

Proceedings of
“ARAVALLI”
INTERNATIONAL GROUP OF
CONFERENCE (IGOC)

16th to 18th December 2023

Venue:

Dr Ramnath A Podar Auditorium, Seth Gyaniram Banshidhar Podar College,

Ram bilash Podar Road, Nwalgarh, Jhunjhunu, Rajasthan, India

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RESEARCH AND DEVELOPMENT CELL
SETH GYANIRAM BANSHIDHAR PODAR COLLEGE,
RAM BILASH PODAR ROAD, NWALGARH, JHUNJHUNU, RAJASTHAN, INDIA

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Publisher:

Dr. Dau Lau Lal Bohra (Guest Editor)

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Message from Chairman’s Desk

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Very Happy to learn that the Seth G. B. Podar College, Nawalgarh is organising the “Aravalli International Group of Conferences” from 16th-18th December, 2023.

Organizing such an event at this reinforces our objective of developing an environment for the exchange of ideas towards technological developments and innovation. The conference aims to deliberate on current issues of National and International relevance. A large numbers of quality research papers will be presented in the conference with speakers from across the world.

I am sure that this occasion will provide an affable environment for the researchers and academicians to freely exchange the views and ideas with others.

I convey my warm greetings to the organizing committee and the participants and extend my best wishes for the success of the conference.

(Rajiv K. Podar)
Chairman
&
Chief Patron of the Conference

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Vice-Chancellor



पंडित दीनदयाल उपाध्याय
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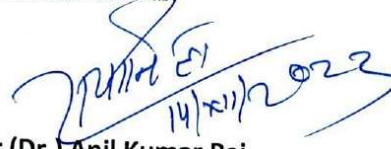
MESSAGE

It gives me great pleasure to know that **Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan, India** is organizing the “**ARRAVALLI International Group of Conferences**” from 16th – 18th December, 2023.

This conference will definitely encourage participants from diversified cultures to learn new things. I am confident that the participants will work collaboratively with teams of people from a wide range of backgrounds and countries.

I would like to congratulate **Seth Gyaniram Bansidhar Podar College, Nawalgarh** for their efforts in organizing this conference. I am optimistic that this conference will be able to provide a forum for forming knowledge sharing relationships as well as providing the essential impetus for joint research collaborations projects. In this period of the new normal, this conference will provide new perspectives with innovative ideas. I believe that in this seminar, there will be presented by the scholars and researchers which will bring a new beginning towards the way of knowledge.

Best wishes to you and great success of the international seminar!



Professor (Dr.) Anil Kumar Rai
Vice-Chancellor
Pandit Deendayal Upadhyaya Shekhawati University
Sikar, Rajasthan



SETH GYANIRAM BANSIDHAR PODAR COLLEGE

(Grade “A” in NAAC Accreditation)

Podar Educational Campus, Nawalgarh - 333042 (Raj.)



Message from Principal’s Desk



Dear esteemed colleagues and participants,

It is with great pleasure that I introduce the proceedings of International Group of Conferences “ARAVALLI”. The papers and presentations included in this proceedings are a testament to the hard work and dedication of the authors, and I am honored to have been a part of such a prestigious research event. The research presented at this conference spans a diverse range of topics, and I am confident that the findings presented here will make a significant contribution to their respective fields.

I would like to express my appreciation to the keynote speakers for sharing their expertise with us, and to the conference organizers for their tireless efforts in bringing this event to fruition. I also extend my congratulations to all of the authors whose papers have been included in these proceedings. Your work is a testament to your dedication to your respective fields and to the advancement of knowledge.

I hope that this proceedings will serve as a valuable resource for researchers and practitioners in the years to come, and that they will inspire future generations to continue to push the boundaries of knowledge and innovation.

Thank you all for your contributions to this conference, and I look forward to seeing the impact of the research presented here in the years to come.

Best regards,

(Dr. Satyendra Singh)
Principal
&
Chairperson of the Conference

Rambilas Podar Road, Nawalgarh, Dist: Jhunjhunu – 333042

Contact No: 8619868884,

Web Site: www.podarcollege.com E-Mail: principal@podarcollege.com

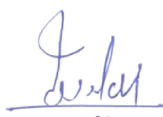
FROM THE DESK OF CONVENER

On behalf of Convener it is our proud privilege to welcome all International and National presenters, delegates and esteemed guests from all over India and abroad to the that Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) accredited with 'A' Grade (3.04 CGPA) by NAAC-UGC Organized "ARAVALLI" 3 DAYS INTERNATIONAL GROUP OF CONFERENCE "IGOC". However in the recent past there is a huge explosion of population and resultantly the rise of material needs of human beings. Globalization has ushered in new technology and the economic prosperity even in the developing countries like India and further opened new area of development. But it is having heavy impact on our environment. The consumption of various products



has increased to a large extent and as a result transportation of goods from place to place has increased several times. It hassled to the greater use of gasoline. In addition, the industry has expanded leaps and bounds in our country. The industrial waste and harmful chemicals are being released in the environment, in the rivers and the oceans. This has posed to dander to the wild life. Naturally this caused a lot of damage to the environment and its eco-system by way of water pollution, reduction in the forest, air pollution and other toxic elements of the nature. It has obviously precipitated terrible degradation of environment. All human being should make honest and sincere efforts to the earth. Each individual nation is responsible for the degradation of the environment and it is just a matter of degree. As far as India is concerned, being a developing nation and a highly population one, it has to take some harsh decision. An interdisciplinary approach will undoubtedly give a proper value orientation to our educational system. The conference has been planned to provide a platform for the eminent scientist, delegates and research scholars to interact and share their experiences in the field of Environment and Natural sciences. We are sure that the deliberations during the conference will be immensely useful for the participating Academicians, Scientist, Research Scholar, Students, and other Stakeholders in Interdisciplinary manner. We hope that the outcomes of the conference will be beneficial for everyone.

Once again we welcome you to Nawalgarh, Jhunjhunu and hope that this conference will challenge and inspire you, and result in new knowledge.



Dr Dau Lal Bohra, PhD, F.A.B.Sc., F.S.E.Z.R
CCM (Clinical Microbiology),
Head, P G Department of Zoology,
Seth G B Podar College, Nawalgadh , Rajasthan, INDIA



INTERNATIONAL GROUP OF CONFERENCE ARAVALLI

16th to 18th December 2023

SETH GYANIRAM BANSIDHAR PODAR COLLEGE

Podar Educational Institutions, Nawalgarh 333042 (Raj.)

Accredited with 'A' Grade (3.04 CGPA) by NAAC-UGC

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- INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES
- INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING

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Technical Session

Day 1 (December 16, 2023)

S. No	Programme	Time	
1	Registration Open	09.00 AM	
2	Refreshment	10.00 AM to 10.30 AM	
3	Inaugural Season	11.15 PM to 12.00	
4. Key note Address (12.00 PM to 1.30 PM)			
4	Dr Daya Shankar Jahgid, MBBS, MD (Chief Guest)	12.00 PM to 12.15 PM	
5	Prof. Prof. Y. K. Vijay, Director – Centre for Innovation in Science Teaching (CIST) IIS University Jaipur (Rajasthan) (Key Note Speaker)	12.15 PM to 12.45 PM	
6	Dr DPS Rathore FRSC Retired Senior Scientist Atomic Minerals Directorate for Exploration and Research, DAE (Key Note Speaker)	12.45 PM to 01.15 PM	
7	Mr Murlli Manohar Chobdar (Chief of Scout Guide) (Invited talk)	01.15 PM to 01.20 PM	
	Mr. Shiv Karan Janu, Director, Geetanjali J (Invited talk)	1.20 PM to 1.30 PM	
	Thakur Anand Singh Ji Shekhawat, Presedent, Jan Mangal Seva Sansthan (Invited talk)	1.30 PM to 1.40 PM	
	Dr D P Singh, Director , kamaleani	1.40 To 2.00 PM	
	Dr Vladimir Dobrev Bulgarian Society for the Protection of Birds Bulgaria (Online) (Key Note Speaker)	2.00 to 2.20 PM	
	Mrs. Christina Adams, Kingsport (Online) (Key Note Speaker)	2.20 PM to 2.45 PM	
Lunch (2.45 PM to 3.30 PM)			
	Noam Weiss, Director, International Birding & Research Center, Eilat (Online) (Key Note Speaker)	3.30 PM to 3.50 PM	
	Dr. Himanshu Narayan Singh, Radiology, Memorial Sloan Kettering Cancer Center, New York, USA (Online) (Invited talk)	3.50 to 4.20 PM	
	Dr. Jitender Kumar, Department of Chemical and Biological Physics, Weizmann (Online) Institute of Science, Rehovot, Israel (Online) (Invited talk)	4.20 to 4.45	
	Prof. (Dr.) Anita Jhahria , Principal, Seth Shree Kedarnath Modi Rajkiya Mahavidyalaya Gudha Jhunjhunu (Invited talk)	4.45 to 5.00	
	Prof. (Dr.) Maha Singh, Head, Government Science College, Nawalgarh (Invited talk)	5.00 to 5.15	
	Cultural Event		

Technical Session

Day 2 (December 17, 2023)

S. No	Programme	Time	Place
1	Refreshment	09.00 AM to 09.30 AM	At College
2	OFFLINE PHYSICAL TECHNICAL SESSION Invited talk <ul style="list-style-type: none"> • Prof R N Sharma, Principal, Neem Ka Thana • Dr Sandeep Sharma, Government College Nawalgarh • Elmira Mustafa, ABCK, KAZAKISTAN (Online) 	09.30 AM to 09.45.00 AM 09.45.00 AM to 10.00 AM 10.00 AM to 10.15 AM	At Dr Ramnath A Podar Auditorium
3	Paper presentation by Faculty members and Research/P.hD Scholar (Offline)	10.15 AM to 2.30 PM	At Dr Ramnath A Podar Auditorium
4	Paper presentation by P.G Students	10.15 AM to 2.30 PM	At PIMS Department
5	Paper presentation by Faculty members and Research/P.hD Scholar (Online)	09.30 AM to 2.30 PM	At APT Conference Room
6	Lunch	2.30 PM to 3.30 PM	
7	Paper presentation by Faculty members and Research/P.hD Scholar (Offline)	3.30 PM to 5.00 PM	At Dr Ramnath A Podar Auditorium
8	Paper presentation by P.G Students	3.30 PM to 5.00 PM	At PIMS Department
9	Paper presentation by Faculty members and Research/P.hD Scholar (Online)	3.30 PM to 5.00 PM	At APT Conference Room
	End of Technical Session	5.00 PM	

Technical Session

Day 3 (December 18, 2023)

S. No	Programme	Time	
1	Tea	10.30 AM	
2	<ul style="list-style-type: none"> • Dr. S. K. Saxena, SNKP Government College Neem Ka Thana • Dr. Vibha Shrivastav, Government Girls College Sikar • Paper presentation (For Remaining Participant on special request, if any) 	11.00 AM to 1.00 PM	At Dr Ramnath A Podar Auditorium
3	Valedictory Function	01.00 PM	

PREFACE

Research and Development Cell, Seth Gyaniram Banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India are going to organise a joint International Group of Conference. At the very outset, we extend a warm welcome to all our distinguished guests, speakers, sponsors and the participants, who have directly or indirectly joined us during this International conference in Seth Gyaniram Banshidhar Podar College, Nawalgarh. The main motive behind this conference is to provide a strong platform to the researchers, academicians and professionals to present their innovative thoughts and discoveries and to explore future trends and applications in the various fields of development and the integrated approaches to advance the development agenda of the Governments. We would also expect a sharing of the challenges being faced in advancing and achieving the Multi disciplinary approaches of Education including Applied science, mathematics and computational technique, Environment and life science, Pharmaceutical and green chemistry, Computer science and management, Accounting, banking, economics research and social science, Indian language studies, Environmental sustainability and geographical sciences and Education and learning We are happy to receive more than 160 **ABSTRACTS**/ research papers from all parts of the world in a short span of time. This shows peoples' growing interest in the development agenda. However, I am sure that the deliberations during this conference will be useful to the society in general and to the researchers in particular by disseminating knowledge on both theoretical and applied research on the aforesaid areas with an ultimate aim to bridge the gap between these coherent disciplines of knowledge and the community. Our final goal is to make the conference proceedings useful and guiding factor to audiences involved in research in these areas, as well as to those involved in design, implementation and operation, to achieve their respective goals.

Dr Dau Lal Bohra
I/C In charge
Research and Development Cell,
Seth Gyaniram Banshidhar Podar College,
Nawalgarh, Jhunjhunu (Rajasthan) 333042



KEY NOTE, PLENARY, INVITED LECTURES & ABSTRACTS

IL-001

Wintering Egyptian vulture population in Rajasthan, India origins in Central Asia**Vladimir Dobrev^{1*}, Anna Ten², John Burnside³, Valentin Soldatov²**¹ *Bulgarian Society for the Protection of Birds/BirdLife Bulgaria, BULGARIA*² *Institute of Zoology, Uzbekistan Academy of Sciences, UZBEKISTAN*³ *Prince Mohammad Bin Salman Reserve Development Authority, SAUDI ARABIA**Corresponding Email: vd.dobrev@gmail.com***ABSTRACT****Background:**

The Egyptian vulture is an endangered species distributed throughout Europe, Africa, and Asia. It is one of the most studied species that has received significant research and conservation efforts in the last 20 years across most of its range. Most of the conservation challenges were addressed through satellite telemetry, which has contributed to identifying the main threats and bottlenecks for the species. Hence, adequate conservation measures were applied accordingly on a wide scale. Nevertheless, anecdotally some populations of the Egyptian vulture were underestimated and never studied despite covering a significant part of the global range of the species – the population of the Egyptian vulture along the Central Asian Flyway. Hence, our goal here is to identify the migration routes and wintering grounds of the species on the Central Asian Flyway and the main congregation sites.

