships, making proper decisions, showing empathy and regulation of emotions. It is all about mindfulness and development of consciousness in respect to one's emotional well-being as well as the well-being of the society. Social and emotional competencies must be trained just like literacy and numeracy. The New Education Policy, 2020 does not explicitly mention social and emotional learning but the idea is integrated in several dimensions of the policy.

In the present paper the Social Emotional Learning will be explained in respect to its meaning, its place in the New Education Policy (2020), it features and the factors that might hinder implementation of Social Emotional Learning

Keyword: Social Emotional Learning (SEL), SEL Competencies, Implementation of SEL, Whole School Approach, New Education Policy (2020)

Introduction:

Humans are complex social and emotional beings and the well-being of the human beings depends on human learning to communicate their individual needs to each other effectively and managing emotions in a healthy manner. These needs and capabilities are universal and every human brain develops to enable social and emotional skills such as empathy, compassion and perspective taking. Emotional and social development of an individual is as important as their cognitive and biological development. An education system needs to transform itself so as to address and contribute to this aspect of human learning and experience. The introduction of social and emotional learning provides a double dividend to learners and society by improving academic achievements and

nurturing empathetic and compassionate individuals in order to build a kinder world. Social and emotional learning is a necessary learning condition for all learners. The brain of an individual never stops learning and the overall development of human brain is dynamic in nature and gets influenced by social and emotional environments in which an individual is exposed. Social and Emotional competencies can be trained like literacy and numeracy. Social and emotional skills build social and emotional intelligence which are fundamental for success in school and future life. It helps children and adolescents to socialize with others, make friends, being empathetic towards others and make safe and ethical choices. Social and Emotional Learning is a process of acquiring competencies to recognize and manage the emotions, develop caring and concern for others and maintain healthy and positive interpersonal relationships and handling challenging situations effectively. SEL addresses real-life skills such as reading faces and voices for emotions.

Social Emotional Competencies for maintaining a healthy relationship with self includes self-awareness, emotional literacy, emotional regulation, mindfulness, impulse control, self compassion, critical inquiry and resilience. A whole-school approach is necessary condition for social emotional learning to be successful which includes student, educator, caregiver, parents and policy maker.

In the Year 1996, UNESCO Report, "Learning the Treasure Within; Report to UNESCO of the International Commission on Education for the twenty-First Century", stressed that while education is an ongoing process of improving knowledge and skills, it is also a mean of bringing about personal development and building relationships among individuals, groups and nations.

Social and Emotional Learning can be defined as the process of acquiring the competencies, skills and/or attitudes to recognize and manage emotions, develop caring and concern for teachers, establish positive relationships, make responsible decisions and handle challenging situations. It emphasis on active learning approaches in which skills can be generalized across the curriculum areas and contexts when opportunities are provided to practice the skills that foster positive attitudes, behaviours and thinking processes.

Need of Social Emotional Learning in Education: Humans are social being and they possess an innate ability to develop interpersonal relationships and these social bonding create the foundation for human beings to coexist in and across groups and are vital part of human experience. An individual needs social and emotional connections for learning and higher order cognition. Learning is facilitated or hindered by social and emotional experiences of the learner. Education systems must be able to address and contribute to this aspect of human experience.

The aspects of cognition that are heavily recruited in education, including learning, attention, memory, decision making, motivation and social functioning are affected by emotion. A school curriculum that ignores children's emotional, social or physical needs work against achieving cognitive and academic goals. Social and emotional competencies provide a stable and secure state for the brain to learn.

Social and Emotional Competencies and Frameworks:

▪ CASEL's Five Social Emotional Learning Competencies
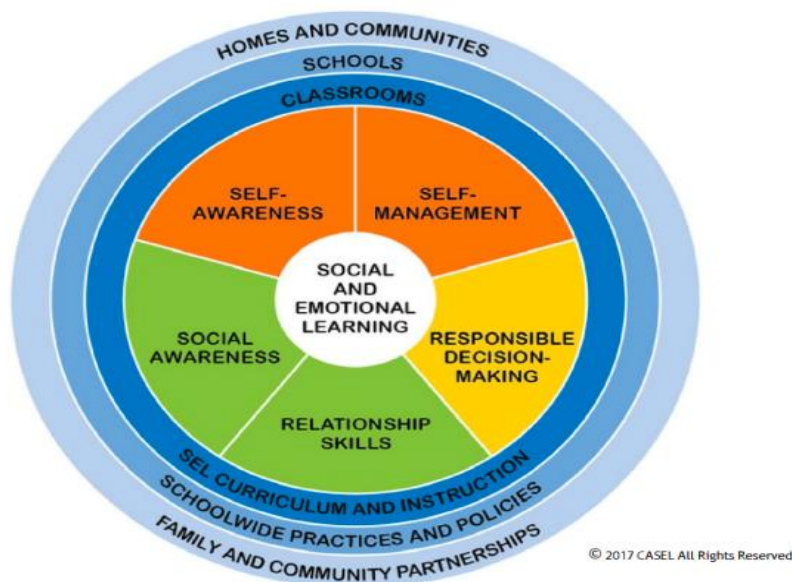
▪ **Social Emotional Academic Development (SEAD):**

Cognitive	Social and Interpersonal	Emotional
Includes the ability to: ✓ Focus and pay attention ✓ Set goals ✓ Plan and Organise ✓ Persevere ✓ Problem Solving	Includes the ability to : ✓ Navigate social situations ✓ Resolve conflicts ✓ Demonstrate respect towards others ✓ Cooperate and work on a team. ✓ Self-advocate and demonstrate agency.	✓ Recognize and Manage one's emotions. ✓ Understand the Emotions and perspective of others. ✓ Demonstrate empathy. ✓ Cope with frustration and stress.

(Source: Excerpted from the NCSEAD's report "From a nation at risk to a nation at hope: Recommendations from the National Commission on Social, Emotional and Academic Development" published by the Aspen Institute in January, 2019)

▪ UNESCO MGIEP's EMC[2:]
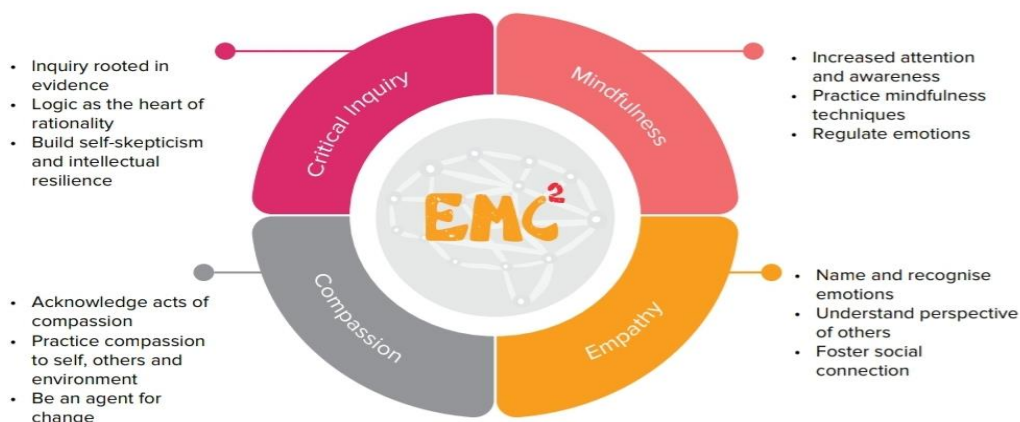
(*Source: "The Rethinking Learning: A review of Social and Emotional Learning for Education Systems"a report by UNESCO MGIEP*)

Implementation of Emotional Social Learning (SEL):A whole School Approach is used in order to implement Social Emotional Learning. The acknowledgement of school, by their nature, are social institutions in which students come for learning social and emotional and emotional competencies and unintentional ways which is important for moving towards a system-wide approach to Social Emotional Learning. Social and Emotional Learning implementation requires three distinct and interrelated dimensions which are the learning context, SEL of students and SEL of teachers.

Figure. A Whole School Approach to Implementing SEL

Place of Social Emotional Learning (SEL) in New Education Policy (2020): The term Social Emotional Learning is not explicitly mentioned in New Education Policy 2020 but its idea is integrated in several dimensions of the policy.

- The New Education Policy states the development of compassion and empathy as one of the primary long term objective of the policy.

- Some of the principles such as respect for diversity and local context, Equity and inclusion and community participation directly and indirectly emphasize on social and emotional learning among students.

- Adoption of Activity based and experiential learning as part of pedagogical structure which encourages peer engagement and community participation.

- The policy states health and wellness training for students and provision of one campus counselors to assist students.

- Special emphasis on socio economically disadvantaged sections which encourages values like tolerance, mutual respect and empathy among students.

- Creation of textbooks with local content and flavor and encouraging peer based tutoring could also be helpful in promotion of social emotional learning.