Methodology:

We used 30 g GPS/GSM transmitters to study the migration routes and wintering grounds of birds from Uzbekistan. We used a leg loop configuration to attach the devices to Egyptian vultures of different ages and follow their movements. Furthermore, to validate the position of the birds we visited some of the wintering grounds to account for the actual number of wintering Egyptian vultures.

Result and Discussion

We tagged 13 Egyptian vultures of different ages in Uzbekistan between 2021 and 2023. In total, 11 birds followed the Central Asian Flyway and wintered in Rajasthan, India, while two others reached their wintering grounds in the Arabian peninsula. Our results suggest that most Egyptian vultures that breed in Central Asia winter in Rajasthan and cluster around Bikaner, Jaisalmer, and Jodhpur. The congregation site in Bikaner was proven to hold at least 1000 individuals. Arguably this is the largest Egyptian vulture congregation site on a global scale and hence, one of the most important sites for the species in general.

Conclusion

Considering the novel data and findings on the Egyptian vulture we get from tagged individuals, and the large congregation sites of the species in India, further tagging of individuals and regular and systematic counts of the congregation sites in India can help to identify threats and draw future conservation plans.

KEYWORDS: Scavenger, migration, Uzbekistan, Central Asian Flyway.

IL-002

A GLOBAL LOOK AT PASTORALIST VALUE TO HUMAN HEALTH

CHRISTINA ADAMS MFA

Author, Researcher

California, USA

Corresponding email: cadams@xiqllc.com**ABSTRACT**

While many endangered species survive mainly in zoos and botanical gardens, preserving ecosystems only through protective measures is not sustainable. Species and ecosystems need freedom to evolve in their natural conditions, and may otherwise lose their special attributes via inbreeding and other impacts. Economic policies should create financial resources for those who would otherwise damage these nearby natural resources, per the UN. Traditions developed by pastoral and nature-based cultures can help sustain biodiverse life and lead to greater health for humans and animals. Economic improvements can result from practical applications of such ancestral knowledge. One demonstration of this animal-human linkage is the use of camel milk and products for health conditions and as a sustainable traditional food in drylands and rangelands. Camel milk, fat, meat, urine and organs have been used for centuries in Arabian, African, and Asian cultures as natural healing tools. The recent movement behind the rising worldwide use of camel milk for autism was driven mainly by the author's experience, as noted in her 2013 publication "Autism Spectrum Disorder Treated with Camel Milk" (GAHM Journal) and the nonfiction book "Camel Crazy: A Quest for Miracles in the Mysterious World of Camels" (New World Library 2019). Her initial use, research and subsequent contribution to global camel milk adoption shows how 'hidden' pastoral knowledge can contribute to economic growth and human health. The production of camel milk for commercial use has risen sharply to serve markets in many countries. While the growth in camel milk is noted in many traditional camel-raising countries, India is an exception, with the camel population falling precipitously due to restrictions and changing uses. However, the use of camel milk to ameliorate autism symptoms is the reason for 80% of the sales of one Rajasthani camel dairy, with TB becoming a secondary market during the COVID-19 pandemic. Research-based evidence states that camel milk is rich in enzymes, antibodies, and vitamins that benefit autistic children. Parents who have fed their autistic children camel milk have reported benefits including better sleep, increased motor planning abilities, improved spatial awareness, more eye contact, better expressive language abilities, resolution of skin disorders and fewer gastrointestinal problems. Another Indian company has served over 3 lakh (300K) customers, with autism and height growth driving sales. The camel milk market also serves diabetic, health concern and beauty users. The upward trend of camel and other products (like goat and donkey milk) demonstrates the need for biodiversity maintenance (in Mongolia, etc). Pastoralists, often keepers of genetic legacies due to their knowledge of and care for livestock and plants, can benefit from greater communal coordination, such as UN declarations and activities. These genetic legacies are finally being seen as irreplaceable and economically valuable, despite hard challenges including development, climate change and more. Pastoral tourism, sports, and cultural practices also hold promise for economic growth.

Keywords: *Biodiversity, Pastoralist, Camel, Autism, Health***CONTACT:** *Christina Adams, cadams@xiqllc.com*

Author Bio: Christina Adams is an American writer, researcher and globally known expert in autism and camels. She is the author of *Camel Crazy: A Quest for Miracles in the Mysterious World of Camels*, which won a Nautilus Book Award and will be translated into Mongolian. She is also the author of *A Real Boy: A True Story of Autism, Early Intervention and Recovery*. She has an Master's Degree and her work has appeared in the Los Angeles Times, Washington Post, NPR, Open Democracy, Global Advances in Health and Medicine and many more. She has been featured on US, Indian, Middle Eastern, South African, and European television shows and media, the US Public Library of Science Genetics blog, and has won international awards including the Dr V. Kurien Award of Excellence in Dairy Farming Practices and Innovation and a Lifetime Achievement Award from the Sri Ram Singh Memorial Animal Welfare Award. She advises scientists, veterinarians, families, farmers, pastoralists, educators and more. Website www.christinaadamsauthor.com.

IL-003

Friedreich's Ataxia: Potential Treatments Targeting Repressor Regions and Transcription Factors¹Himanshu Narayan Singh, ²Vishnu Swarup, ²Deepika Gupta, ²Achal Kumar Srivastava*¹Radiology, Memorial Sloan Kettering Cancer Center, New York, USA²Neurology, All India Institute of Medical Sciences, New Delhi, India**ABSTRACT**

Friedreich's ataxia (FRDA) is a debilitating genetic neurological disease marked by progressive degeneration, primarily attributed to low frataxin protein levels. Puspasari and colleagues identified eight regulatory regions influencing frataxin levels, serving as repressors or enhancers. Targeting the repressor DNA region and associated transcription factors (TFs) presents a promising strategy for elevating frataxin in FRDA. In this study, TFs binding to the repressor region 4 (R4) were identified from the footprintDB database. Three Nrf2-targeting therapeutic molecules underwent investigation for their interaction with identified TFs via AutoDock Viena v 4.0. Additionally, CRISPR-Cas9 technology was employed to delete R4 in FRDA-derived lymphoblastoid cell lines (LCLs). Results revealed IRF1 and NR5A2 TFs from footprintDB and three drugs—dimethyl fumarate, omaveloxolone, and resveratrol—from curefa.org. Molecular docking indicated omaveloxolone's superior binding affinity. Overlapping binding regions were observed for dimethyl fumarate and resveratrol. Successful CRISPR-Cas9-based R4 deletion in patient LCLs demonstrated viability post-excision, suggesting non-fatal repercussions. In conclusion, the multifaceted nature of FRDA necessitates diverse treatment modules. Targeting upstream regulatory regions, as evidenced by the in-silico analysis, unveils therapeutic potential. Omaveloxolone's strong interactions with TFs indicate broader therapeutic applications beyond oxidative stress reduction in FRDA. This TF-drug complex may render the repressor region inactive, potentially elevating frataxin levels. Successful R4 deletion in FRDA LCLs without compromising viability provides an alternative avenue for increasing frataxin in patients. This comprehensive approach underscores the complexity of FRDA and highlights potential therapeutic advancements.

Keywords: Friedreich's ataxia, Neurological Disease, CRISPR-Cas9, Repressors

BIOSKETCH

Presently, I am a Senior Research Scientist at Memorial Sloan Kettering Cancer Center, New York, USA, specializing in "epigenetics and transcriptional regulation." At Columbia University, I investigated disparities in regulatory networks between cancer and normal tissues using bioinformatics. As a Post-Doc at TAGC, INSERM, Aix Marseille University, I pioneered the identification of Epromoters enhancer-like promoter clusters—under various stress conditions, developing a novel pipeline. In my tenure as a Research Associate at CSIR-Institute of Genomics & Integrative Biology, New Delhi, India, I focused on identifying genetic and epigenetic biomarkers for high-altitude phenotypes. My Ph.D. journey at AIIMS, New Delhi, culminated in a degree from NIU, India, in 2016. I have authored FIFTY publications, received an Independent Research Project from the Indian Council of Medical Research, and held positions as an Invited Researcher at the Medical University of Vienna, Austria.

IL-004

The Bird Observatory - Community based nature conservation**Noam Weiss,**

The International Birding and Research Center Eilat, Birdlife Israel,
The Society for the Protection of Nature in Israel, P. O. B. 774, Eilat 88000, Israel.

Email: noamw@spni.org.il**ABSTRACT**

On the edge of the barren Sahara Desert, in the midst of the only land bridge, connecting Eurasia and Africa thrives one of the most important stopover sites for migratory birds, the international birding and research center of Eilat. An old saltmarsh, disrespected by humans, is now a thriving bird observatory, for birds and people. While spring migration Passerines arrive to Eilat after crossing the Sahara Desert, we estimate that in years when the region south of the Sahara is a resourceful habitat for the migrants, Eilat sees few birds in good physical condition, while in African drought years Eilat is flooded with huge abundance of birds in poor physical condition. During these harsh years, every bit of habitat that invites birds to take a break and fuel up can make a real difference for the migrants. Our mission to protect the migratory bird's flyway is unchanged for years. While in the past, good data and advocacy could make change; today the public opinion has a major influence. To make an impact, we need deeper support and participation of the public. A bird sanctuary, can be used as a tool to engage people on different levels, and effectively recruit the public. How did the IBRCE achieve that? The sanctuary is built and managed in a welcoming and engaging way. We offer free entrance, art and projects made by local volunteers displayed everywhere, trails, bird hides and places for rest and leisure, a smartphone based geographical game and most importantly an open to the public ringing station. We invite our community to five yearly communal events, 2 days long, with thousands of participants. We have made the bird sanctuary a hub for environmental culture and we offer important volunteering opportunities to young people and adults. We also created an identity component to a town that includes bird migration through educational projects. And we made ourselves the regional source of knowledge, provide advice and help for farmers, universities, the municipality and planning committee and we even help the airport to prevent plane collisions with birds. You may see the strength of our community when we run a nature conservation campaign, improve man-made or natural habitats to be better stopover sites or conduct a large-scale survey. However, our real power lies in everyday life when a decision maker or an investor understands that Eilat is not the place for wind turbines, glass made buildings or cable held antennas, because it is the "town of bird migration". Following the recent declarations of the COP 15 UN biodiversity conference, of the community based projects of the International Birding & Research Centre, Eilat (IBRCE) as an outstanding exemplar of biodiversity conservation, we are conducting two regional workshops, where we'll exchange knowledge and experience about modern nature conservation of flyways and stopover sites for birds.

IL-005

RIBEYE B domain is important for the assembly of ribbon in ribbon synapses of RIBEYE knock-in mice

Soni Shankhwar*^{1,2} and Frank Schmitz²

¹ *Institute of asthma and allergy prevention, Helmholtz Munich, Germany*

² *Institute of Anatomy and Cell Biology, Saarland University, Medical School, Homburg, Germany*

Corresponding Email: sonikk27@gmail.com

ABSTRACT

Background:

Ribbon synapses which are found in the retina, inner ear, and pineal gland are specialized chemical synapses due to presence of synaptic ribbons. These synapses are continuously active for the release of neurotransmitters at the synapse. Synaptic ribbons are composed of RIBEYE protein containing an N-terminal A-domain and a carboxyterminal B-domain that is identical with CtBP2, a NAD(H)-binding transcriptional co-repressor. In RIBEYE knock-out mice deletion of RIBEYE A-domain results in complete loss of retinal and inner ear synaptic ribbons. To understand whether the RIBEYE A-domain alone is sufficient for the formation of synaptic ribbons or whether the RIBEYE B-domain is also required for the assembly of synaptic ribbons. For that RIBEYE knock-in mice were used which is lacking RIBEYE B-domain.

Methodology:

RIBEYE knock-in mice contain only the RIBEYE A-domain fused to GCaMP3 calcium sensor and lack of RIBEYE B-domain.

Result and Discussion

Immunofluorescence and transmission electron microscopy showed absence of synaptic ribbons from all ribbon synapses (retina, inner ear) of knock-in mice in the absence of B-domain. Western blot showed RIBEYE A band in the retina lysate of knock-in mice although its expression was less than wildtype mice. In knock-in mice, RIBEYE A/GCaMP3 protein cannot assemble into synaptic ribbons due to absence of RIBEYE B-domain.

Conclusion

These findings reveal that and RIBEYE A-domain alone cannot form synaptic ribbons. For ribbon formation, it also needs RIBEYE B-domain which is essential for neurotransmitter release at all ribbon synapses.

KEYWORDS: Retina, inner ear, ribbon synapse, synaptic ribbon, RIBEYE B-domain

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IL-006

Kare Jo Unnat: Exploration for Localization of Sustainable Development Goals

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ABSTRACT

Background: The study employs a bottom-up approach to understand the ground realities to design strategies for the localization of sustainable development goals in the state of Rajasthan, India. The article adopts the socio-behavioral survey method of the Kawakita Jiro Technique with a specific population of 73 individuals from 11 districts of Western Rajasthan, India. These districts include Jodhpur, Jaisalmer, Jhunjhunu, Churu, Sirohi, Naguar, Sri Ganganagar, Bikaner, Barmer, Pali, and Hanumangarh.

Methodology: People who undertook the survey were derived from a specific random population who were partnering with the UBA scheme of the Ministry of Education, Government of India. Further, the questionnaire for the survey was collectively developed under the guidance of officials from UNICEF Rajasthan, India, and ARAVALI, Government of Rajasthan. The collective gave three focused questions to the participants to think through the lens of their village and district to help strategize the localization of Sustainable Development Goals (SDGs) in their respective locations. Each participant was expected to identify a problem, suggest a solution, and propose an approach to the solution.

Result and Discussion: The experiment captured nuanced problems in the localization of SDGs at the grassroots levels and offered specific solutions for these pressing concerns. The lack of local participation of villagers in governance is a key problem in various districts. The lack of

proper data on villagers, beneficiary identification, and the absence of decisions based on data is a concern. Integrating villagers in the governance process, ensuring transparency in decision-making with proper communication of financial audits, and increasing the participation of women are essential for meeting SDG goals. Multiple dimensions of digitalization like proper time-to-time collection and updation of village data, and its availability online are essential. Possible solutions to different problems include increasing the awareness of villagers. This can be achieved through information dissemination using training and workshops as per 42% of the participants followed by other technological interventions like WhatsApp groups, websites, and social media. Employment generation through different strategies like creating skill centers at the village level is another solution.

Conclusion: Analyzing the data helped to unpack the nuances of ground-level problems that are specific to certain districts and common across districts. Localization of SDGs in an optimal manner at the village panchayat level needs to address multi-dimensional issues of governance, problems in technological availability and adoption, structural inequalities faced by women, and illiteracy. Collaboration between government schemes, NGOs, and SHGs is an effective strategy to enable the same.

Keywords: KJ technique, Localization, Sustainable Development Goals, local governance, participation

IL-007

Jurisprudence of Joules: Decoding the Legal Frameworks for Advancing Renewable Energy in India – Perspectives, Challenges, and Prospects for a Green Future

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ABSTRACT

The transition towards a sustainable and green future is a global imperative, and as nations grapple with the challenges of climate change, the role of legal frameworks in advancing renewable energy becomes increasingly pivotal. This **ABSTRACT** delves into the Jurisprudence of Joules, examining the legal landscape surrounding the promotion and utilization of renewable energy sources in the context of India. The study explores various perspectives, challenges, and prospects associated with the legal frameworks governing renewable energy in the country. India, with its burgeoning population and expanding economy, faces the dual challenge of meeting its energy demands while addressing environmental concerns. The Jurisprudence of Joules seeks to unravel the legal intricacies that underpin the promotion of renewable energy sources, such as solar, wind, and hydroelectric power, as viable alternatives to conventional fossil fuels. From a legal perspective, the study scrutinizes the evolving legislative and regulatory frameworks that govern renewable energy projects in India. It explores the legal provisions that incentivize investment in the renewable sector, including financial incentives, tax benefits, and regulatory mechanisms designed to promote sustainable energy practices. Additionally, the research examines the role of international agreements and treaties that India has entered into to foster collaboration and commitment to renewable energy goals on a global scale. Challenges in implementing renewable energy projects in India are multifaceted, ranging from land acquisition issues to regulatory bottlenecks. The **ABSTRACT** delves into the legal hurdles faced by stakeholders, including project developers, investors, and government bodies, and analyses case studies to illustrate practical challenges in the sector. Furthermore, the study critically evaluates the effectiveness of dispute resolution mechanisms available to address legal conflicts arising in the renewable energy domain.

Perspectives on the Jurisprudence of Joules are examined through the lenses of diverse stakeholders, including government bodies, environmental activists, industry players, and local communities. The **ABSTRACT** analyses the impact of legal frameworks on shaping perceptions and attitudes towards renewable energy, considering how these perspectives influence policy

evolution and public discourse. Prospects for a green future in India hinge on the adaptability and efficacy of existing legal frameworks. The **ABSTRACT** outlines potential legal reforms and policy recommendations aimed at fostering a conducive environment for the growth of renewable energy. It also explores the role of technological advancements, innovation, and international cooperation in shaping the legal landscape for a sustainable and green energy future.

In conclusion, the Jurisprudence of Joules provides a comprehensive examination of the legal frameworks governing renewable energy in India. By analysing perspectives, challenges, and prospects, the study contributes valuable insights to the ongoing discourse on sustainable development, offering a roadmap for legal reforms and policy interventions that can propel India towards a greener and more environmentally responsible future.

KEYWORDS: Environment, Renewable Energy, Legal Frameworks, Green Future, Sustainable Development

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IL-008

NV CENTER IN DIAMOND FOR QUANTUM TECHNOLOGY

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ABSTRACT

NV (Nitrogen-Vacancy) center qubit is defects in the diamond crystal lattice that are optically active, precisely manipulated, and probed using laser light, microwaves, and electric and magnetic fields. Their long coherence times, robustness at room temperature, and ability to interact with other quantum systems make NV centers ideal for various quantum technologies. The remarkable applications of the NV center lie in the field of quantum sensing and metrology, where its super sensitivity to magnetic and electric fields enables precise measurements beyond classical limits. NV center qubits possess significant potential for quantum information processing. With long longitudinal and transverse coherence times (T_1 and T_2), NV center qubits have been implemented to construct a quantum architecture. This architecture includes one- and two-qubit quantum gates, quantum registers, and quantum entanglement among qubits.

IL-009

**UPCOMING USES OF SEWAGE WATER AND THEIR IMPACT ON CEMENT
FACTORY IN NAWALGARH, JHUNJHUNU, RAJASTHAN**

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ABSTRACT

Cement manufacturing Industries is one of the key sectors of the Indian Economy has been fast growing at a rate over 8 % in India and it is predictable to grow more. Cement is a crucial product for the society deliver easy secure reliable modern housing and infrastructure. The contribution of pollution towards the environmental degradation is increasing at an alarming rate. In cement industries water is used only for cooling operation of manufacturing process. Process wastewater with high pH and suspended solids may be generated in some operations. Generally waster used for cooling purpose is recycled and reused in the process. Screening and for suspended solid reduction is done by using settling basin and clarifier. Water treated from waste water treatment plant should use for green belt development. At lime mining site and cement plant contaminated streams of rain water should be directed to the waste water treatment plant and should use for industrial process. Storm -water flowing through pet-coke, coal, and waste material stockpiles exposed to the open air may become contaminated. Rain water should be protected from contacting from coal depot clinker and lime and fly ash storage area to prevent contamination by covering the storage area and should collect at some tank for further use in dust suppression system at plant. If storm- water does contact storage yard than it may indicate presence of high value of sulphate in soil and toxic metals like Zinc, Lead and Chromium in the dust and high TDS value in ground water. Cement industries comes under red category as per CPCB norms. Waste matter from cement industries causing various kind of pollution (air, water and solid waste) should be treated effectively to reduce the pollution. Recycle of waste material and co processing of solid waste in cement kiln will help in minimizing waste material.

Key words: Sewage Water, Cement Factory.

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IL-010

Cheeta Reintroduction: A Step Towards Wildlife Diversity

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ABSTRACT

India embarked on a monumental endeavor to reintroduce cheetahs into the wild following their extinction in 1952. Collaborating with Namibian agencies, the government facilitated the transcontinental transport of these majestic big cats to their new abode, Kuno National Park. However, unforeseen consequences have marred the success of this ambitious initiative. Nearly a year post-reintroduction, a disheartening pattern has emerged, with a disproportionately low survival rate among cheetah cubs and distressing incidents of cheetah fatalities due to medical ailments and struggles in acclimatization. This research paper meticulously delves into the intricate history of cheetahs in India, providing a comprehensive chronicle of their extinction and the hunting practices that led to their demise. The study critically scrutinizes the formulation and enforcement of the reintroduction plan, identifying challenges that have arisen during this complex process. A central focus of the paper is to propose effective solutions aimed at mitigating these challenges and fostering a secure environment for the wildcats in India. By addressing historical practices, planning intricacies, and enforcement issues, the research significantly contributes to the ongoing dialogue on wildlife conservation. The overarching objective is to ensure the long-term survival and flourishing of cheetahs in their reinstated habitat, marking a critical stride toward a harmonious coexistence between these magnificent creatures and their environment. Through these efforts, the research seeks to establish a blueprint for sustainable conservation practices and pave the way for the enduring presence of cheetahs in the Indian wilderness.

Key Words: Cheetahs, challenges, conservation, extinction, and reintroduction.

IL-011

"Revitalizing Soil Health: Evaluating Orange Peel Biochar as a Remedy for Heavy Metal Toxicity in Leguminous Plants "

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ABSTRACT

Biochar is a high-carbon material obtained by biomass pyrolysis under anaerobic. Conditions. Due to the rich organic carbon, high stability, high alkalinity, and rich pore structure of biochar, its addition to soil can increase soil organic carbon content and stimulate soil microbial activity. Orange peel biochar was added to the soil to increase the content of organic carbon components and enzyme activities in the soil and promote organic carbon mineralization. The Cipangopaludina chinensis shell powder was added to the soil to increase SOC, MBC, DOC, urease activity, catalase activity, and sucrase activity in the soil, and decreased ROC and AK. The effect of Cipangopaludina chinensis shell powder on urease activity and sucrase activity in soil was better than that of orange peel residue biochar. Different proportions of orange peel residue biochar and Cipangopaludina chinensis shell powder had different effects on soil, and the treatment of g2k1 (2.6% orange peel residue biochar +1.3% Cipangopaludina chinensis shell powder) had the best effect on soil organic carbon components and enzyme activities. Compared with the control, the activities of SOC, MBC, DOC, ROC, catalase, urease, and sucrase in soil with 2.6% orange peel residue biochar +1.3% Cipangopaludina chinensis powder increased by 19.81%, 64.88%, 67.81%, 19.44%, 77.55%, 487.12%, and 406.62%. It is worth mentioning that the presence of pores identified in biochar's from orange peels can improve the performance in soil amendment as well as in adsorption processes to test the efficiency to remove contaminants from wastewaters.

IL-012

Importance of Keratinophilic Fungi**Dr. Subhash Gora¹ and Dr. Sunita Singh²****Assistant Professor, Government Science College, Sikar^{1,2}**

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Keratinophilic fungi are a group of fungi that belongs to Hypomycetes and various other taxonomic groups that are able to degrade the keratin substrate to low molecular weight compounds. The most important group Keratinophilic fungi is Dermatophytes that are mostly zoophilic in nature but it also consist of soil saprophytes such as *Trichophyton terrestre* and *Microsporum gypseum*. Keratinophilic fungi also consist of various non-dermatophytic Keratinophilic fungi, which are potential pathogens to both humans and animal which have some amount of keratin protein on their epidermal surface. Keratinophilic fungi are prevalent to all environments where there is some amount of keratin protein available on which Keratinophilic fungi can act. Presence of Keratinophilic fungi in given soil can be detected by using Hair Baiting technique by VANBREUSEGHAM. Fungal growth is easily seen after 2 to 4 week of incubation period on Hair bait. Identification of various fungal isolates can be done by comparison and study of various microscopical and colonial characteristic of given fungi. A better study of Keratinophilic fungi comprise of their ecology data can easily predict about the occurrence of various Keratinophilic fungi in given area and rate of infection among given human population.

Keywords : Keratinophilic Fungi, Dermatophytes, *Microsporum*, *Trichophyton*

IL-013

Ab-initio Study of ZnPo Semiconducting Nanowires

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*Corresponding Email: satyendra7171@gmail.com***ABSTRACT****Background:**

Semiconducting nanowires are tiny structures with a diameter of just a few nanometres and a length that can range from a few microns to several millimetres. These nanowires exhibit unique physical and chemical properties that make them attractive for a wide range of applications, including electronics, photonics, and energy conversion. They can be used to create high-performance transistors, sensors, solar cells, and light-emitting diodes, among other devices. One of the key advantages of nanowires is that they offer a high surface-to-volume ratio, which allows for better control over their electronic and optical properties. Additionally, their small size makes it possible to integrate them into complex structures and devices, enabling the development of next-generation electronics with improved performance and reduced power consumption.

Methodology:

The First principle studies of these nanowires involve using quantum mechanical calculations to predict their structural, electronic, and optical properties. Abinit code is an open-source software package for performing electronic structure calculations within the Density Functional Theory (DFT) and beyond. It is particularly useful for calculating the properties of nanowires, using a variety of different methods, including plane-wave and pseudopotential techniques.

Result and Discussion:

Four different structures of ZnPo nanowires were investigated. The considered structures were two atom linear wire, two atom zigzag wire, four atom square wire and six atom hexagonal wire. For each of the structures all structural parameter were optimized independently to explore the total energy minimum. The six atoms hexagonal wire exhibit minimum energy at inter atomic distance of 0.48 nm as compared to other structures. No dimerization was found for the hexagonal wire. The detailed investigation of all the structures reveals that the six atom hexagonal wire has the stable structure and hence energetically more favourable.

The band structure of two atom linear wire and two atom zigzag wire shows the semiconducting behaviour of the wire as no band crosses the Fermi level. Again bands of four atom square wire and six atom hexagonal wires are far away from the Fermi level; hence they show the insulating nature.

Conclusion:

We have investigated four different nanowires of ZnPo by employing ab-initio DFT calculations in the pseudopotential approximations. The stability and electronic properties were analysed in detail. It was found that six atom hexagonal nanowire have greater stability and energetically more favourable, in comparison to others. The DOS in case of six atom hexagonal nanowire is found to be lower near the Fermi level as compared to others. The band structure investigation reveals remarkable features at nano dimensions. It was found that two atom linear wire and two atom zigzag wire are semiconducting in nature while four atom square wire and six atom hexagonal wire are insulator. Thus, the choice of material as well as size and shape of the structure plays an important role in deciding nanowires for optoelectronic and photonic applications. Our predictions may help the experimental workers to fabricate semiconducting nanowires for device application.