- Recognizing, identifying and fostering capabilities of each student, by sensitizing teachers as well as parents to promote each student's holistic development in both academic and non-academic spheres.

- Promotion of multilingualism and power of language in teaching and learning and promotion of life skills such as communication, cooperation, teamwork and resilience which indirectly promotes social emotional learning.

Conclusion: Social Emotional Learning will be playing a larger role in transformation of education systems making the teaching learning process more effective. It is vital for students because it teaches them crucial life skills including the ability to understand themselves and other around, to develop positive self image, take responsibility for their actions and forge relationships with people around them.

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राष्ट्रीय शिक्षा नीति के क्रियान्वयन में वर्तमान संदर्भ में चुनौतियाँ

अनुपमा वर्मा[1], सौरभ बाबू दुबे[2]

[1]शोध निर्देशक, राजस्थान विश्वविद्यालय, जयपुर, [2]शोधार्थी, राजस्थान विश्वविद्यालय, जयपुर

भारत देश के बदलते हुए परिवेश में शिक्षा पूर्ण मानव क्षमता को प्राप्त करना एक सनसया संगत और न्यायपूर्ण समाज के विकास और राष्ट्रीय विकास को बढ़ावा देने के लिए मूलभूत आवश्यकता है। गुणवत्तापूर्ण शिक्षा तक सार्वजनिक पहुँच प्रदान करना वैश्विक मंच पर सामाजिक न्याय और समानता वैज्ञानिक उन्नति राष्ट्रीय एकीकरण और सांस्कृतिक संरक्षण के संदर्भ में भारत की सतत् प्रगति और आर्थिक विकास की कुंजी है, सार्वभौमिक उचित शिक्षा वह उचित माध्यम है, जिसमें देश की समृद्ध तत्व और संसाधनों का सर्वोत्तम विकास और संवर्द्धन व्यक्ति समाज राष्ट्र और विश्व की भलाई के लिए किया जाता है। अगले दशक में भारत दुनिया का सबसे युवा जनसंख्या वालादेश होगा और इन युवाओं को उचित गुणवत्तापूर्ण शैक्षिक अवसर उपलब्ध कराने पर ही भारत का भविष्य पूर्णतया निर्भर करेगा।

नई राष्ट्रीय शिक्षा नीति में वह सब कुछ वर्णित है, जिससे बालक को न केवल भारत बोध होगा, वरन् वह सच्चा मनुष्य बनकर भारत माता के लिए पूर्ण रूप से समर्पित होगा। इस पूरी शिक्षा नीति में ज्ञान आधारित सृजनात्मकता व रचनात्मकता के साथ प्रारम्भिक शिक्षा से लेकर उच्चतर शिक्षा का खाका है। इस नीति में न केवल शिक्षा के ढ़ांचे को आमूल–चूल बदला गया है, बल्कि शिक्षा पद्धति में सुधार, नवाचार व अनुसंधान के साथ मनुष्य निर्माण पर जोर दिया गया है। यह शिक्षा नीति भारत केंद्रित एवं विद्यार्थी केंद्रित है। यह पूरी तरह भारतीय ज्ञान परंपरा पर आधारित है। इसमें त्रिभाषा सूत्र के साथ निज भाषा उन्नति अहं की बात पर जोर दिया गया है। मातृभाषा, हिन्दी एवं कोई एक अन्य भाषा व्यक्तित्व के संपूर्ण विकास में सहायक सिद्ध होगी। संस्कृत भाषा के अध्ययन व अध्यापन की इसमें प्रधानता रहेगी। सही मायने में यह शिक्षा नीति छात्र, अध्यापक व भाषा के बीच का त्रिकोण है।

विद्यालयी शिक्षा में परिवर्तन–

यह शिक्षा नीति विद्यालयी शिक्षा में सबसे बड़े परिवर्तन की पक्षधर है। जो पूर्ण की नीतियों में 10+1 या 10+2 था। वह अब 5+3+3+4 किया गया है, इसका अर्थ यह है कि बालक की प्रारम्भिक अवस्था जिसे फाउंडेशन स्टेज या नींच कहा जा सकता है, उसे पूर्ण रूप से मजबूत करने की बात इस नीति में कही गई है। तीन वर्ष के बालक को विद्यालय में प्रवेश देकर प्री–प्राईमरी के तीन वर्ष व प्रथम एवं द्वितीय सहित कुल 8 वर्ष की आयु पूर्ण करने तक इन प्रारम्भिक 5 वर्षों में बाल के खेलकूद, संगीत, कला, योग, साहित्य, गणित कौशल के साथ शारीरिक व मानसिक विकास परध्यान दिया जाएगा। इन वर्षों में उसे यह सभी कुछ अपनी मातृभाषा में ही सिखाया–पढ़ाया जाएगा। बालकों के लिए मिड–डे मील एवं बालक भवन की भी व्यवस्था रहेगी। कक्षा 3 से 5 तक यानी 11 वर्ष की आयु में बालक को भविष्य के लिए तैयार किया जाएगा। यह 'प्रिपरेटरी स्टेज' कहलाएगी। इन वर्षों में उसे विभिन्न विषयों का प्रारम्भिक ज्ञान अपनी मातृभाषा में ही दिया जाएगा। अंग्रेजी माध्यम की अनिवार्यता को समाप्त किया जाएगा। कक्षा 6 से 8 तक यानी मिडिल स्टेज में बालक को एक निश्चित पाठ्यक्रम पढ़ाया जागा।साथ ही उसे

इंटर्नशिप भी प्रदान की जाएगही यानी पढ़ाई के साथ साथ वह अपनी पसंद के क्षेत्र से संबंधित उद्योग या संस्थान में अपने कौशल का व्यावहारिक ज्ञान प्रापत भी कर सकेगा, जिससे वह धीरे–धीरे अपनी क्षमताओं को पहचान कर भविष्य के लिए एक निश्चित क्षेत्र का चयन भी कर सकता है। विभिन्न विषयों की पाठ्य सामग्री भी भारतीय भाषाओं में उपलब्ध कराई जाएगी। बालकों को 'भारत श्रेष्ठ भारत' के माध्यम से भारतीय भाषाओं पर आधारित परियोजना में भागीदारी निभानी होगी।

उच्च शिक्षा में बदलाव–

उच्च शिक्षा देश के विकास का दर्पण होती है। इस नीति उच्च शिक्षा हेतु पाठ्यक्रमों व एकरूपता लाई जाएगी। सभी पाठ्यक्रमों में भारतीय भाषाओं की प्राथमिकता रहेगी। प्रवेश हेतु स्नातक में 'राष्ट्रीय परीक्षण एजेंसी' द्वारा 12वीं के अंकों सहित उच्च गुणवत्ता वाली 'सामान्य योग्यता परीक्षा' के अंको के योग से प्रवेश होगा। विषय चयन की पूर्ण स्वतंत्रता रहेगी। संस्कृत भाषा को रूचिपूर्ण व नवाचारी तरीके से प्रारम्भिक विषयों जैसे विज्ञान, गणित, दर्शन शास्त्र, मनोविज्ञान आदि के साथ जोड़ा जाएगा। भारतीय भाषाओं में प्रवीणता को रोजगार आर्हता के मानदण्डों के हिस्से के रूप में शामिल किया जाएगा।

इस नीति की सबसे अच्छी बात यह है कि यदि किसी बालक ने स्नातक में किसी कारण 1 या 2 वर्ष की पढ़ाई पूर्ण करने के पश्चात् वह छोड़ देते है तो उसकी यह पढ़ाई बेकार नहीं जाएगी एवं जितने क्रेडिट इन वर्षों में उसने अर्जित किए है, वे सभी अर्जित क्रेडिट सरकार द्वारा बनाए गए' 'एकेडमिक क्रेडिट बैंक में जमा हो जाएंगे और जब भी वह एक निश्चित समय सीमा के अंदर अपना अध्ययन या डिग्री पूरी करना चाहेगा, तो यह क्रेडिट उसकी डिग्री में एकेडिमिक क्रेडिट बैंक से वापस जुड़ जाएंगें। एकेडमिक क्रेडिट बैंक डिजिटल लॉकर पर आधारित पर आधारित होगा। इसी मल्टी एंट्री एवं मल्टी एग्जिट व्यवस्था कहा गया है। विद्यार्थी द्वारा स्नातक का प्रथम वर्ष पूर्ण करने पर साटिफिकेट द्वितीय वर्ष पूर्ण करने पर डिप्लोमा एवं तृतीय वर्ष पूर्ण करने पर स्नातक की डिग्री प्रदान की जाएगी। 4 वर्षीय स्नातक डिग्री शोध आधारित होगी। स्नातकोत्तर हेतु जिन्होनें 3 वर्ष की स्नातक डिग्री प्रदान की है, उन्हें 2 वर्ष का पाठ्यक्रम जिसमें 1 वर्ष शोध पर आधारित होगा एवं 4 वर्षीय शोध आधारित डिग्रीधारी विद्यार्थियों को 1 वर्ष में स्नातकोत्तर की डिग्री दी जाएगी। स्नातकोत्तर के बाद विद्यार्थी पी.एचडी. में प्रवेश ले सकेंगे। इस शिक्षा नीति में एमफिल की डिग्री को समाप्त करने का प्रावधान रखा गया है।