KEYWORDS: Semiconducting Nanowires, Density Functional Theory, local Density Approximation.



INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE

ABS-001

**CONTRIBUTION OF BHAMASHAHS IN THE GOLDEN CITY OF SHEKHAWATI,
NAWALGARH****SUNIL KUMAR SAINI**

DEPARTMENT OF HISTORY

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MAIL- SUNILKUMARSAINI3821@GMAIL.COM**ABSTRACT**

In Rajasthan, big moneylenders and rich people built huge mansions for their residence. These mansions were many storeyed. The havelis of Shekhawati region are more grand and architecturally different. And is artistic. The huge havelis standing in the towns of Ramgarh, Mandawa, Pilani, Sardarshahar, Ratangarh, Nawalgarh, Fatehpur, Mukundgarh, Jhunjhunu, Mahansar, Churu etc. of Shekhawati still present excellent examples of their architecture. The havelis of Rajasthan are famous for their intricate and fine carvings and wall paintings on their balconies, verandahs and windows. Sikar, Jhunjhunu and Churu of Rajasthan have been named Shekhawati. According to the experts of the written and unwritten history of Shekhawati, Shekhawat Rajputs had dominance in the Shekhawati area from the fifteenth century (1443) to the middle of the eighteenth century i.e. 1750. Then their empire extended up to Sikarwati and Jhunjhunuwati. The area under the dominance of Shekhawat Rajputs was called Shekhawati, but due to uniformity in language, lifestyle, food habits, attire and socio-cultural practices, Churu district also came to be considered a part of Shekhawati. In the preface of historian Surjan Singh Shekhawat's book 'A Brief History of Nawalgarh', it is written that Rajput Rao Shekha ruled here from 1433 to 1488. It is written at one place in the same book that Thakur Todar Mal, the ruler of Udaipurwati (Shekhawati), instead of appointing one of his sons as his successor,

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implemented the brotherly sect system. As a result, the partition took place so rapidly that even one village was divided into four-five Shekhawats. The same was repeated in Jhunjhunu state also. This practice transformed the Shekhawats from kings to bhaumiyas (owners of a land). Jhunjhunu was divided among the lands of the then ruler Thakur Shardul Singh's five sons - Zorawar Singh, Kishan Singh, Akhai Singh, Naval Singh and Keshar Singh. Nawal Singh's Nawalgarh is an example of the same Bhai Bunt tradition. The lack of central authority gave the moneylenders and industrialists an opportunity to flourish. Nawalgarh, the golden city of Shekhawati, has the highest number of havelis scattered with their architectural beauty. Among the mansions here, Roop Niwas ki Haveli, Bhakts ki Haveli, Jalan ki Haveli, Poddar ki Haveli, Patodiya ki Haveli, Bhagoria ki Haveli etc. are famous.

ABS-002

DECENTRALIZATION AND LOCAL GOVERNANCE IN INDIA: ASSESSING THE PANCHAYATI RAJ SYSTEM

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ABSTRACT

Background: This research paper critically examines the Panchayati Raj System in India, a decentralized governance framework designed to empower local communities and enhance grassroots democracy. Against the backdrop of India's vast and diverse landscape, the study aims to assess the system's impact on local governance, socio-economic development, and community empowerment. Employing a mixed-methods approach, combining qualitative and quantitative analyses, the research seeks to provide a comprehensive understanding of the successes and challenges associated with the implementation of the Panchayati Raj System. The historical evolution of the system is explored, tracing its roots from pre-independence struggles to the constitutional reforms that institutionalized decentralized governance. This historical lens allows for an in-depth examination of the contextual factors that shaped the Panchayati Raj System and its evolution over time. The paper investigates the constitutional framework underpinning the system, emphasizing the legal provisions that delineate the roles and responsibilities of local governing bodies. By examining the practical aspects of implementation, including the functioning of these bodies at the grassroots level, the study seeks to uncover the nuances of their roles and assess their effectiveness in promoting transparent, accountable, and participatory local governance.

Furthermore, the research scrutinizes the impact of the Panchayati Raj System on socio-economic development at the local level. Through a combination of case studies and statistical analysis, the paper assesses the system's contribution to community well-being, seeking to establish correlations between its existence and positive outcomes in areas such as education, healthcare, and infrastructure development.

Methodology: The research adopts a mixed-methods approach, combining qualitative methods (interviews, document analysis, participant observations) and quantitative methods (structured surveys) to comprehensively assess the Panchayati Raj System in India. A stratified random sampling technique ensures diverse representation, and data analysis involves thematic analysis for qualitative data and statistical analysis for quantitative data. Ethical considerations, including informed consent and confidentiality, are adhered to throughout the research process. The methodology aims to provide a holistic understanding of the system's impact on local governance and socio-economic development.

Results and Discussion: The Panchayati Raj System exhibits positive impacts on local governance, including increased transparency, yet challenges persist in financial autonomy. Socio-economic development shows correlations, but regional variations exist. Identified challenges include gender disparities and limited resources, with opportunities in capacity building and technology. Recommendations focus on strengthening financial autonomy, addressing gender gaps, and enhancing capacity for effective governance. The nuanced dynamics underscore the importance of context-specific interventions to optimize the system's potential for grassroots development.

Conclusion: In conclusion, the Panchayati Raj System in India demonstrates notable strides in local governance and socio-economic development. While positive impacts are evident, challenges persist. Strengthening financial autonomy, addressing gender disparities, and investing in capacity building emerge as crucial steps for enhancing the system's effectiveness. This study underscores the need for targeted interventions to maximize the Panchayati Raj System's potential as a catalyst for inclusive and sustainable grassroots development in diverse Indian communities.

Keywords: Decentralization, Socio-economic Development, Community Empowerment, Constitutional Framework, Grassroots Democracy.

1. Introduction:

Decentralization has emerged as a key paradigm in the governance of diverse and populous nations, aiming to foster local empowerment and participatory democracy. In the Indian context, the Panchayati Raj System represents a

monumental experiment in decentralized governance. Rooted in historical struggles for self-determination and codified in constitutional reforms, this system has sought to bring governance closer to the people, particularly in rural areas. This introduction provides a comprehensive overview of the historical evolution, constitutional foundations, and objectives of the Panchayati Raj System, setting the stage for an in-depth exploration of its impact on local governance and socio-economic development in India.

The roots of the Panchayati Raj System can be traced back to the pre-independence era when Mahatma Gandhi advocated for Gram Swaraj, or village self-governance. The idea was grounded in the belief that local communities, intimately connected with the challenges and aspirations of their residents, could best address their needs. This vision gained momentum during the struggle for independence, as the National Planning Committee, chaired by Jawaharlal Nehru, highlighted the importance of decentralized governance in shaping a free and equitable society. Post-independence, the idea of decentralization found expression in various policy documents, emphasizing the need to devolve power to the grassroots. However, it was the 73rd Amendment to the Constitution in 1992 that institutionalized the Panchayati Raj System, mandating the establishment of elected local bodies at the village, intermediate, and district levels. This historic moment marked a paradigm shift in India's governance structure, reflecting a commitment to democratic ideals and grassroots empowerment. The constitutional foundation of the Panchayati Raj System is enshrined in the 73rd Amendment, which inserted Articles 243 to 243-O into the Constitution. These articles delineate the powers, composition, and functions of Panchayats, laying the groundwork for a decentralized governance framework. The amendment not only recognized the significance of local self-government but also mandated the reservation of seats for Scheduled Castes, Scheduled Tribes, and women, ensuring inclusive representation at the grassroots.[1] The constitutional provisions not only define the structure of Panchayats but also prescribe their responsibilities, ranging from local economic development to social justice. The third tier of governance, encompassing the village, intermediate, and district levels, signifies a multilayered approach aimed at addressing the diverse needs of India's vast population. This research seeks to assess the impact of the Panchayati Raj System on local governance, socio-

economic development, and community empowerment in India. The study aims to understand the dynamics of its implementation, identifying successes, challenges, and potential areas for improvement. By adopting a mixed-methods approach, combining qualitative and quantitative analyses, the research endeavors to provide a nuanced and comprehensive evaluation of the system's effectiveness.

The significance of this study lies in its potential to contribute to the discourse on decentralized governance in India. As the Panchayati Raj System approaches three decades of implementation, a comprehensive assessment becomes imperative. The findings can inform policy decisions, offering insights into the strengths and weaknesses of the system. Additionally, the study may guide future research endeavors, identifying areas that demand further exploration within the realm of decentralized governance. The subsequent sections of this paper will delve into the historical evolution of the Panchayati Raj System, examining its implementation and functioning at the grassroots level. The study will explore its impact on local governance, considering factors such as transparency, accountability, and citizen participation. Additionally, the research will scrutinize the correlation between the Panchayati Raj System and socio-economic development, employing both qualitative and quantitative analyses. The challenges faced by the system, along with opportunities for improvement, will be critically discussed. The paper will conclude with a synthesis of findings and recommendations for enhancing the effectiveness of the Panchayati Raj System in fostering inclusive and sustainable grassroots development in India.

2. Historical Evolution and Constitutional Framework:

The historical evolution of the Panchayati Raj System is deeply rooted in India's pre-independence struggles and the vision of self-governance propagated by Mahatma Gandhi. During the freedom movement, Gandhi articulated the concept of Gram Swaraj, advocating for decentralized governance at the village level. This vision was a response to the socio-economic inequalities prevalent in rural India, emphasizing the need to empower local communities to address their unique challenges. The idea gained momentum as a means to achieve political and economic independence. Following independence in 1947, the idea of decentralization found expression in various policy documents. The National Planning Committee, chaired by Jawaharlal Nehru, recognized the importance of

devolving power to local levels in shaping a democratic and equitable society.[2]Despite these acknowledgments, concrete steps towards decentralized governance were limited in the early post-independence years. The pivotal moment in the institutionalization of the Panchayati Raj System came with the 73rd Amendment to the Constitution in 1992. This amendment inserted Articles 243 to 243-O into the Constitution, establishing the constitutional framework for Panchayats. The Amendment mandated the creation of a three-tiered system of Panchayats at the village, intermediate (block), and district levels. The constitutional provisions outlined the structural framework of the Panchayati Raj System. At the village level, the Gram Panchayat was established, comprising elected representatives from the village. The intermediate level included the Panchayat Samiti at the block level, while the Zila Parishad represented the district level. This multi-tiered structure aimed to ensure a comprehensive and localized approach to governance, addressing the diverse needs of India's varied regions. An integral aspect of the constitutional mandate was the provision for reservations in Panchayats. The 73rd Amendment mandated the reservation of seats for Scheduled Castes, Scheduled Tribes, and women at all levels. This affirmative action sought to address historical socio-economic disparities and enhance the representation of marginalized groups in local governance. A noteworthy aspect of the constitutional framework was the emphasis on women's participation in local governance. The Amendment mandated a significant percentage of seats reserved for women in Panchayats, recognizing the transformative potential of gender-inclusive decision-making at the grassroots level. This provision aimed to empower women politically and address gender disparities in rural governance. The constitutional provisions not only defined the structure of Panchayats but also delineated their responsibilities and powers. These ranged from local economic development, including agriculture and infrastructure, to social justice initiatives such as education and health. The constitutional framework aimed to empower Panchayats as effective institutions of self-governance capable of addressing the multifaceted challenges faced by local communities. The implementation of the Panchayati Raj System marked a significant departure from centralized governance models. It brought decision-making closer to the people, fostering grassroots democracy. Elected representatives at the village level became crucial nodes in the democratic fabric, accountable to their constituents and entrusted with the responsibility of

local governance. In conclusion, the historical evolution of the Panchayati Raj System reflects a journey from the pre-independence vision of Gram Swaraj to the constitutional mandate for decentralized governance. The 73rd Amendment, with its structural framework, reservations, and empowerment initiatives, laid the foundation for a transformative experiment in grassroots democracy. The subsequent sections of this paper will delve into the practical aspects of the Panchayati Raj System's implementation, assessing its impact on local governance, socio-economic development, and community empowerment in India.

3. Implementation and Functioning: The implementation of the Panchayati Raj System brought to life the constitutional vision of decentralized governance in India. At the forefront of this transformative process were the elected representatives at the village level—members of the Gram Panchayats. These representatives, chosen by the local populace, became the linchpin of grassroots governance, entrusted with the responsibility of addressing the unique challenges and aspirations of their communities.