उच्च शिक्षा में सकल नामांकन अनुपात को 27 प्रतिशत से बढ़ाकर 50 प्रतिशत किया जाएगा। उच्च शिक्षा में संकाय सदस्यों को अपने स्वयं के पाठ्यक्रम एवं शैक्षिक प्रक्रियाओं का निर्माण करने की स्वतंत्रता रहेगी। सभी उच्च शिक्षण संस्थान स्वच्छता का पालन करने के साथ साथ आवश्यक सुविधाएं जैसे पीने हेतु स्वच्छ पानी, साफ–सुधरे शौचालय, पुस्तकालय, आईसीटी आधारित प्रयोगशाला एवं तकनीक युक्त कक्षा–कक्ष जैसे संसाधनों से पूरित होंगें। इस नीति से नीति निर्माण, विनिमय, प्रचालन तथा अकादमिक मामलों के लिए एक स्पष्ट प्रथक प्रणाली का प्रावधानरखा गया। इस हेतु राज्य या केंद्र शासित प्रदेश स्वतंत्र स्टेट स्कूल स्टेंडर्ड ऑथोरिटी का गठन करेंगे। उच्च शिक्षा के पारदर्शी संचालन हेतु एक स्वतंत्र निकाय 'भारतीय उच्च शिक्षाआयोग' (एचईसीआई) के गठन की बात यह किया नीति करती है, जो उच्च शिक्षा के विनिमय प्रत्ययन, फडिंग एवं शैक्षिक मानकों के निर्धारण में महत्वपूर्ण भूमिका अदा करेगा।

नई शिक्षा नीति लागू करने में चुनौतियाँ–

1. **प्रशिक्षित अध्यापको की कमी–** शिक्षक वास्तव में बच्चों के भविष्य को आकार देते है, हमारे राष्ट्र के भविष्य का निर्माण करते है। शिक्षक शिक्षा प्रक्रिया की मुख्य धुरी है। वह पाठ्यक्रम तथा छात्र के मध्य संबंध स्थापित कर, छात्र को उसके बौद्धिक स्तर के हिसाब से शिक्षित करता हे। वह पाठ्य सहायक सामग्री के, माध्यम से शिक्षण कार्य को रूचिकर व प्रभावशाली बनाता है। परन्तु अधिकांशतः विद्यालयों में अप्रशिक्षित शिक्षक कार्य कर रहे है, जिसे शिक्षा व्यवस्था अपने लक्ष्य तक नहीं पहुंच पा रही है।

2. **अच्छी पाठ्य सामग्री का प्रभाव–** शिक्षण प्रक्रिया में अच्छी पाठ्य सामग्री का बेहद अभाव है। प्राथमिक स्तर माध्यमिक स्तर तथा उच्च माध्यमिक स्तर पर पाठ्य सामग्री का चुनाव बेहद सावधानीपूर्वक करनरा चाहिए, जिससे बच्चे अपने मानसिक क्षमता के अनुसार बौद्धिक और तर्कपूर्ण ढंग से ग्रहण कर सके। पाठ्य सामग्री में उन सभी बिंदुओं का ध्यान रखना चाहिए जो बालक के बहुमुखी व्यक्तित्व के विकास में सहायक हो।

3. **भौगोलिक परिवेश के अनुसार विद्यालयों की कमी–** हमारे देश की भौगोलिक संरचना भिन्न भिन्न है। कहीं रैतीले मरूस्थल है तो कहीं पहाड़ी क्षेत्र या, नदियों पर पुल का ना होना। ऐसे दुर्गम स्थानों पर आसानी से छात्र नहीं पहुंच पाते, जिस कारण वह अशिक्षित रह जाते है। अतः उसकी सुविधाओं को ध्यान में रखकर ही विद्यालयों का निर्माण करना चाहिए।

4. **माता–पिता की अशिक्षा व गरीबी–** भारत देश कृषि प्रधान है, यहां की अधिकतर जनसंख्या अभी भी गरीबी स्तर के आसपास गुजारा करती है, यह शिक्षा को प्राथमिकता ना देकर बालक से अन्य कार्य जैसे कृषि कार्य, मजदूरी आदि करवाते है। जिसके कारण आज भी ग्रामीणा परिवेश में बहुत से बालक अशिक्षित रह जाते है, इसका मूल कारण माता–पिता का अशिक्षित होना है।

5. **विद्यालय में मूलभूत सुविधाओं का ना होना–** अधिकतर ग्रामीण विद्यालयों में मूलभूत सुविधाओं का अभाव पाया जाता है, जिसके कारण बालक, बालिकाओं की शिक्षा में अवरोध पैदा होना है। मूलभूत सुविधाओं में बैठने की व्यवस्था, शुद्ध हवा, प्रकाश, स्वच्छ जल, शौचालय, खेलने का मैदान इत्यादि का ना होना।

6. **सामाजिक भेदभाव व कुरीतियां–** आज देश को आजाद हुए 70 वर्ष से अधिक बीत चुके है, फिर भी हमारे समाज में छुआछूत भेदभाव जैसी सामाजिक कुरीतियां विद्यामान है, जो हमारे समाज व देश के विकास में बाधक है। सामाजिक बुराइयों का बालक के मानसिक स्तर पर बहुत बुरा प्रभाव पड़ता है। वह अंदर ही अंदर हीन भावना से ग्रस्त हो जाता है। इस कारण या तो तो विद्यालय कम जाता है या फिर विद्यालय छोड़ देता है।

निष्कर्ष– नई शिक्षा नीति वर्तमान शिक्षा के सभी आवश्यकता को ध्यान में रखकर तैयार की गई है। छात्रों को कौशल आधारित, रोजगार परक तथा आत्मनिर्भर बनाने की दिशा में अग्रसर करती है। यदि इन चुनौतियों का समाधान खोज लिया जाए तो नई शिक्षा नीति हमारी शिक्षा व्यवस्था के लिए वरदान

साबित होगी। युवाओं के लिए उच्चतर शिक्षा का एक मुख्य उद्देश्य युवा को समाज और देश की समस्याओं के लिए प्रबुद्ध, जागरूक, जानकार और सक्षम बनाना है, ताकि युवा नागरिकों का उत्थान कर सकें और समस्याओं के सशक्त समाधान ढुंढ़कर और उन समाधानों को कार्यान्वित कराके एक प्रगतिशील, सुसंस्कृत, उत्पादक, प्रगतिशील और समृद्ध का प्रतिनिधत्व कर सकें। उच्चतर शिक्षा के संदर्भ में विभिन्न आयामों की ओर ये नई शिक्षा अग्रसर होती है, जिसमें मुख्य है– गुणवत्तापूर्ण विश्वविद्यालय और महाविद्यालय,संस्थागत पुनर्गठन और समेकन, समग्र और बहु विषयक शिक्षा, सीखने हेतु सर्वोत्तम वातावरण और छात्रों को सहयोग, प्रेरणादायक, सक्रिय और सक्षम संकाय, शिक्षा में समता का समावेश, भविष्य के अध्यापकों का निर्माण, व्यावसायिक शिक्षा का नवीन रूप, गुणवत्तायुक्त अकादमिक अनुसंधान, उच्चतर शिक्षा की नियामक प्रणाली में आमूलचूल, परिवर्तन, उच्चतर शिक्षा संस्थानों में प्रभावी प्रशासन और नेतृत्व। वर्तमान शिक्षा प्रणाली और आजीविका और धनार्जन की सक्षमता का एक मापदण्ड अंग्रेजी भाष भी है जो कि देश के अधिकांशतः युवा वर्ग के आत्मविश्वास की कमर तोड़कर रख देता है और किसी न किसी पटल पर उनको कमतर साबित कर देता है, चाहे वो युवा कितना भी ज्ञान से भरा हुआ क्यों न हो। इस नीति का सूत्र वाक्य– 'नेशल फर्स्ट' है, अर्थात् राष्ट्रीय हित के साथ चरित्र निर्माण पर जोर रहेगा। निश्चय ही यह नीति शिक्षा व्यवस्था में व्याप्त समस्याओं एवं उदेश्यों को पूरा करने में एक विजन डॉक्यूमेंट है। भारत का जो टेलेंट है, वह भारत में रह सकें, रहकर कार्य करें, अर्थात् भारत कादिमाग भारतीय समाज में उत्थान के लिए कार्य करें। यह नीति देश व समाज के विकास के साथ समग्रतापूर्ण वैश्विक नागरिक बनने में यह मील का पत्थर साबित होगी। इस नीति से आत्मनिर्भर भारत डिजिटल भारत बन सकेगा एवं विदेशों के लिए निर्माण कर सकने वाला एक विश्व का नेतृत्व करने वाले मानव का निर्माण हो सकेगा। इस नीति को 2021 से प्रारम्भ कर 2030 तक पूर्ण रूप से लागू किए जाने का विभिन्न चरणों में प्रावधान है। सही तरीके से यदि यह राष्ट्रीय शिक्षा नीति लागू होती है, तो निश्चित ही भविष्य के स्वर्णिम भारत की आधारशिला साबित होगी और भारत को विश्व गुरू के शिखर तक ले जाएगी।

संदर्भ ग्रंथ सूची :

एचईजीसी — उच्चत्तर शिक्षा अनुदान परिषद

आईसीएचआर — भारतीय ऐतिहासक अनुसंधान परिषद

सीडब्ल्यूएसएन — चिल्ड्रन विद स्पेशल नीड्स

सीआईईआईटी — सेंट्रल इन्स्टीट्यूट ऑफ एजुकेशन टेक्नोलॉजी

सीबीएसई — केंद्रीय माध्यमिक शिक्षा बोर्ड

डीएसटी — विज्ञान और प्रोद्योगिकी विभाग

आईआईटी — भारतीय प्रौद्योगिकी संस्थान

एनसीईआरटी — राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद

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नई शिक्षा नीति की चुनौतियाँ

आलोक कुमार[1], मुदित राठौर[2]

[1]*शोधार्थी, राजस्थान विश्वविद्यालय (जयपुर), * [2]*शोध निर्देशक राजस्थान विश्वविद्यालय (जयपुर)*

सारांशः

शिक्षा पूर्ण मानव क्षमता का विकास करने, आर्थिक विकास, सामाजिक न्याय, समता, वैज्ञानिक प्रगति राष्ट्रीय एकीकरण तथा वैश्विक मंच पर भारत के निरंतर उत्थान और प्रभुत्व की कुंजी है। शिक्षा मानव सम्पदा को समृद्ध कर सकारात्मक बदलाव लाने का माध्यम है इसलिए यदि देश, समाज की प्रगति सुनिश्चित करने के लिए शिक्षा पद्धति में भी समयानुकूल बदलाव लाना अपरिहार्य होता है।

भारत सबसे युवा आबादी वाला राष्ट्र है। इस मानव पूँजी को संसाधन बनाने के लिए वैश्विक परिस्थितियों के साथ कदमताल करते हुए सुखद भविष्य की नींव शिक्षा द्वारा ही मजबूत की जा सकती है। इस आवश्यकता के मद्देनजर भारत में 34 वर्षों के समयान्तराल में 2020 की नई शिक्षा नीति का आगाज सतत् विकास की परिकल्पना को साकार करने की पहल है।

प्रस्तावना– नई शिक्षा नीति 2020 में वैश्विक परिस्थितिकीय परिवर्तन ही नहीं बल्कि ज्ञान के परिदृश्य में हो रहे बदलावों जैसे डेटा मशीन लर्निंग, डेटा साइन्स, कंप्यूटर साइन्स क्षेत्र में कुशल मानव संसाधनों की मांग, अनुसंधान तथा रचनात्मक वैज्ञानिक सोच के विकास के पुख्ता इंतजाम किए गए हैं। कर के सीखने की पद्धति को शिक्षा प्रणाली का आधार बनाया गया है। शिक्षा के सभी चरणों में आमूलचूल परिवर्तन कर आगामी भारत के सुखद भविष्य की परिकल्पना समाहित है लेकिन इस समृद्ध शिक्षा नीति को यथार्थ के धरातल में उतारने के लिये कुछ यक्ष चुनौतियाँ परिलक्षित हो रहीं हैं।

नई शिक्षा नीति की चुनौतियाँ–

- नई शिक्षा नीति के 5+3+3+4 पैटर्न को लागू करने में समस्या होगी क्योंकि यह पैटर्न स्पष्ट नहीं है, दूसरी तरफ बस्ते के बोझ को बच्चे के शारीरिक वजन को 10% से अधिक न रखने का प्रावधान बच्चे में स्कूली शिक्षा और गुणवत्ता तथा विषय केन्द्रित शक्ति को बढ़ावा देगा जो कि उचित प्रयास है। निजी संस्थान अतिरिक्त विषय पढाने तथा दिखावे के अधिक होमवर्क की प्रणाली अपनाते है नई शिक्षा नीति से निजी स्कूलों में बस्ते के बोझ को कम करना एक चुनौती होगा।

- निजी शिक्षण संस्थान तो प्रतिस्पर्धा के चलते मोटी फीस वसूल कर अपने स्कूलों बच्चों को अनेक तरह की सुविधाएं प्रदान करते हैं लेकिन सरकारी स्कूलों में बुनियादी सुविधाएं भी उपलब्ध नहीं है जैसे बिजली, पानी, शौचालय, बैठक फर्नीचर, पुस्तकालय, साइंस लैब, शारीरिक शिक्षा कक्ष, कंप्यूटर लैब आदि साथ ही स्कूलों का अवसंरचनात्मक निर्माण भी सोचनीय है इन सभी को दुरस्त कर **'लर्निंग बाई डूइंग'** पद्धति लागू करना एक चुनौती होगी।

- नई शिक्षा नीति में कम छात्र संख्या के स्कूलों को अन्य स्कूलों में विलय की बात की गयी है, जिससे दुर्गम क्षेत्र में पढ़ाई करने वाले बच्चों का नुकसान होगा एवं बच्चियों का दूर जाकर अध्ययन करना अभी भी असुरक्षित और असुविधागत है। ऐसे में दूरस्थ क्षेत्रों से शिक्षा का पिछड़ना समावेशी शिक्षा तथा सतत, समावेशी विकास पर प्रश्नचिन्ह होगा।

- एन.ई.पी. 2020 में तकनीकीकृत ज्ञान ऑनलाइन एजुकेशन देने की बात की गयी है लेकिन कई लोगों के पास आर्थिक स्थितियों के कारण स्मार्ट फ़ोन, लैपटॉप, इंटरनेट सुविधाएं नहीं होती साथ ही कई शिक्षकों के पास तकनीकि ज्ञान तथा संसाधनों का अभाव के कारण ऑनलाइन तथा स्मार्ट क्लासेस बेस्ड शिक्षण एक चुनौती होगी।

- नई शिक्षा नीति में त्रिभाषा की बात कही गयी है जिसमे कक्षा 5वीं तक मात्र भाषा तथा 6वीं क्लास से अंग्रेजी माध्यम से शिक्षण की बात कही गयी है जबकि यह शिक्षण संस्थानों पर निर्भर करेगा परन्तु क्या केंद्र सरकार और राज्य सरकारें, विभागों में हिन्दी या मातृभाषा में कार्य किया जायेगा स्थानीय भाषा एक प्रान्त तक ही सीमित रखेगी जबकि अंग्रेजी भाषा व्यक्ति की सफलता और वैश्विक संचार का माध्यम है। ऐसे में स्थानीय भाषा लागू करना प्रशिक्षित शिक्षक और प्रगति में चुनौतीपूर्ण होगी।

- उच्चशिक्षा में 'मल्टी एंट्री एण्ड मल्टी एग्जिट सिस्टम' तैयार किया गया है जिससे अब छात्रों को एक वर्ष में सर्टिफिकेट और दो वर्ष में डिप्लोमा तथा तीन वर्ष में डिग्री प्रदान की जायेगा लेकिन नौकरी और अन्य जगहों पर इनकी उपयोगिता भी सुनिश्चित करनी होगी।

- नई शिक्षा नीति में GDP का 6% खर्च करने (शिक्षा पर) की बात कही गयी है तथा सकल पंजीकरण दर 26.3% से बढाकर 50% करने की बात कही गयी है लेकिन इसकी रणनीति अस्पष्ट है।

- नई शिक्षा नीति के अनुसार उच्च शिक्षा में सकल नामांकन को दोगुना करना तथा 2035 तक उच्च शिक्षा में यह अनुपात लक्ष्य प्राप्त करने के लिए हमें आगामी 15 वर्षों तक हर सप्ताह एक विश्वविद्यालय को निरंतर आधार पर खोलना एक चुनौती है साथ ही स्कूलों की स्थापना 50 स्कूल/सप्ताह करना, कक्षाओं परिसरों की अवसंरचना सुदृढ़ करना यक्ष प्रश्न होगा।

- पूरे भारत में एक सामान पाठ्यक्रम लागू करने के लिए स्किल और अवसंरचना विकास की आवश्यकता होगी जिसके अभाव में शिक्षा प्रणाली का केन्द्रीकरण एक चुनौती होगी।