The Gram Panchayats, as the foundational units of the Panchayati Raj System, were bestowed with a wide array of responsibilities. These ranged from local economic development initiatives, such as agriculture and rural infrastructure, to social justice endeavors, including education, healthcare, and sanitation. The decentralized approach aimed to ensure that decision-making on these critical matters was not only responsive but also reflective of the needs and priorities of the local populace.[3] At the intermediate level, the Panchayat Samiti and at the district level, the Zila Parishad played coordinating roles, connecting the village-level governance to broader regional development objectives. This multi-tiered institutional structure sought to facilitate a coordinated and integrated approach to governance, allowing for the pooling of resources and expertise at higher levels while ensuring local autonomy. One of the critical aspects of the functioning of the Panchayati Raj System was its emphasis on participatory decision-making. Gram Sabhas, or village assemblies, were envisioned as forums for collective deliberation and decision-making. These gatherings aimed to ensure that the entire community had a voice in shaping local policies and priorities, promoting a bottom-up approach to governance. Despite its transformative potential, the Panchayati Raj System faced challenges in achieving financial autonomy. While

the system conferred significant responsibilities upon local bodies, their financial resources often remained insufficient. Over-reliance on state governments for funds limited the ability of Panchayats to implement projects independently, hindering the realization of their developmental aspirations. Another challenge encountered in the implementation of the Panchayati Raj System was the need for administrative capacity building. Elected representatives at the grassroots level often faced challenges in navigating administrative processes and managing the complexities of governance. Strengthening administrative capacities became imperative to ensure effective policy implementation and service delivery. The constitutional mandate for reservations in Panchayats aimed to empower marginalized groups, including Scheduled Castes, Scheduled Tribes, and women. However, the effective realization of this vision faced hurdles. Challenges such as social prejudices, lack of awareness, and resistance to change posed barriers to the meaningful inclusion of marginalized communities in decision-making processes. An emerging trend in the functioning of the Panchayati Raj System was the integration of technology to enhance governance processes. Initiatives such as e-Gram Panchayats aimed to streamline administrative functions, improve transparency, and empower citizens through digital platforms. While these interventions held promise, challenges related to digital literacy and accessibility needed to be addressed for inclusive participation. The success of the Panchayati Raj System hinged on citizen participation and accountability. As local governance became more participatory, fostering a sense of ownership among community members, accountability mechanisms were essential. Transparency in decision-making, accessibility of information, and mechanisms for grievance redressal were crucial components to ensure the system's responsiveness to the needs of the people. In conclusion, the implementation and functioning of the Panchayati Raj System marked a significant departure from centralized governance models. While the system empowered local communities and brought decision-making closer to the people, challenges in financial autonomy, administrative capacity, and inclusive representation underscored the complexities of decentralized governance. The subsequent sections of this paper will delve into the impact of the Panchayati Raj System on local governance, socio-economic development, and community empowerment in India.

4. Impact on Local Governance:

The Panchayati Raj System has played a pivotal role in strengthening democratic foundations at the grassroots level in India. By decentralizing governance structures, the system has empowered local communities, enabling them to actively participate in decision-making processes. The establishment of elected Gram Panchayats and the promotion of Gram Sabhas have facilitated direct engagement of citizens, fostering a sense of ownership and accountability in local governance. One of the notable impacts of the Panchayati Raj System has been the enhancement of transparency and accountability in local governance. With decision-making processes conducted in open forums such as Gram Sabhas, citizens gain direct insight into the deliberations and choices made by their elected representatives. This transparency not only builds trust but also holds elected officials accountable for their actions, contributing to the overall integrity of the governance system. The decentralization of decision-making processes through Gram Sabhas has resulted in increased citizen participation. Local residents actively engage in discussions, express their concerns, and contribute to shaping policies that directly impact their communities. This participatory approach ensures that decisions are more reflective of the diverse needs and aspirations of the people, promoting a bottom-up governance model. The Panchayati Raj System has empowered local bodies to address and solve problems at the grassroots level efficiently. Elected representatives, intimately familiar with the challenges faced by their communities, are better positioned to identify and implement context-specific solutions. This localized problem-solving approach ensures that governance is responsive to the immediate needs of the population, contributing to more effective and sustainable outcomes. The constitutional mandate for reservations in Panchayats has played a crucial role in promoting social inclusion and empowerment.[4] The reservation of seats for Scheduled Castes, Scheduled Tribes, and women has led to the increased representation of marginalized groups in local governance. This not only empowers these communities politically but also addresses historical disparities by providing them a platform to influence and contribute to local development initiatives. While the Panchayati Raj System has made strides in promoting gender-inclusive governance, challenges persist in achieving equal representation. Despite reserved seats for women, deep-seated societal norms, and biases can hinder their effective participation. Addressing these

challenges requires not only policy support but also broader societal changes to ensure that women are not only present in governance bodies but actively involved in decision-making processes. The impact of the Panchayati Raj System on local governance is intricately tied to the issue of financial autonomy. While the constitutional provisions empower Panchayats with responsibilities, their ability to implement projects and programs hinges on adequate financial resources. Challenges in financial autonomy have been a persistent concern, limiting the autonomy of local bodies in resource allocation and hindering the full realization of their developmental aspirations. Efforts to enhance administrative capacity, including technological interventions like e-Gram Panchayats, have aimed to improve efficiency and service delivery at the local level. The introduction of digital platforms facilitates smoother administrative processes, transparent record-keeping, and improved accessibility of information. However, challenges related to digital literacy and infrastructure must be addressed to ensure the inclusivity of these initiatives.

The decentralization of governance through the Panchayati Raj System has contributed to the strengthening of community cohesion and social capital. Local governance structures foster a sense of community ownership, collaboration, and shared responsibility for development. This social capital becomes a valuable resource, facilitating collective action, resilience, and a sense of belonging among community members. By providing a platform for open dialogue and dispute resolution at the grassroots level, the Panchayati Raj System has played a role in mitigating local conflicts. Local disputes, often rooted in specific socio-economic or cultural contexts, can be addressed more effectively by representatives intimately familiar with the local dynamics. The system provides mechanisms for conflict resolution, promoting harmony and stability within communities. In conclusion, the impact of the Panchayati Raj System on local governance in India is multifaceted. It has strengthened democratic foundations, promoted transparency and accountability, empowered communities in decision-making, and contributed to localized problem-solving. While challenges in gender representation, financial autonomy, and administrative efficiency persist, the system's positive impacts on social inclusion, community cohesion, and conflict resolution underscore its significance in fostering grassroots development. The subsequent sections of this

paper will delve into the system's influence on socio-economic development and community empowerment in India.

5. Socio-economic Development:

The Panchayati Raj System, since its inception, has been envisioned as a catalyst for rural development in India. By decentralizing governance structures, the system seeks to address the diverse socio-economic challenges faced by rural communities. This section explores the impact of the Panchayati Raj System on various dimensions of socio-economic development, including infrastructure, healthcare, education, and economic empowerment. One of the significant impacts of the Panchayati Raj System has been the promotion of infrastructure development at the local level. Elected representatives, attuned to the specific needs of their communities, play a pivotal role in identifying and prioritizing infrastructure projects. This localized decision-making ensures that development initiatives align closely with the aspirations of the residents, leading to more targeted and effective infrastructure development. [5] The Panchayati Raj System contributes to local economic empowerment by fostering initiatives that stimulate economic growth at the grassroots level. Gram Panchayats, with their knowledge of local resources and needs, can strategize and implement economic development projects. This includes supporting local industries, promoting agriculture, and creating opportunities for small-scale enterprises, thereby boosting the overall economic well-being of the community. Decentralized governance through the Panchayati Raj System has had a positive impact on healthcare initiatives in rural areas. Local bodies play a crucial role in identifying health priorities, planning healthcare programs, and ensuring the effective delivery of health services. This bottom-up approach enhances the responsiveness of healthcare systems to the specific health challenges faced by different communities, contributing to improved health outcomes.

The Panchayati Raj System plays a pivotal role in advancing education in rural areas. Local representatives are instrumental in identifying educational needs, ensuring the availability of schools, and promoting educational programs. The constitutional mandate for reservations has also facilitated the increased participation of marginalized communities in educational governance, fostering a more inclusive and equitable education system. Access to clean water and

sanitation is a critical aspect of socio-economic development. The Panchayati Raj System has been instrumental in driving local initiatives for water conservation and sanitation. Gram Panchayats, with their knowledge of local geography and water resources, can implement projects that address water scarcity, improve water quality, and promote sanitation practices, contributing to enhanced community well-being. While the Panchayati Raj System has made significant contributions to socio-economic development, challenges persist in the effective implementation of developmental projects. Financial constraints, administrative hurdles, and variations in the capacity of different Panchayats pose challenges to the uniform implementation of projects. Addressing these challenges is crucial to ensuring the equitable and sustainable development of rural areas. The constitutional provisions for reservations have played a transformative role in advancing women's empowerment and livelihoods. Women's participation in local governance bodies has increased, providing them with a platform to influence policies and programs. This, in turn, has contributed to the implementation of projects that specifically address women's needs, including skill development initiatives, microfinance programs, and entrepreneurship opportunities. Technological interventions, such as e-Gram Panchayats, have the potential to further accelerate socio-economic development. These initiatives aim to streamline administrative processes, enhance transparency, and facilitate citizen engagement. Digital platforms can also be leveraged for skill development, education, and e-governance, contributing to the overall socio-economic upliftment of rural communities.

While the Panchayati Raj System promotes inclusive growth, regional disparities in socio-economic development persist. Factors such as geographical location, historical disparities, and variations in the capacity of local bodies contribute to uneven development outcomes. Addressing regional disparities requires targeted interventions, focused on building the capacity of underdeveloped regions and ensuring equitable resource allocation. Socio-economic development through the Panchayati Raj System should be aligned with principles of environmental sustainability. Local bodies can play a role in implementing eco-friendly practices, promoting sustainable agriculture, and initiating conservation projects. Balancing development with environmental preservation ensures the long-term well-being of communities and contributes to the overall sustainability of developmental

initiatives. In conclusion, the Panchayati Raj System has significantly impacted socio-economic development in India. From infrastructure projects to healthcare, education, and economic empowerment, the system has played a crucial role in addressing the diverse needs of rural communities. Challenges in implementation, regional disparities, and the need for environmental sustainability present ongoing considerations for policymakers. The subsequent sections of this paper will explore the impact of the Panchayati Raj System on community empowerment and discuss challenges and opportunities for its continued effectiveness.

6. Challenges in the Implementation of Panchayati Raj System:

Financial Autonomy: One of the persistent challenges faced by the Panchayati Raj System is the limited financial autonomy of local bodies. Despite being entrusted with significant responsibilities, Panchayats often rely heavily on state governments for funds, constraining their ability to implement developmental projects independently. Ensuring financial empowerment at the local level is crucial for the effective functioning of the system.

Administrative Capacity: Another challenge lies in the administrative capacity of elected representatives. Navigating complex administrative processes, managing budgets, and executing projects require administrative skills that may not always align with the backgrounds of elected members.[6] Strengthening the administrative capacity of local bodies through training and support is essential for efficient governance.

Gender Representation: While strides have been made in promoting gender-inclusive governance, challenges persist in achieving equal representation. Deep-seated societal norms and biases can hinder the effective participation of women in local governance. Addressing these challenges requires not only policy support but also broader societal changes to ensure meaningful inclusion and participation of women in decision-making processes.

Regional Disparities: The decentralized nature of the Panchayati Raj System has led to variations in the capacity of different Panchayats, contributing to regional disparities in development outcomes. Underdeveloped regions may face challenges in resource allocation, hindering their ability to implement projects effectively. Targeted interventions are necessary to address these regional disparities and ensure equitable development.

7. Opportunities for Improvement:

Strengthening Financial Autonomy: Addressing the financial autonomy of Panchayats is crucial for unlocking their full potential. Empowering local bodies with more control over financial resources can enable them to plan and implement projects based on local needs. This requires reforms in fiscal decentralization, ensuring a more equitable distribution of funds and greater financial independence for Panchayats.

Capacity Building Initiatives: Investing in capacity building initiatives is an opportunity to enhance the administrative competence of elected representatives. Training programs, workshops, and knowledge-sharing platforms can equip them with the skills needed for effective governance. Collaboration with academic institutions, NGOs, and experienced administrators can contribute to building a pool of capable leaders at the grassroots level.[7]

Promoting Inclusive Governance: Further efforts are needed to address challenges in gender representation and promote inclusive governance. This includes raising awareness, providing support mechanisms for women leaders, and encouraging the active involvement of marginalized communities. Ensuring diversity in decision-making bodies enhances the representation of various perspectives, contributing to more inclusive and effective governance.

Harnessing Technology: Leveraging technology, such as e-Gram Panchayats, presents an opportunity to streamline administrative processes, enhance transparency, and improve citizen engagement. Digital platforms can facilitate efficient service delivery, information dissemination, and participatory governance. Embracing technological advancements can contribute to the overall effectiveness of the Panchayati Raj System.

Environmental Sustainability: Integrating principles of environmental sustainability into the Panchayati Raj System provides an opportunity for holistic development. Local bodies can champion eco-friendly practices, promote sustainable agriculture, and initiate conservation projects. Balancing development with environmental preservation ensures the long-term well-being of communities and aligns with global sustainability goals.

8. Balancing Tradition and Innovation:

Preserving Local Culture: The Panchayati Raj System operates in diverse cultural contexts, and preserving local traditions is essential. While embracing innovation, it is crucial to ensure that development initiatives respect and preserve the cultural heritage of communities. This requires a careful balance between tradition and innovation to foster sustainable and culturally sensitive development.

Innovative Livelihood Opportunities: Encouraging innovative livelihood opportunities is vital for economic empowerment. Local bodies can explore and support entrepreneurial ventures that align with the unique strengths and resources of their communities. From promoting local crafts to fostering sustainable tourism, innovation in livelihood options can contribute to economic growth and community well-being.

Community-Led Development Projects: Empowering communities to lead their development projects fosters a sense of ownership and ensures that initiatives align with local priorities. The Panchayati Raj System can facilitate participatory planning processes, encouraging communities to identify and implement projects that address their specific needs. This bottom-up approach contributes to sustainable development outcomes.

Citizen Engagement: Strengthening citizen engagement is fundamental to democratic governance. Panchayats can adopt proactive measures to involve citizens in decision-making processes, ensuring that governance remains responsive to the needs and aspirations of the people. This can be achieved through regular town hall meetings, participatory budgeting, and transparent communication channels.

Inclusive Policy Formulation: Policymaking at the local level should be inclusive, considering the diverse perspectives of community members. Panchayats can adopt inclusive policy formulation processes that actively involve marginalized groups, women, and other underrepresented sections of society. Inclusive policies contribute to equitable development and social justice.

Targeted Healthcare Programs: Tailoring healthcare programs to address specific regional health challenges is crucial for improving healthcare outcomes.

Panchayats can collaborate with healthcare professionals to design targeted programs that focus on prevalent health issues in their communities. This approach ensures that healthcare initiatives are relevant and effective.

Health Education Initiatives: Promoting health education initiatives at the grassroots level can empower communities to make informed decisions about their well-being. Panchayats can implement awareness campaigns, workshops, and outreach programs to disseminate information on preventive healthcare, hygiene practices, and healthy lifestyles. Health education contributes to building a healthier and more informed community.

In conclusion, while challenges persist in the implementation of the Panchayati Raj System, there are significant opportunities for improvement and innovation. Strengthening financial autonomy, capacity building initiatives, promoting inclusive governance, harnessing technology, and addressing environmental sustainability present avenues for enhancing the system's effectiveness. Balancing tradition and innovation, empowering communities, and strengthening democratic governance are crucial for ensuring that the Panchayati Raj System continues to be a powerful instrument for grassroots development in India.

9. Recommendations for Future Research:

1. **Long-Term Impact Assessment:** Conduct longitudinal studies to assess the long-term impact of the Panchayati Raj System on local governance, socio-economic development, and community empowerment. Tracking trends and changes over an extended period can provide insights into the sustained effectiveness of the system.
2. **Comparative Analysis:** Undertake comparative analyses of Panchayati Raj implementation across different states and regions in India. This approach can reveal variations in outcomes, contributing to a more nuanced understanding of factors influencing success or challenges in different contexts.
3. **In-depth Gender Studies:** Conduct in-depth studies focusing on gender dynamics within Panchayats. Explore the experiences of women in leadership roles, the

impact of reservations, and the challenges they face. Additionally, investigate the role of women in driving gender-sensitive policies at the grassroots level.[8]

4. Digital Governance Impact: Investigate the impact of digital governance initiatives, such as e-Gram Panchayats, on administrative efficiency, transparency, and citizen engagement. Assess the digital divide, identify barriers to access, and explore the potential of technology in overcoming governance challenges.

5. Capacity Building Interventions: Evaluate the effectiveness of capacity building interventions for elected representatives. Examine the impact of training programs, workshops, and mentorship initiatives on enhancing administrative skills, decision-making, and overall governance competency.

6. Community Perception Studies: Explore community perceptions of the Panchayati Raj System through qualitative studies. Understand how local residents perceive the effectiveness of local governance, their level of satisfaction, and the extent to which they feel empowered in decision-making processes.

7. Environmental Impact Assessment: Conduct assessments of the environmental impact of development projects initiated by Panchayats. Explore how local governance can contribute to sustainable practices, conservation efforts, and the mitigation of environmental challenges in diverse geographical contexts.

8. Case Studies on Innovative Practices: Undertake case studies on Panchayats that have successfully implemented innovative development practices. Analyze initiatives such as sustainable livelihood programs, community-led projects, or unique approaches to address local challenges. Extract lessons that can be applied in different settings.

9. Policy Evaluation: Evaluate the impact of policy changes or reforms related to the Panchayati Raj System. Assess the outcomes of specific policy interventions, constitutional amendments, or legislative changes to understand their implications for local governance and community development.

10. Cross-Sectoral Impact Analysis: Explore the cross-sectoral impact of the Panchayati Raj System on various aspects of development, including education, healthcare, agriculture, and infrastructure. Investigate how integrated and

coordinated efforts across sectors contribute to comprehensive and sustainable community development.

11. Comparative International Studies: Expand research by comparing the Panchayati Raj System with decentralized governance models in other countries. Identify best practices, lessons learned, and innovative approaches from global experiences in grassroots governance.

12. Assessment of Inclusive Policies: Evaluate the effectiveness of inclusive policies aimed at addressing socio-economic disparities. Examine the impact of reservations for marginalized groups and women, exploring how these policies contribute to empowerment and equitable development.

13. Participatory Action Research: Embrace participatory action research methodologies involving local communities in the research process. Collaborate with Panchayats and community members to identify research questions, co-design interventions, and assess the impact of research findings on local governance practices.

14. Impact on Vulnerable Communities: Investigate the specific impact of the Panchayati Raj System on vulnerable and marginalized communities, including Scheduled Castes, Scheduled Tribes, and economically disadvantaged groups. Assess how inclusive policies translate into tangible improvements in their socio-economic conditions.

15. Policy Recommendations for Reform: Based on research findings, develop specific policy recommendations for reforming and enhancing the effectiveness of the Panchayati Raj System. Considerations may include legislative amendments, policy adjustments, and institutional strengthening to address identified challenges and capitalize on opportunities for improvement.

By focusing on these recommendations, future research endeavors can contribute to a more comprehensive understanding of the Panchayati Raj System's impact and offer insights that inform evidence-based policy decisions for the continued advancement of decentralized governance in India.

Conclusion: Fostering Grassroots Development through Panchayati Raj System:

The Panchayati Raj System in India stands as a visionary experiment in decentralized governance, rooted in principles of democracy, community empowerment, and inclusive development. As we conclude our exploration of this multifaceted system, it is evident that the journey of the Panchayati Raj over the past three decades has been marked by notable successes, persistent challenges, and promising opportunities for future growth. The Panchayati Raj System has undeniably succeeded in bringing governance closer to the people. Through elected representatives at the village level, communities have gained a voice in decision-making processes, steering the direction of their own development. This localized approach has fostered transparency, accountability, and citizen participation, strengthening the democratic fabric at the grassroots.[9] Transcending the political realm, the system has catalyzed tangible socio-economic development. Infrastructure projects, economic initiatives, and advancements in healthcare and education bear witness to the transformative power of local governance. The reservation of seats for marginalized groups, particularly women, has contributed to social inclusion, breaking traditional barriers and creating avenues for empowerment.

The Panchayati Raj System has also served as a laboratory for innovative practices. Whether through digital governance initiatives like e-Gram Panchayats or community-led development projects, the system has showcased adaptability and a willingness to embrace technological advancements for efficient governance. However, the journey has not been without hurdles. Financial autonomy remains a persistent challenge, limiting the ability of local bodies to independently implement projects. The delicate balance between tradition and innovation requires careful navigation to ensure that cultural heritage is preserved while embracing modern development practices. Gender disparities, despite reservation policies, continue to pose challenges. Deep-rooted societal norms and biases demand sustained efforts to foster an environment where women can not only participate in governance but actively contribute to shaping policies and initiatives. Regional disparities in capacity and development outcomes highlight the need for targeted interventions. Underdeveloped regions often face barriers in resource allocation,

hindering their ability to realize the full potential of the decentralized governance model. Amidst these challenges lie significant opportunities for the future. Strengthening financial autonomy, investing in capacity building, and leveraging technology present pathways for improvement. The Panchayati Raj System can evolve by embracing digital governance tools, ensuring that administrative capacities are enhanced, and fostering an environment where local bodies have the financial independence to innovate and implement projects tailored to their communities' needs. Promoting inclusive governance, particularly with a focus on women's participation, opens avenues for more diverse and representative decision-making. Addressing regional disparities through targeted development programs ensures that the benefits of decentralized governance are equitably distributed across the nation. Environmental sustainability can be woven into the fabric of the Panchayati Raj System, aligning development initiatives with principles of conservation and eco-friendly practices. As India and the world grapple with pressing environmental challenges, local governance can play a pivotal role in fostering sustainable practices at the grassroots level. In conclusion, the Panchayati Raj System has traversed a remarkable journey, leaving an indelible mark on India's governance landscape. Its successes in promoting democratic ideals, socio-economic development, and community empowerment underscore its significance. As we navigate the complexities of the present and chart the course forward, it is imperative to address persistent challenges while seizing the abundant opportunities for growth. The Panchayati Raj System stands at the intersection of tradition and modernity, localism and globalism. Its evolution is not merely a reflection of administrative restructuring but a testament to the democratic aspirations of a diverse and dynamic nation. By harnessing the successes, confronting challenges, and embracing opportunities, the Panchayati Raj System can continue to be a beacon for grassroots development, fostering a future where governance is not only of the people and for the people but truly by the people.

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ABS-003

CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT

Responsibility of individuals and social entities such as organizations and companies to act in such a way to benefit their environments and society as a whole social responsibility is a duty for every individual or organizations to perform so as to maintain a balance between the economy and the Eco system. Depending on the business and industry, corporate social responsibility is a broad term that can take many different shapes. Businesses may help society while enhancing their brands by participating in CSR initiatives, volunteering, and charity. A firm must be accountable to its stakeholders and to itself before it can be considered socially responsible. Businesses that participate in CSR initiatives frequently have developed to the point where they are able to contribute to the community. As a result, big businesses usually employ CSR as a strategy. Corporate Social Responsibility (CSR) has equal value for a corporation as it does for the society. CSR initiatives can strengthen the relationship between workers and businesses, improve morale, and help both parties feel more a part of the world

Keywords: social responsibility, stakeholder, accountability

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ABS-004

DIGITAL MARKETING – A REVIEW**Mrs. Kavita Jangid**

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ABSTRACT

In the age of globalization in the 21st century, the internet plays a very important role in people's daily lives and business life. The Internet is a versatile place that helps people complete many simple and complex tasks easily and effortlessly. The easy way with just a few clicks nowadays, digital marketing has become a hot topic for many businesses and plays an important role in every company's marketing strategy. "Using the Internet as a virtual store to sell products directly to consumers (Kiang et al. 2000, P.383) Digital marketing involves the use of online channels to sell or promote products or services. These channels can be used in many ways..., from advertising and content marketing to pay-per-click (PPC) advertising and search engine optimization (SEO). On the business side, digital marketing allows you to connect with potential and existing customers; this is important for business and brand awareness. Digital marketing is important because it allows you to be creative and stand out from your competitors in a crowded market. Not only is this important from a business perspective, but customers now rely on it as a way to learn about the company. Through this article, I want to clarify the concept of digital

marketing, its different tools, then explain in more detail the social and business problems that arise in online commerce, draw solutions and conclusions.

Keywords: digital marketing, online marketing tools, challenges and solutions, search engine optimization, pay per click

ABS-005

BANKING TECHNOLOGY IN INDIA: PRESENT STATUS & FUTURE TRENDS

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ABSTRACT

The current status and emerging trends in banking technology, The Banking sector has embraced the use of technology to server its client's faster and also to do more with less. There is a close relationship between the development of banking sector and the new innovations in technology. The present research focuses on the benefits and challenges of changing banking trends. The term "Banking technology in India" interrelate to use of sophisticated information and conveying technologies together with computer science to enable banks to offer many good services to its customers in a secure. Banking technologies used to delivering services to customers. Many benefits of this technology like profitability, faster service and flexibility, customer satisfaction, 24X7process. In this research, I am focusing major technology trends API which will help in addressing the customer and business demands and also included latest banks technology.

KEYWORDS: Raised, Innovation, Mobile Banking, Quality, Banking Technology.

ABS-006

BEST PRACTICES OF MANAGEMENT FROM BHAGAVAD GITA**Mrs. Rachna**

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ABSTRACT

This research paper aims to explore and analyze the timeless wisdom embedded in the Bhagavad Gita and its application as a guide to best management practices in the contemporary corporate landscape. The Bhagavad Gita, a revered ancient Indian scripture, offers profound insights into leadership, decision making, and ethical conduct. Drawing on the verses of the Gita, this study delves into key managerial principles that can be extracted and applied to enhance organizational effectiveness and leadership excellence. The paper begins with an overview of the Bhagavad Gita, highlighting its historical and philosophical significance. It then focuses on specific chapters and verses that elucidate principles relevant to modern management. Topics include strategic decision-making, team dynamics, conflict resolution, and the cultivation of ethical leadership. Through a comparative analysis with established management theories, the research establishes connections between the Gita's teachings and contemporary business literature. Case studies and real-world examples are employed to illustrate the practical application of Bhagavad

Gita principles in corporate settings. The study also addresses potential challenges and limitations in integrating these ancient teachings into modern management practices. Emphasis is placed on the adaptability of the Gita's principles to diverse organizational cultures and leadership styles. The findings of this research contribute to the burgeoning field of spiritual and ethical leadership, offering a unique perspective that transcends cultural and religious boundaries. The paper concludes with recommendations for organizational leaders and executives seeking to incorporate the Bhagavad Gita's wisdom into their management philosophy, fostering a holistic and values-driven approach to leadership in the 21st century.

ABS-007

E-COMMERCE IN INDIA: CURRENT SCENARIO AND FUTURE PROSPECTUS

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ABSTRACT

The present study has been undertaken to describe the present and future prospects of Indian E-Commerce industry. The study examined the current trends, benefits, growth drivers, challenges and future prospects of E-Commerce in India to achieve the objectives and revealed that the E-commerce in India has become a vital part of everyday life and now-a-days it's not a privilege but a necessary for the society as it becomes one of the most preferred means of shopping. The e-commerce landscape is constantly increasing in terms of number of internet users and expected to reach 700 million (Nielsen's India Internet Report) by Dec. 2022, moreover, the retail e-commerce IBEF is projected to reach 27 per cent from 2023-2026. This rapid growth rate promises a great future for the Indian e-commerce Industry signifying a strong market and increased consumer demand. Further the study revealed that in spite of the opportunities, it provided to the wholesalers, retailers, producers and the people; Indian e-

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commerce industry faces many challenges. The e-infrastructure issues, tax related issues, preference of cash on delivery poor knowledge and awareness of consumers, etc. are becoming the key challenges for the Indian e-commerce companies. E-commerce in India should take these challenges as an opportunity to overcome the various bottlenecks in the way of e-commerce. In nutshell, it can be said that there is no contradicting fact that e-commerce has re-entered India and is here to stay.