- नई शिक्षा नीति में बुनियादी शिक्षा पर फोकस है जिससे आंगनबाड़ी केंद्रों पर निर्भरता बड़ी है। जो कि देश में अस्थिरता पूर्ण स्थिति में है इसलिए बुनियादी शिक्षा की सुदृढ़ नीव रखना एक चुनौती होगी।

- नई शिक्षा नीति द्वारा सम्पूर्ण देश में एकीकृत पाठ्यक्रम और शिक्षा पद्धति के निर्माण और विकास के लिए राज्य शिक्षा और निजी क्षेत्र सहित सम्बन्धित विभागों के बीच नीतिगत तालमेल और सहयोग एक चुनौती होगी 1986 के बाद पहली बार इस प्रकार के एक दूरदर्शी कार्यक्रम से जुड़ने के लिए राज्यों को तैयार करना होगा।

- शिक्षा को गुणवत्ता पूर्ण बनाने तथा नई शिक्षा नीति के सफल क्रियान्यवन के लिए वित्त और प्रबंधन तथा शोध में 0.7% के व्यय की दर को बढ़ाना होगा और इसके लिए 5000 करोड़ की आवश्यकता होगी।

उपसंहार : नई शिक्षा नीति के लक्ष्यों को हासिल करने की पूरी कवायद राज्यों की क्षमता से जुडी है। भारत का शिक्षा तंत्र तंग का शिकार है यहाँ अफसरशाही का बोलबाला है। नए नए प्रयोग या नव प्रवर्तन और अपना स्तर बढ़ाये जाने से सम्बंधित आवश्यक क्षमता का अभाव है। एन.ई.पी. 2020 के तहत शिक्षा जगत में बुनियादी दृष्टिकोण का लक्ष्य रखा गया है, इसके तहत् पहले तय की गई और रटी रटाई तकनीकि पर मौजूदा आधारित शिक्षा व्यवस्था से हट कर प्रायोगिक शिक्षा और गहन सोंच पर आधारित शिक्षा की ओर बढ़ने का लक्ष्य है। इसके लिए शिक्षा जगत के संचालकों की सोंच में क्रन्तिकारी परिवर्तन लाना होगा। नई शिक्षा नीति 2020 एक बहुआयामी शैक्षिक क्रन्तिकारी पहल है जिससे शैक्षणिक मुद्दों और ढांचागत विषमताओं के निपटने पर जोर दिया गया है इसमें 21वीं शदी के भारत की भविष्यगत आवश्यकताओं, असमानता, क्षेत्रीय पिछड़ापन अवसंरचना कठिनाइयों को सुलझाने का प्रयास सन्निहित है। जो देश का कायाकल्प करने की क्षमता रखती है। एन.ई.पी. 2020 के तहत पाठयक्रम के बदले स्वरूपानुसार पुस्तकालयों तथा शिक्षण सामग्री की व्यवस्था क्रयशक्ति के अंदर उपलब्ध कराने की चुनौती हेतु अनुशासित पुस्तकालयों का संग्रह समावेशी करना होगा। आर्थिक सुद्रढ़ता तथा अध्ययन वातावरण तैयार करने हेतु बुनियादी चौतरफा संघवादी प्रयास अपरिहार्य है। तकनीकि अवसंरचना विकास द्वारा डिजिटल अध्ययन सामग्री की सुलभता सुनिश्चित करनी होगी। वीडियो लाइब्रेरी बनाने की विश्वविद्यालयी योजना को धरातल में लाने की आवश्यकता है, कौशल केंद्रित पाठ्यक्रम सामग्री निर्माण पर ध्यान केंद्रित करना होगा ताकि पहुंच गुणवत्ता सामर्थ्य और जबाबदेही के मूलभूत स्तम्भों पर निर्मित यह नीति सतत विकास के लिए 2030 एजेण्डे के साथ गठबंधन कर सके जिसका उद्देश्य भारत को जीवन्त ज्ञान समाज और वैश्विक ज्ञान महाशक्ति के रूप में बदलना है तो सुधारों को लागू करने में मानकात्मक और गुणात्मक दोनों तरह की पर्याप्त चुनौतियों से निपटते हुए भारत की शिक्षा प्रणाली में एक समग्र परिवर्तन सुनिश्चित किया सकेगा।

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Challenges of New Education Policies

Priyanka Biyani[1], Yogita Samriya[2]

[1]*Research Scholar, JJTU,* [2]*B.Ed.-M.Ed. Student, Biyani Girls B.Ed. College, Jaipur, India*

Abstract:

Today we need a curriculum that develops mentally, physical, intellectual, emotional sensitivity and equality in children. Future education policy school and college level are for a country. Because education leads to economic and social progress different countries adopt different education systems following the tradition. The National Education policy 2020 which was approved by the union cabinet of India on 29 July, 2020 Outlines India's approach.

Keywords: Higher education, National Education Policy 2020, overview and Analysis, Strategies, Challenges, opportunities, Livelihood earning.

Introduction: To Boost the growth of the Indian education sector the present government decided to give it a facelift by introducing a Industrial Revolution will take India to New heights the currently launched National education Policy 2020 envisions an India Centric education system which contributes directly to transform our country in a sustainable way into an equitable and vibrant knowledge society with an aim to provide high quality education to all.

Data Analysis, Result and Discussion:

- **Major challenges in the Implementation of New education policy 2020 :-**

  1. **Opening the university each week is a labour term task :** India today has about 1000 universities across the country doubling the gross enrollment ratio in higher education by 2035 will be one of the states goals of the policy we should open one new university every week for the next 15 years on a continuous basis one university everyweek opening is a big challenge.

  2. **Reforms are not going to reduce the numbers for us :-** The National education Policy 2020 intends to bring two crore children who are not at present any way you look at in Accomplishing it

  3. Requires setting up of about 50 schools every week for 15 years Adequate in classrooms and campuses investment in quantities that would be extremely challenging.

  4. **Funding is a big hurdle in the covid era :-** At a time when the economy has been hit by a covid-19 related lockdown. Government tax collections are abysmally low and the fiscal deficit is higher than before covid.

  5. **There is a need to create a huge pool of trained teachers :** Curriculum is a very welcome move many changes in the curriculumneed to be considered mindset change on the part of teachers as well parents.

6. **A Cultural shift demanding inter** – disciplinary higher education

Education in India has been very isolated and monotonous for decades. Respecting and learning towards other subjects while being an expert in itself is not an easy task. This requires a cultural change in the entire higher education ecosystem in the next 15-20 years.

Conclusion : The new education policy has a commendable vision capable of effectively merging with the Government's other policy initiatives including digital India. Skill India and new industrial policy to name a few more. Evidence based to adopt to rapidly evolving changes and grounds decision making. This will enable the education system to continuously improve. Itself Rather than waiting for the education policy. Every decade to change the education Curriculum this in itself will be a remarkable achievement.

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Challenges in 'Innovation in Education':
As Proposed in NEP-2020

Kabita Pareek[1], Kalpana Pareek[2]

[1]*Research Scholar, Dept. of Education, University of Rajasthan,* [2]*Research Guide, S.S.G. Pareek P.G. College of Education, Jaipur*

If you adopt something new, challenges will definitely come. In the face of those challenges, and moving forward is 'innovation'."

Abstract:

In this present century, we live in a world which is changing very fast. To understand the pace of change and adjusting oneself with it- education plays an important role. Realizing this importance of education, our new National Education Policy-2020 depicts the changes and its needs in various fields of education. But, when we adopt this education policy (new structure and style of education) which is focus to the change in traditional education system and present a new structure and system of education then definitely we will have to face some challenges. These challenges not only related

with any one or two or some parts of education, it's related with whole system of education, like-school education, higher education, teacher education, adult education, education administration etc. But, no matter what the challenges are, preparing the children of the present for the future, is the goal of our current new education policy. So, we can expect that, to make this goal into a reality, innovation will play a very important role in the field of traditional education system. In this paper, researcher tries to explain-

- Areas of changes or innovations as proposed in NEP-2020

- What kind of challenges can come or we face in the field of implementation of the innovation in education

- How can we overcome from those challenges?

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"Bridging the Gap between Society and Industry through Best Practices in Education"

Pushpa Kumawat

Asst. Professor, Biyani Girls B.Ed. College, Jaipur

Abstract :

Education is a very important aspect of our life. Education not only makes students better citizens of the world by inculcating values and good habits. But it also helps students to be technically sound so that they can compete with the outside world Teachers play a dominant role in importing knowledge to the society and so their teaching methods need to be as effective as possible. The purpose of this paper is to present various principles of good practices in education it also presents the learning gap between a good teacher and the student and techniques to reduce the gap. It also elaborates the various competency requirements for the graduate students.

- **What are the gaps between academia and industry?**

    Just as species of land and that of the sea exhibit different behavior and have a different environment in the same way people working in industry and academia have totally different work culture and environment. Industries and universities are not working in harmony with each other and that is the reason why there is a huge gap it is important to recognize those gaps in order to fill them. Following are the various gaps between academia and industry.