KEYWORDS: E-commerce, Internet Users, E merchandise, E-finance, Online Shopping

ABS-008

GREEN ACCOUNTING : URGENT NEED OF MODERN WORLD

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ABSTRACT

Green or environmental accounting is a new concept of traditional accounting system. It refers to modification of the accounting system to incorporate the use or depletion of natural or environmental resources. Green accounting gives data which highlight both the contribution of environmental resources to economic development and the costs imposed by pollution or natural resource degradation. In recent years, environmental degradation and degeneration are reached its high level, because of air, water, land and sound pollution, soil erosion, deforestation, global warming etc. which leads to spoils human health, reduces economic productivity and loss of amenities. In the present scenario, environmental degradation or pollution has become major problem and environment safety issue become main concentration of almost all organizations or companies. To save and salvage the country, it is highly essential to make appropriate laws and policies in green accounting and implement the same without

further loss of time. The purpose of the present paper is to study the basic concept of green accounting and analyze the available literature based on the green accounting.

KEYWORDS: Green Accounting, CSR, Environmental Degradation, Green GDP.

ABS-009

लैंगिक विषमता सामाजिक विकास में बाधक

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लिंग शब्द का तात्पर्य पुरुष या महिला होने से जुड़े आर्थिक, सामाजिक और सांस्कृतिक गुणों और अवसरों से है। अधिकांश समाजों में, पुरुष या महिला होना केवल विभिन्न जैविक और शारीरिक विशेषताओं का मामला नहीं है। पुरुषों और महिलाओं को इस बारे में अलग-अलग अपेक्षाओं का सामना करना पड़ता है कि उन्हें कैसे कपड़े पहनने चाहिए, कैसा व्यवहार करना चाहिए या काम करना चाहिए। पुरुषों और महिलाओं के बीच संबंध, चाहे परिवार में हों, कार्यस्थल पर हों या सार्वजनिक क्षेत्र में हों, महिलाओं और पुरुषों के लिए उपयुक्त प्रतिभाओं, विशेषताओं और व्यवहार की समझ को भी दर्शाते हैं। महिलाएं और लड़कियाँ दुनिया की आधी आबादी का प्रतिनिधित्व करती हैं और इसलिए इसकी क्षमता का भी आधा हिस्सा हैं। लेकिन लैंगिक असमानता हर जगह बनी हुई है और सामाजिक प्रगति को अवरुद्ध कर रही है। लिंग भेदभाव तब होता है जब किसी के साथ उसके लिंग के आधार पर असमान या नुकसानदेह व्यवहार किया जाता है, या उसे दूसरे लिंग के व्यक्ति के समान अवसर नहीं दिए जाते हैं। ऐसा तब भी होता है जब कोई नियम या नीति सभी पर लागू होती है लेकिन किसी व्यक्ति को उसके लिंग के आधार पर नुकसान पहुंचाती है और नीति उचित नहीं होती है। लेकिन जरूरी नहीं कि वह यौन प्रकृति का हो। इसमें लिंग, लिंग पहचान या लिंग अभिव्यक्ति के आधार पर उत्पीड़न/भेदभाव शामिल है। लिंग भेदभाव अक्सर पूर्वकल्पित, गलत

सामाजिक और व्यक्तिगत धारणाओं में निहित होता है। लैंगिक असमानता का तात्पर्य लैंगिक आधार पर महिलाओं के साथ भेदभाव से है। परंपरागत रूप से समाज में महिलाओं को कमजोर वर्ग के रूप में देखा जाता रहा है। वे घर और समाज दोनों जगहों पर शोषण, अपमान और भेदभाव से पीड़ित होती हैं। महिलाओं के खिलाफ भेदभाव दुनिया में हर जगह प्रचलित है। वैश्विक लैंगिक अंतराल रिपोर्ट, 2020 के अनुसार भारत 153 देशों में 112वें स्थान पर रहा। इससे साफ तौर पर अंदाज़ा लगाया जा सकता है कि हमारे देश में लैंगिक भेदभाव की जड़ें कितनी मज़बूत और गहरी हैं। लैंगिक असमानता के अनेक कारण हैं, प्रारम्भ से ही पुरुष प्रधान समाज का पाया जाना। स्त्रियों पर पुरुषों का वर्चस्व रहा है जनजातीय समुदायों के अलावा सभी समाजों में सामाजिक व्यवस्था पुरुष प्रधान ही रही है सामाजिक व्यवस्था का उन्नयन पुरुषों द्वारा ही होता है। इसी कारण स्त्रियों को पुरुषों के समान दर्जा प्राप्त नहीं हो सका। देश की ग्रामीण सामाजिक प्रणाली भी लैंगिक असमानता का कारण रही है ग्रामीण सामाजिक व्यवस्था में स्त्रियों को घर के अंदर रहकर घरेलू कार्य करने होते हैं। शिक्षा का अभाव भी लैंगिक असमानता का कारण रहा है, स्त्रियों के अशिक्षित होने के कारण वे अंधविश्वासों तथा मनगढ़ंत धार्मिक गाथाओं की झूठी बातों में दबी रहती है। इस प्रकार से एक देश के सामाजिक विकास में यह लैंगिक असमानता रुकावट पैदा करती है। लैंगिक असमानता वाले राष्ट्र गरीबी, बेरोजगारी और आर्थिक कठिनाइयों का अनुभव करते हैं। लैंगिक असमानता महिलाओं और पूरी अर्थव्यवस्था के विकास को कम कर देती है।

ABS-010

सतत विकास की अवधारणा एव ग्रामीण विकास
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सारांश

सतत विकास एक दूरदर्शी योजना है, जो आर्थिक विकास सामाजिक न्याय संगतता और पर्यावरण संरक्षण के समावेशन से विकास का आह्वान करती है जो विकास के लिए भविष्य पीढ़ियों की आवश्यकता को ध्यान में रखते हुए वर्तमान की आवश्यकताओं को पूर्ण करती है, इसके केन्द्र में न्याय संगत एवं समावेशी समाज और लोग हैं। ग्रामीण विकास की अवधारणा सतत विकास के केन्द्र में है। सतत ग्रामीण विकास राष्ट्रीय की आर्थिक, सामाजिक और पर्यावरणीय व्यवहार्यता के लिए महत्वपूर्ण है। गरीबी उन्मूलन के लिए यह आवश्यक है क्योंकि वैश्विक निर्धनता का अधिकांश हिस्सा ग्रामीण है, वस्तुतः सतत विकास तथा Windows ग्रामीण विकास एक ही सिक्के के दो पहलू हैं।

ABS-011

वर्तमान में लिंग विभेद संबंधी मुद्दे

डॉ. सुमन बुगालिया

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लिंग विभेद समाज की दृष्टि में व्याप्त पुरुषों और स्त्रियों के बीच अन्तर है। पुरुषों को पारम्परिक रूप से समाज में सक्रिय भूमिका में दर्शाया जाता है। जबकि स्त्रियों को एक श्रृंगार की वस्तु के रूप में अधिक दर्शाया गया है। 1980 में आयोजित कोपेनहेगन विश्व महिला सम्मेलन की रिपोर्ट में यह अंकित है कि विश्व में कुल संख्या का 50 प्रतिशत महिलाएं हैं। और एक तिहाई महिलाएं श्रमिक शक्ति हैं, कुल कार्य घटो का दो तिहाई कार्य महिलाएं करती हैं, किन्तु विश्व की आय का 10 वाँ हिस्सा ही उनके पास पहुँचता है। विभिन्न शोध एवं अध्ययनों के समग्र रूप से उन मुद्दों की पहचान करली गई है, जिनका सम्बद्ध महिलाओं के प्रति भेद भाव से है। संक्षेप में ये मुद्दे हैं- गर्भ परीक्षण में गर्भस्थ शिशु लड़की होने पर उसका गर्भपात, लड़की पैदा होने पर मा की उपेक्षा, पुत्री जन्म पर किसी प्रकार का समारोह आयोजित न किया जाना बालिकाओं को या तो बिल्कुल ही न पढ़ाना या साधारण से स्कूल में पढ़ाना। छोटे भाई बहिनों को खिलाने की जिम्मेदारी। लड़कों की तुलना में लड़कियों को मुक्त भाव से आने-जाने, सहेलियों से मिलने-जुलने, मेला बाजार आदि जाने की छूट या तो कम प्रदान करना या बिल्कुल ही प्रदान न करना। कार्यस्थल पर यौन उत्पीड़न करना। शारीरिक रूप से परिपक्व हुए बिना ही विवाह कर देना। सभी प्रकार से योग्य होने के बावजूद कन्या से विवाह करने पर दहेज लिया जाना। पिता की सम्पत्ति में पुत्रियों को पुत्रों के समान उत्तराधिकार प्राप्त न होना। लिंग विभेद की यह समस्या केवल भारत के सन्दर्भ में ही नहीं है अपितु शेष विश्व में भी कमोवेश ऐसी ही है। अमरीका के राष्ट्रपति पद पर आज तक कोई महिला निर्वाचित नहीं हुई है। फ्रांस और जापान जैसे देश की विधायिका में महिला सांसदों का प्रतिशत क्रमश 7 और 5 से भी नीचे है लोकतांत्रिक व्यवस्था के अग्रणी देश ब्रिटेन की संसद में महिला सांसदों की वर्तमान संख्या 20 प्रतिशत तक सीमित है।

भारत में महिलाओं को सशक्त बनाने के लिए राष्ट्रीय महिला सशक्तिकरण नीति 2001 में लागू की गई है। 1990 में संसद के एक अधिनियम द्वारा राष्ट्रीय महिला आयोग की स्थापना की गई। भारतीय संविधान में 73 वें और 74 वें संशोधनों (1993) द्वारा महिलाओं के लिए पंचायतों और नगरपालिकाओं के स्थानीय निकायों में सीटों में आरक्षण का प्रावधान किया गया है महिलाओं के विरुद्ध सभी प्रकार के भेद-भाव की समाप्ति कि दिशा में सर्वाधिक महत्वपूर्ण पहल उस समय हुई जब 18 दिसम्बर 1979 को यू०एन०ओ० की महासभा ने महिलाओं के विरुद्ध सभी प्रकार के भेद भाव की समाप्ति पर अभि समय को सर्वसम्मति से स्वीकार किया। इसमें 30 अनुच्छेद हैं जो महिलाओं को समान अधिकार प्रदान करने में सहयोग करेंगे।



INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE

ASM-001

A BRIEF INTRODUCTION ABOUT LINEAR TRANSFORMATIONS AND ITS APPLICATIONS**SHANKAR LAL¹, SARITA KUMARI², VANDANA KUMARI³**

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ABSTRACT

In the study of algebra, linear transformations have significant role. This article will address several aspects of linear transformations, covering from their definition to examples including kernels. There are many different forms of linear transformations since these transformations can be specified on either finite or infinite spaces. It goes under several names, including vector space homomorphism, mapping, and linear maps. Functions that satisfy the property under vector additions and scalar multiplications are referred to as linear transformations. Further, we shall also cover the rank and nullity of linear transformations, as well as the Sylvester's theorem, sometimes referred as the rank-nullity theorem and its applications. The purpose of this overview is to provide a comprehensive knowledge of linear transformations and their importance in various scientific disciplines and the field of mathematics.

Key words: - Image, range, vector space, kernel, linear transformation, dimension, rank and nullity.

ASM-002

THE STRUCTURE OF FINITE FIELDS**DEEPAK KUMAR SHARMA**

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ABSTRACT

Finite fields, also known as Galois fields, are algebraic structures with remarkable properties that have found applications in various fields, including coding theory, cryptography, and computer science. This review paper delves into the fundamental concepts of finite fields, exploring their structure, properties, and applications. We begin with a definition of finite fields and discuss their basic properties, such as characteristic, order, and subfields. We then explore the concept of irreducibility and primitive elements, which are crucial for constructing finite fields. Subsequently, we delve into the construction of finite fields using polynomial rings and discuss the existence and uniqueness of fields with a given order. Finally, we touch upon the applications of finite fields, highlighting their significant role in various areas.

Keywords: finite fields, Galois fields, characteristic, order, subfields, irreducibility, primitive elements, polynomial rings, coding theory, cryptography, computer science.

1. Introduction:

Finite fields, first introduced by Evariste Galois in the early 19th century, are finite sets equipped with addition and multiplication operations that satisfy the axioms of a field. These fields, also known as Galois fields, possess unique properties that have made them invaluable tools across diverse disciplines. From their applications in coding theory and cryptography to their role in computer science and **ABSTRACT** algebra, finite fields continue to be a subject of extensive research and practical implementation.

2. Basic Properties:

A finite field F is characterized by its order q , which represents the number of elements in the field. The addition and multiplication operations in F are defined to satisfy the field axioms, including associativity, commutativity, distributivity, and the existence of additive and multiplicative identities. A key property of finite fields is their characteristic, which is the

smallest positive integer p such that p times the identity element equals zero. If no such integer exists, the field is said to have characteristic zero.

3. Subfields and Isomorphism:

Subfields of a finite field F are subsets of F that are themselves fields under the induced operations. The existence of subfields is crucial for understanding the structure of finite fields and their relationships to other fields. Two finite fields are considered isomorphic if there exists a bijection between their elements that preserves the field operations. Isomorphism allows us to classify finite fields based on their structure and properties.