(1) Curriculum of Universities are not as per the industry standards and interns not getting proper working environment in some company

(2) Faculties lacking industrial exposure and process of evaluations

(3) Skill gap or performance gap or employability gap and absence of industry _university interaction cells

(4) Unrealistic expectations of students from industry and people are not seriously involved in updating the curriculum of academics.

- **Needs and expectations of industry:**

    (1) Expectations from academic institutions

    (2) Expectations from faculties

    (3) Expectations from students.

All these three expectations must fulfill on the basis of respective series. Ex. experience, consultancy projects and research and not based on their degrees faculties should be involved and contribute in constancy project and research.

- Communication skills

- Leadership quality

- Dedication and hard-work

- Honesty

- Work ethic

- Flexibility and so on

Conclusion: It is join responsibility of academia and industry both to make strong relationship with one another and serve the needs of society at large such academia industry collaboration may also help to reduce the unemployment rate of India.

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A Critical Study of the Correlation between Scientific Attitude and Interest in various Subjects of Secondary School Students usingNational Education Policy-2020

Kavita Soni[1], Tripty Saini[2]

[1]*M.Ed. Scholar, Biyani Girls B.Ed. College, Jaipur,* [2]*Assistant Professor, Biyani Girls B.Ed. College, Jaipur*

Abstract :

Education is fundamental for achieving full human potential, developing an equitable and just society, andpromoting national development.

The main objective of study were to level but the level of the correlation b/w scientific attitude and interest in various subjects of secondary level of rural and urban students is their scientific attitude the sample consists 50 higher secondary students and dowdy 25 rural and 25 is urban areas. Scientific attitude scale was used as tools to collect data and research reveals that the level of scientific attitude among higher secondary students and moderate and there is significant difference b/w rural and urban school higher secondary students in their scientific attitude. Scientific attitude for career in science or not the science attempt of the investigator. Science is the most of subject for all students C is studying in higher secondary school. Every student has educational aspiration. In various branches various subject are use but scientific attitude is present in student then they are become a good career in our life.

Keywords: Scientific attitude, Secondary level

Introduction : The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for SustainableDevelopment, adopted by India in 2015 - seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030.

Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities 'of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions.

Science has become an internal part of human life. One of objectives of education is to develop scientific attitude in students science subject is very useful in a school and range of this usefulness extend from sample problems to daily life to compare problems in various branches of higher scientific studies. The objectives are learned c is to study of the correlationb/w scientific attitude and interest in various subjects ofsecondary level of rural and urban students. And the hypothesis is no significant different was found in the coalition b/w scientific attitude and interest in various subjects

of urban and rural secondary school students. Review of literature in this two types first is scientific attitude and secondary is scientific interest. According to bloom's approaches scientific are the most important outcomes of science teaching. In 1935 gardon allport reviewed over a hundred different definition of attitude and then defined it as a mental and herself state of rudeness organize through eaperiesses exerting a directive or dynamic influence upon individual response to all objects and stations with which it is relend.

There are certain facets of exclusion, that are particular to or substantially more intense in higher education. These must be addressed specifically, and include lack of knowledge of higher education opportunities, economic opportunity cost of pursuing higher education, financial constraints, admission processes, geographical and language barriers, poor employability potential of many higher education programmes, and lack of appropriate student support mechanisms.

The opportunity to attain foundational literacy, obtain an education, and pursue a livelihood must be viewed as basic rights of every citizen. Literacy and basic education open up whole new worlds of personal, civic, economic, and lifelong-learning opportunities for individuals that enable them to progress personally and professionally. At the level of society and the nation, literacy and basic education are powerful force multipliers which greatly enhance the success of all other developmental efforts. Worldwide data on nations indicate extremely high correlations between literacy rates and per capita GDP.

Experimental methodology- Survey method was adopted for the present study . the population for the study counts of all the higher secondary students studying of all the higher secondary school of Jaipur Rajasthan. The sample consist of too higher secondary students from higher secondary school of Jaipur the tool used for the present study was scientific attitude scale and self made questionnaire.

Analysis of data-

The statistic used in the study were correlation b/w scientific attitude and intrest in various subject of secondary level of rural and urban area.

Table No. 1 Show the significant correlation between the scientific attitude and interest in various subjects.

<div align="center">

TABLE – 1

</div>

S.No.	Group	M	Σx^2	Σy^2	Σxy	R
1.	Scientific attitude	105.52	9045 .76	7529 .12	7876 .1	0.9 51
2.	Interest in Various Subject	105.4				
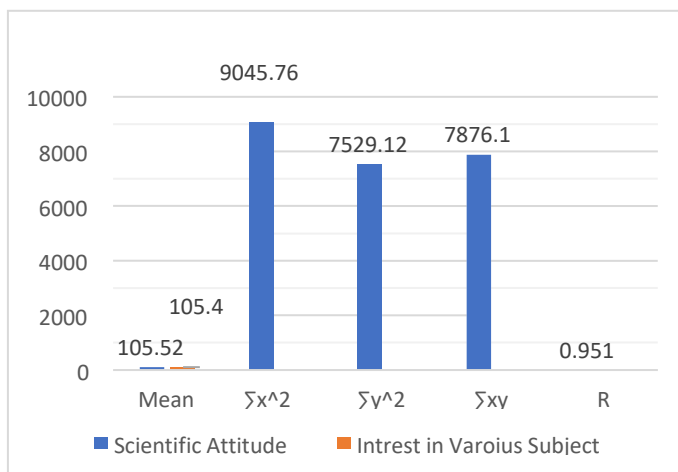
On the basis or the above result the given hypothesis there will be a significant correlation between the scientific attitude and interest in various subjects of the students of secondary school. Is not rejected. The high positive correlation between scientific attitude and interest in various subjects shows that the students of high scientific attitude have high scientific interest also.

Conclusion: There is significant high positive correlation (0.9) found between the scientific attitude and interest is various subjects of secondary school students. The above result reveals that the students who have high scientific attitude shows high scientific interest also.

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A study of the academic interest of higher secondary students with referenceto their personality (introvert-extrovert) dimensions According to New Education Policy-2020.

Rashmi Choudhary[1], Bharati Sharma[2]

[1]*Research Scholar, Education Department, Biyani Girls B. Ed. College, Jaipur*
[2]*Assistant Professor, Education Department, Biyani Girls B. Ed. College, Jaipur*

Abstract:

Education is fundamental for achieving full, this effect has been explained further in the research I have done.

Human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation.

Education helps in the development of the complete personality of a man. Progress is the result of any nation or society. Man enters the social environment as soon as he is born and since then he is related to various actions and reactions. Through these activities, a man keeps on saving the knowledge within himself by being present in the family, school and society. The economic, family and social status of each child is different from other children. Due to differences in these levels, children's educational interest, educational satisfaction, academic achievement and personality needs are also affected. Education is helpful in solving all these problems. Therefore, in order to create interest in education in the child, the teacher should provide training and information to the children through different styles so that the overall development of the children can be done. The rationale of this study done by me is: How to increase the interest of higher secondary level students towards education so that those students can become helpful in the progress of the country along with building their personality.

Keeping this problem in mind, the researcher conducted a research work under the title "Study of higher secondary level students' academic interest with reference to their personality (introvert-extrovert) dimensions", in which research was done on 200 students of higher secondary schools of Jaipur city. On the basis of which I came to the conclusion that education interest in students has a significant effect on their personality (introvert-extrovert) dimensions.

Keyword: Introvert, Extrovert, Personality, HigherSecondary Level, academic Interest.

Introduction : The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to "ensure inclusive and equitable qualityeducation and promote lifelong learning opportunities for all" by 2030. Such a

lofty goal will require the entire education system to be reconfigured to support and foster learning, so that all of the critical targets and goals (SDGs) of the 2030 Agenda for Sustainable Development can be achieved.

The aim must be for India to have an education system by 2040 that is second to none, with equitable access to the highest-quality education for all learners regardless of social or economic background.

Education is such a medium through which wego from darkness to light in our lives. The knowledge of education opens the inner eyes of a man. He gets spiritual and supernatural light.

In ancient times, emphasis has been laid on the all-rounddevelopment of the child through education, but inmodern education, the all-round development of the child is not possible within the four walls of the school.If the child is educated keeping in mind the interests andpersonality needs of the child, then the all-round development of the child is possible, therefore, in the present education, there is special importance of highersecondary level education, in which special attention has been given to the learner. The main objective of school education will be on the development of the personality of the child and according to his personality, his development should also be done, on the basis of difference in personality, many forms of personality are seen, which have been classified by various scientists and psychologists - according to their views. Based on body composition, on the basis of actions, on the basis of emotions.

Classification of the simplest personality Mr. Jung has told mainly two types of personality people in the society on the basis of sociality – introvertand extrovert.

Individuals with introverted tendencies are self-conscious, conscious of their sufferings, daydreamers who do not participate in other's suffering, selfish tendencies, ignorant of social behaviour, while introverted individuals also have general focusedreflective, shyness, pessimistic and level-headed characteristics.

But extroverts are social, personable, opportunistic, self-confident, popular, argumentative,cheerful, and leadership-seeking, and they are confidentand composed, active participants in social activities, and unrestrained and interested in sports. They are aware of many troubles and their nature is philanthropic. Under this study, "How to engage the educational interest of the students studying in higher secondary schools in their personality building, so that they can become partners in the progress of the country"have been told about.

Thereby under which the academic interest of the students appears to have a significant impact on their personality (introvert and extrovert) dimensions Experimental Methodology

Survey method has been adopted for the present study.

Under this study, 200 students of higher secondary schools of Jaipur city of Rajasthan have been included in the survey.

Under which students were served through tools like Personality Scale and Quiz related to educational interest. The results of which are discussed further.

Analysis of Data :

At the data analysis stage in this study, statistical descriptive test (mean and standard deviation) of normality data linearity and personality.

Table

S.No.	Students	TotalNo.	Mean	SD
1	Male	100	40	12
2	Female	100	55	16

In this, the effects seen in higher secondary level students on the basis of their personality dimensions have been shown in the research work on the study of personality according to interest.

Higher education plays an extremely important role in promoting human as well as societal wellbeing and in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. Higher education significantly contributes towards sustainable livelihoods and economic development of the nation. As India moves towards becoming a knowledge economy and society, more and more young Indians are likely to aspire for higher education.

For the purpose of developing holistic individuals, it is essential that an identified set of skills and values will be incorporated at each stage of learning, from pre- school to higher education.
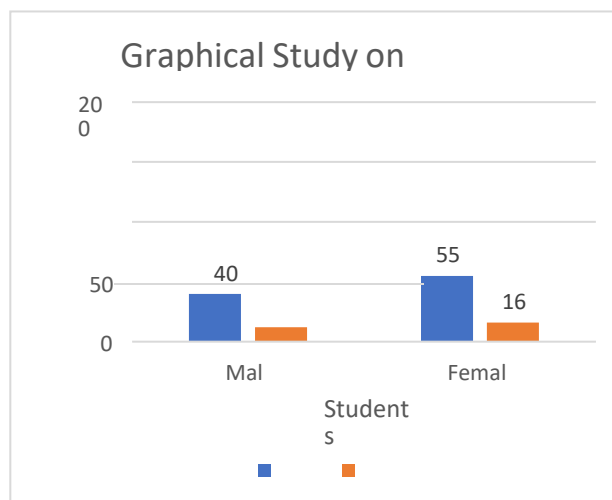
On the basis of the above graph and table is clear the result of academic interest and Personalities-The Mean of Male is 40 and Standard Deviation is12 while The Mean of Female is 55 and Standard Deviation is 16.

Conclusion :

Therefore, it is clear the increase in Student Academic Interest and Personality of Urban Higher Secondary Schools Students. But Difference Between Male and Female Students.

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नयी शिक्षा नीति की चुनौतियां

तुलसी सैनी

बी.एड.–एम.एड. प्रशिक्षणार्थी, बियानी गर्ल्स बी.एड. कॉलेज, जयपुर

सारांश : वर्तमान में केंद्र सरकार द्वारा राष्ट्रीय शिक्षा नीति 2020 पूरी तरह लागू करने का लक्ष्य वर्ष 2040 तक रखा गया है। नई शिक्षा नीति में रोचक, महत्वपूर्ण व अनुकरणीय विचार समाहित किए गए हैं। अवसर के तौर पर इसमें बालक की सामाजिक, आर्थिक और मनोवैज्ञानिक आवश्यकताओं को ध्यान में रखकर अनेक प्रावधान किए गए हैं, साथ ही नवाचारों को भी प्रोत्साहित किया गया है। शिक्षा के क्षेत्र में हुए इन नये सृजनात्मक स्वरूप को सही मायनों में गुणात्मक अभिवृद्धि के रूप में देखा जा सकता है यदि इसके क्रियान्वयन में आने वाली समस्याओं को दूर कर दिया जाए।

मुख्य शब्द : राष्ट्रीय शिक्षा नीति 2020, स्कूल शिक्षा, मातृभाषा, क्रियान्वयन, अवसर, चुनौती।

प्रस्तावना : नई शिक्षा नीति 2020 को भारत सरकार द्वारा 29 जुलाई 2020 को कैबिनेट की मंजूरी के पश्चात घोषित किया गया। इस प्रस्ताव को स्वीकार करने के कारण ही इसका नामकरण राष्ट्रीय शिक्षा नीति 2020 रखा गया। इस शोध पत्र में "स्कूलों में पाठ्यक्रम और शिक्षण शास्त्र" पर एक अध्ययन किया गया है तथा इसके माध्यम

से नए डिजाइन में स्कूल पाठ्यक्रम के पुनर्गठन पर विचार प्रस्तुत किए गए हैं । वर्तमान में स्कूल शिक्षा में भारत में 10+2 ढांचे का अनुसरण किया जा रहा है। स्कूल शिक्षा के ढांचे में प्रमुख रूप से एक यही परिवर्तन दृष्टिगोचर हो रहा है।

नई शिक्षा नीति 2020: क्रियान्वयन की चुनौतियां :

1. राष्ट्रीय टेस्टिंग एजेंसी (National testing Agency- NTA) द्वारा ही राष्ट्रीय स्तर पर परीक्षा आयोजित कर देश के सभी विश्वविद्यालयों एवं महाविद्यालयों में प्रवेश दिया जाएगा तथा समस्त विश्वविद्यालय एवं महाविद्यालय अलग से अपनी परीक्षा आयोजित नहीं करवा पाएंगे। यह एक अच्छी पहल है परंतु यदि इसमें परीक्षा व शिक्षा के अंकों के अतिरिक्त यदि किसी विद्यार्थी की अन्य रुचि जैसे कोई खेल, कला आदि को भी साथ में वरीयता देने की बात कही जाती तो कहीं बेहतर विकल्प होता। वहीं शिक्षा के समवर्ती सूची में होने के कारण अलग-अलग राज्य और क्षेत्रवार भी भिन्नता से विवाद उत्पन्न होने की आशंका रहेगी।

2. राष्ट्रीय शिक्षा नीति 2020 के क्रियान्वयन में हमारे समक्ष एक अन्य चुनौती इस रूप में विद्यमान है निजी क्षेत्र के बड़े विद्यालय हैं, उन्हें मानने के लिए कोई बाध्यता नहीं होने से उनका शिक्षा प्रदान करने का माध्यम तो अंग्रेजी रहेगा तथा केवल सरकारी विद्यालयों में मातृभाषा में आधारभूत शिक्षा प्रदान करने से क्या यह भारत के बालकों को दो वर्गों में विभाजित नहीं करेगा ? मनोवैज्ञानिक तौर पर भी एक बालक के शुरुआती वर्षों में शिक्षा या कोई भाषा को सीख पाना ज्यादा आसान होता है। वर्तमान वैश्विक व्यवस्था में अंग्रेजी भाषा की मान्यता सर्वविदित है।

3. स्नातक स्तर पर बहु विषयक (Multi-disciplinary) या बहुआयामी तरीके से पढ़ाई एक बेहतर विकल्प है परंतु इतने प्रयास के बाद भी कुछ महत्वपूर्ण तथा जागरूकता फैलाने वाले आवश्यक विषय जैसे- स्त्री-शिक्षा, लैंगिक-शिक्षा, सांस्कृतिक-शिक्षा, विषमता एवं बहिष्करण-शिक्षा, पर्यावरण- शिक्षा, विकास की शिक्षा, यह सभी हाशिए पर रह गई। वैश्विक स्तर पर पर्यावरण संबंधी मुद्दे पर अध्ययन करने की परम आवश्यकता है।

4. अध्यापक प्रशिक्षण भी एक प्रमुख चुनौती है। जैसे गुणवत्तापूर्ण अध्ययन के लिए कुशल शिक्षकों के प्रशिक्षण की वित्तीय व्यवस्था (Funding) कहां से होगी ? इसका मूलभूत ढांचा (infrastructure) क्या होगा ? मूल्यांकन प्राधिकरण कौन होगा ? इन सभी प्रश्नों के बारे में राष्ट्रीय शिक्षा नीति 2020 मौन है।

5. भारत सरकार द्वारा राष्ट्रीय शिक्षा नीति 2020 में समावेशी शिक्षा की बात कही गई है। इसके आधार पर इस प्रारूप में कहा गया है कि ऐसे विद्यार्थी जो अनुसूचित जाति, जनजाति, पिछड़ा वर्ग और विशेष पिछड़ा वर्ग से संबंधित हैं, उनके लिए मेरिट के आधार पर स्कॉलरशिप के प्रयासों में तेजी लाई जाएगी तथा राष्ट्रीय छात्रवृत्ति पोर्टल को विस्तारित किया जाएगा

निष्कर्ष: प्रस्तुत शोध पत्र में भारत की नई राष्ट्रीय शिक्षा नीति 2020 के बारे में विचार किया गया तथा इसमें निहित अवसर और चुनौतियों पर समीक्षा करके विचार प्रस्तुत किए गए हैं । निष्कर्ष के तौर पर यह राष्ट्रीय शिक्षा नीति 2020 में चुनौतियों को स्वीकार करते हुए हम सभी भारतवासियों को इसके सभी सकारात्मक पक्षों के क्रियान्वयन में महत्वपूर्ण भूमिका निभानी चाहिए। प्राथमिक शिक्षा में भी आधारभूत शिक्षा में मातृभाषा की आवश्यकता को

स्वीकारने के साथ ही वैश्विक स्तर पर वर्तमान में प्रासंगिक एवं मान्य अंग्रेजी को भी पूरी तरह से उपेक्षित नहीं किया जाना चाहिए

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Challenges of New Education Policies: 2020

Mukesh Kumari Yadav[1], Vijaylaxmi[2]

[1]*Assistant Professor, Biyani Girls B.Ed. College, Jaipur,* [2]*M.Ed. Student, Biyani Girls B.Ed. College, Jaipur*

Abstract:

"If we teach today's student, as we taught yesterday rob them of tomorrow".

As the government of India has announced its new education policy, it is the first in 34 years since the national policy of education of 1986 and while the policy has provided education to all the prevailing challenges of the education system remained in the place, hindering the growth of the Indian education system to the global level.

The main purpose of this policy is to provide quality education at an early age so that we can develop required skill in students and prepared them for competition in upcoming life .It will not be easy for both teacher and student to accommodate according to NEP they required not only to gain bookish knowledge but need learn by doing thing i.e. practical work.

The aim to prepare students according to 21st century skills. Trained teachers and inspiring mentors will be needed to implement this policy and the teachers must aware of how it's implemented in schools .It is essential for an affective learning teacher to have a good understanding of the IT ,technological implementation in the school. There is much in the documents that deserves debate for effective teaching teachers should have IT implementation.

There is much in the document ripe for debate such as language. The NEP seeps to enable home language learning up to class five in order to improve learning outcomes. Acc. to NEP teachers are judged not only the basis of their academic performance but teachers should have others skills too. Students will cover all areas of their interest not only selected fields such art, vocational, humanities etc. Teaching in particular mother tongue is another challenge in front of teachers .There are big gaps such as lifelong learning, which should have been a key of element of upgrading to emerging science. The main aim of National Education policy 2020 is to fill the gap of present education system which is totally mechanized which develops the cramming power of the students but curbs the individual thinking capability of the students.

"Change can be scary, But you know what's scarier? Allowing fear to stop you from growing, evolving and processing."

Keywords: NEP 2020, IT, Implementation, Prevailing Challenges, Global level.

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National Education Policy 2020

Manisha Soni

M.Ed. Student, Biyani Girls B.Ed. College, Jaipur

Abstract :

Comprehensive education policy of the 21st century. As the first omnibus policy since 1986, the New Education Policy (NEP) 2020 has the onerous task of addressing multiple crises facing India's education system. Addressing the completion of one year of the NEP, Prime Minister Narendra Modi remarked, "We are entering the 75th year of Independence. In a way, implementation of NEP has become a vital part of this occasion. This will play a key role in creating a new India and future-ready youth". The Education Minister, Dharmendra Pradhan, called NEP 2020 a visionary education policy for the 21st century through which India is harnessing the capabilities of each student, universalizing education, building capacities, and transforming the learning landscape in the country. He stressed that the NEP would make education holistic, affordable, accessible, and equitable. What has been the progress so far? Is the NEP roll-out on track? What are the major challenges facing this mega education policy in the coming decades?

Major milestones:

In the last 16 months since its eventful launch, the NEP has moved some ground in terms of meeting key milestones, notwithstanding the challenges from the global health pandemic. To begin with, the government has done well in terms of building awareness and interests amongst diverse

stakeholders on the mission and vision of the NEP. This was marked in a 10-day long <u>Shikshak Parv</u> that saw a series of national-level events featuring the Prime Minister and other key officials. Further, to make the intent more pronounced, the government has renamed the Ministry of Human Resources Development (MHRD) to Ministry of Education. Significantly, this key ministry has been infused with doses of energy and dynamisms by bringing in **Dharmendra Pradhan**, the man who brought major transformations in the critical energy ministry. Mr Pradhan's proven implementation ability and his diplomatic negotiating skills will come in handy in pushing the mega initiatives that would likely face opposition in Opposition-ruled states.

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Challenges of New Education Policy

Pragya Kumari

Student, Biyani Girls B.Ed. College, Jaipur

Abstract:

Full human potential, an impartial & unbiased society & an advancing national development can only be realised with the help of education. The NEP2020 builds character, enables learner to be rational, compensate and caring. The gap between current state of learning outcomes and what is required is bridged. However the NEP2020 along with addressing various gaps existing in education system comes with challenges such as Skill Development, especially life skills and vocational training, India is far from achieving target set by Kothari commission (1946-1966); Requirement of trained teachers in order to let teachers be tech-savvy and to guide their students in new technology and to initiate IT implementation; Change management for successful implementation, to improvise and innovate new methods; legal complexities i.e. it should be in coherence with various laws and acts; Digital connectivity which requires internet penetration in remote areas as well as digital infrastructure; Interdisciplinary higher education in order to not only expertise in a subject but also lean onto other disciplines; Implementation issues arising due to the political difference between union and states; Parts of policy is achievable at lower cost but funding remains a matter of worry. NEP-2020 emphasises to make education system holistic, flexible and aligned to contemporary times. Although in order to accomplish its goals, we must overcome execution challenges and achieve SDG4 by ensuring inclusive and equitable quality education.

Keywords: Skill development, legal complexity, Digital connectivity, political difference, SDG4.

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Challenges of New Education Policies

Kaliyan Meena

Student, B.Ed First Year, Biyani Girls B.Ed. College Jaipur (Raj.) India

Abstract:

It is a difficult task to open a university every week. India currently has about 1,000 universities spread out across the nation. It will take 15 years to open one new institution if we want to double the gross enrollment ratio in higher education, one of the policy's stated aims, by 2035. Unquestionably, opening a new university every week is a tremendous challenge. The figures are no less frightening when it comes to changes to our educational system: The National Education Policy 2020 aims to re-integrate 2 crore children who are not currently enrolled in school. Regardless of how you look at it, building this over 15 years involves opening almost 50 schools each week.This will undoubtedly entail a large investment in campuses and classrooms, which will be very difficult. Funding is a significant barrier in the Covid era: From the perspective of funding, this presents no problem for the timorous. According to the NEP 2020, education spending will rise from 4.6% to 6% of GDP, or about INR 2.5 lakh crores annually. Building schools and colleges across the nation, hiring professors and teachers, and covering operational costs like giving schoolchildren free breakfast are all excellent uses of this money.

The fact that this policy is implemented at a time when the economy has been severely damaged by lockdowns related to Covid-19, government tax collections are appallingly low, and the fiscal deficit was significant even before Covid renders the situation suspicious. The current focus on healthcare and economic recovery will slow down implementation: Despite the strain on the exchequer, economists have been asking for significant stimulus packages totaling double-digit percentages of GDP. Although the National Education Policy is a 20-year journey, one is concerned that we may be off to a stumbling start during the following two to three years as government and budgetary priorities are taken over by the more urgent but equally vital needs of healthcare and economic recovery. Need to build up a sizable instructor pool.

 The policy calls for a significant structural reformulation of the curriculum in school education, which is a very positive development. Many of the curriculum modifications necessitate significant mental adjustments on the part of both instructors and parents. The NEP 2020's emphasis on inter-disciplinary learning is a very positive move for higher education. Inter-disciplinary higher education necessitates a culture shift. For many years, schooling in India has been relatively repetitive and secluded. It is difficult to see the entire higher education system being made up of "exceptions" teachers who respect, are interested in, and lean toward other fields of study while being experts in their own. Over the next 15 to 20 years, this calls for a cultural revolution throughout the whole higher education ecosystem.

Keywords: National Education, universities spread, hiring professors and teachers, free breakfast**,** higher education necessitates a culture

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R-4, Sector No. 3, Vidhyadhar Nagar, Jaipur - 302039, Rajasthan, India
Phone : +91-141-2338591-95 • Fax : +91-141-2338007
e-mail : acad@biyanicolleges.org • bicon@biyanicolleges.org
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Tel. : +91-141-2338591-95 • Fax : +91-141-2338007
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