4. Irreducibility and Primitive Elements:

In the construction of finite fields, polynomial rings play a significant role. An irreducible polynomial over a field F is a polynomial that cannot be factored into a product of non-constant polynomials. Irreducible polynomials are crucial for defining the structure of finite fields, as they can be used to construct fields of a specific order. Additionally, primitive elements are essential for the construction of finite fields. A primitive element of a finite field F is an element that generates all the non-zero elements in F under repeated addition.

5. Construction of Finite Fields:

Finite fields can be constructed using different methods. One common approach involves constructing a polynomial ring over a field and then using an irreducible polynomial to define the field operations. The elements of the field are then identified as the residue classes modulo the chosen irreducible polynomial.

6. Applications:

Finite fields have found widespread applications in various fields. In coding theory, they are used to construct error-correcting codes that ensure data integrity during transmission. In cryptography, finite fields play a crucial role in public-key cryptosystems like RSA, which rely on the difficulty of factoring large numbers. Additionally, finite fields are used in computer science for various applications, including computer algebra systems and error detection and correction.

7. Conclusion:

Finite fields are powerful mathematical structures with a wide range of applications. Their unique properties and theoretical framework have made them invaluable tools in various scientific and technological domains. As research continues, we can expect to see even more applications and deeper understanding of these fascinating mathematical objects.

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ASM-003

A SYSTEMATIC LITERATURE REVIEW ON DYNAMIC ANALYSIS**ANITA KULDEEP AND YASHODA**

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ABSTRACT

In this paper, a survey of literature related to dynamic analysis of kinematics, kinetics and rectilinear motion of bodies and their conservation of energy. Classical dynamics comprises the totality of mathematical derivation and conclusions which follow from the fundamental law of Galileo and Newton. Newton law is based on absolute space and time and remains valid inertial reference scheme. In addition to the general method of determining and integrating the equation of motion of physical bodies acted upon by increasing forces, dynamics consider a number of dynamical properties of solid body oscillating of the mechanical system and the theory of motion of stability are the two main areas of contention. Some real life based examples such as when a car with a sizable mass drives down a hill. Its mass, momentum and energy produces a large amount of velocity and dynamic used when a person pushes a block along a flat surface.

ASM-004

THE PARTIAL DIFFERENTIAL EQUATION AND IT'S APPLICATION IN REAL WORLD**DEEPAK SHARMA¹, PANKAJ KUMAR², SUNIL KUMAR³, PALMENDRA⁴**¹Assistant Professor Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India^{2,3,4}P.G. Student Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India**ABSTRACT**

In this article we shall study about introduction of general differential equation and classification of partial differential equation with respect to one order & two order of equation . Also we discussed about homogeneous linear partial differential equation with constant coefficients ,non homogeneous partial differential equation with constant coefficients & discuss about the types of canonical forms(like elliptic, parabolic and hyperbolic). Furthermore we describe the application of partial differential equation in real world like physic(heat equation & wave equation etc.) , engineering (structure mechanics & electromagnetics etc.), finance(diffusion equation etc.), biology (reaction-diffusion equations & electrophysiology etc.), computer(image processing & machine learning etc.).

ASM-005

THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION**CHETANA SINGODIYA, PRIYANKA KUMARI, VIJETA, SONU KHICHAR,
POONAM CHOUDHARY AND B. S. RATHORE**Department of Physics, Seth Gyaniram Bansidhar Podar college, Nawalgarh, 333042, (Raj.),
IndiaCorresponding author E-mail addresses: bsrathorephy@gmail.com**ABSTRACT**

In this study, the Poly (methyl methacrylate) (PMMA) films have been developed for the photodegradation of methylene blue (MB) by incorporating vanadium pentoxide (V_2O_5) catalysts. The obtained films were characterized by XRD, UV-Vis and FTIR spectroscopy. The XRD patterns revealed the amorphous domains of the PMMA polymer, with an increase in these domains with increasing the V_2O_5 content. Moreover, the XRD showed shifts of 2θ from 16.46° to 16.9° , which can be attributed to the structural irregularity of the PMMA backbone chain caused by the nano-filler doping with no impurity peaks. The observed SEM images showed that V_2O_5 has a hierarchical nanobelt interconnected structure with thicknesses of 35–160 nm and 60–350 nm in length. According to UV-Vis spectroscopy measurements, the absorbance shifts towards a longer wavelength (250–350 nm) and exhibits intensity increase as V_2O_5 nanoparticles amount increase. The band gap of PMMA was decreased after the incorporation of V_2O_5 NPs. The optical conductivity exhibits an increase in the photon energy window (3.8 eV–4.2 eV) by values ($2 \times 10^{10} - 7 \times 10^{13}$) as the V_2O_5 nanoparticles ratio content increases. Interestingly, the 3 wt% V_2O_5 /PMMA photocatalyst film exhibited the highest photocatalytic degradation of MB (95%) after 35 minutes of UV illumination.

ASM-006

THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION**CHETANA SINGODIYA, PRIYANKA KUMARI, VIJETA, SONU KHICHAR, NIKITA, POONAM CHOUDHARY AND B. S. RATHORE**

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ABSTRACT

In this study, the Poly (methyl methacrylate) (PMMA) films have been developed for the photodegradation of methylene blue (MB) by incorporating vanadium pentoxide (V_2O_5) catalysts. The obtained films were characterized by XRD, UV-Vis and FTIR spectroscopy. The XRD patterns revealed the amorphous domains of the PMMA polymer, with an increase in these domains with increasing the V_2O_5 content. Moreover, the XRD showed shifts of 2θ from 16.46° to 16.9° , which can be attributed to the structural irregularity of the PMMA backbone chain caused by the nano-filler doping with no impurity peaks. The observed SEM images showed that V_2O_5 has a hierarchical nanobelt interconnected structure with thicknesses of 35–160 nm and 60–350 nm in length. According to UV-Vis spectroscopy measurements, the absorbance shifts towards a longer wavelength (250–350 nm) and exhibits intensity increase as V_2O_5 nanoparticles amount increase. The band gap of PMMA was decreased after the incorporation of V_2O_5 NPs. The optical conductivity exhibits an increase in the photon energy window (3.8 eV–4.2 eV) by values ($2 \times 10^{10} - 7 \times 10^{13}$) as the V_2O_5 nanoparticles ratio content increases. Interestingly, the 3 wt% V_2O_5 /PMMA photocatalyst film exhibited the highest photocatalytic degradation of MB (95%) after 35 minutes of UV illumination.

ASM-007

RELATION BETWEEN MODEL AND PROBABILITY

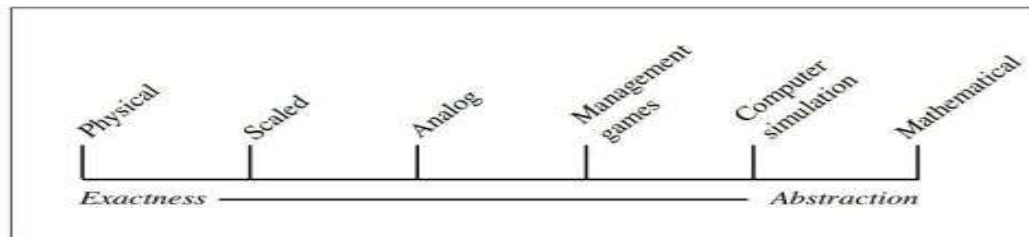
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ABSTRACT

A Model is a set of rules, formulas, or equations that can be used to predict an outcome based on a set of input fields or variables. A Model is a copy of something that is usually smaller and similar to the real thing. A model is an informative representation of an object, person or system. The term originally denoted the plans of a building in late 16th-century English, and derived via French and Italian ultimately from Latin *modulus*, a measure. For example, a financial institution might use a model to predict whether loan applicants are likely to be good or bad risks, based on information that is already known about past applicants. Models can be divided into physical models (e.g. a model plane) and abstract models (e.g. mathematical expressions describing behavioural patterns). abstract or conceptual models are central to philosophy of science, as almost every scientific theory effectively embeds some kind of model of the physical or human sphere. Models are representations of real systems. They can be iconic that is made to look like the real system, abstract, or somewhere in between. Iconic models can be full-scale, scaled-down, or scaled-up in size. A model of the solar system is a scaled-down model, and a teaching model of a wood cell or a water molecule is a scaled-up model. Models can be made of the same material as the system they represent, or they can be made of different materials, such as a plastic model of the solar system. A model may help to explain a system and to study the effects of different components, and to make predictions about behaviour. s



A physical model is a physical object shaped to look like the represented phenomenon, usually built to scale e.g. atoms, molecules, skeletons, organs, animals, insects, sculptures, small-scale vehicles or buildings. They can also include 3-dimensional alternatives for two dimensional representations e.g. a physical model of a picture or photograph. A mathematical model is a representation which comprehends a situation. It is an abstract description of a concrete system using mathematical concepts and language. The process of developing a mathematical model is termed as mathematical modelling. Mathematical models are used in applied mathematics and in the natural sciences (such as physics, biology, chemistry) and engineering disciplines, as well as in non - physical systems. Examples include models of population and economic growth, weather forecasting and the characterization of large social networks.

ASM-008

**THE PARTIAL DIFFERENTIAL EQUATION AND IT'S APPLICATION IN
REAL WORLD****DEEPAK SHARMA¹, PANKAJ KUMAR², SUNIL KUMAR³, PALMENDRA⁴**¹Assistant Professor Mathematics Department Seth G.B. Podar College , Nawalgarh ,
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Jhunjhunu(Rajasthan) 333042 India**ABSTRACT**

In this article we shall study about introduction of general differential equation and classification of partial differential equation with respect to one order & two order of equation. Also we discussed about homogeneous linear partial differential equation with constant coefficients , non homogeneous partial differential equation with constant coefficients & discuss about the types of canonical forms(like elliptic, parabolic and hyperbolic). Further more we describe the application of partial differential equation in real world like physic(heat equation & wave equation etc.) , engineering (structure mechanics & electromagnetics etc.), finance(diffusion equation etc.), biology (reaction-diffusion equations & electrophysiology etc.), computer(image processing & machine learning etc.).

ASM-009

MATHEMATICAL MODEL OF SUSPENDED PARTICLES ON MICROPOLAR FLUID FLOW

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ABSTRACT

In this paper, we study the new fluid mathematical model of suspended particles on the micropolar fluid. The proposed model incorporates a thermal boundary condition known as Newtonian heating. The aim of this paper is to present the details of the formulation on the mathematical model of suspended particles on micropolar fluid with numerical solution by MATLAB. We compared the numerical solution with previous work and examined the validity of the model.

Keyword – Micropolar Fluid, Suspended Particles, Matlab. 2020

ASM-0010

UNLOCKING THE POWER OF SPECIAL FUNCTIONS: A GUIDE FOR BEGINNERS**SUCHITA JANGID , VANSHIKA VERMA, PRACHI SHARMA**

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Special functions are a class of mathematical functions that arise in many areas of science and engineering. These functions are not always easy to understand or use as they can be complex. However, mastering special functions can be incredibly rewarding as these functions can unlock the power to solve complex equations and problems. In this Article, we will provide a beginner's guide to special functions. We will cover the basic concepts; the most commonly used special functions, and how to use them in real-world problems. Whether we're a student or a professional, this guide will provide us with the knowledge and tools you need to unlock the power of special functions and take your mathematical skills to the next level.

ASM-0011

ELECTRONIC AND MAGNETIC PROPERTIES OF MN DOPED ZNO THIN FILMS**SANTOSH KUMAR KUNDARA¹ AND NARENDRA JAKHAR²**¹*Sw. PNKS Govt. PG College, Dausa (Rajasthan)*²*University of Rajasthan, Jaipur**Corresponding Email: santosh.kundara@gmail.com***ABSTRACT**

Background: We synthesized Mn doped ZnO thin films ($Zn_{1-x}Mn_xO$, $x = 0, 0.05, 0.10$) on ITO substrate using the spin coating method. Electronic and magnetic properties of Mn-doped ZnO samples were studied using X-ray photoelectron spectroscopy (XPS) and Physical property measurement system (PPMS) respectively.

Methodology: Zinc acetate dihydrate and manganese acetate tetrahydrate were used as starting materials for synthesizing thin films. These materials were dissolved in iso-propanol, and further monoethanolamine was used as a stabilizer. For the deposition of thin films, 2000 rpm was set for 30 seconds. After each coating, the samples were preheated at 250 °C for 10 minutes. After the final coating, samples were heated in a furnace at 500 °C for 90 minutes.

Result and Discussion: The chemical bond arrangement and composition of undoped and Mn-doped ZnO thin films were investigated by measuring XPS spectra. The adventitious carbon C1s peak (284.6) was used to calibrate the binding energies. Magnetic measurements (M-H and M-T) were done of all the synthesized thin film samples. M-H measurements were done at 5K and 300K. The result reveals that undoped, and Mn-doped ZnO thin films show ferromagnetic behavior at 5K.

Conclusion

XPS spectra of manganese-doped ZnO thin films reveal the presence of Zn, Mn, and O. Magnetic measurement reveals the ferromagnetic nature of all the samples at 5K.

KEYWORDS: Spin coating method, X-ray photoelectron spectroscopy, Ferromagnetic.

ASM-0012

STRUCTURAL, VIBRATIONAL SPECTROSCOPIC (FT-IR, FT-RAMAN) AND ELECTRONIC INVESTIGATIONS ON CADMIUM CHLORIDE ADIPIC ACID**R. S. BEMINA^A, T. JOSELIN BEAULA^{B,*}**

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ABSTRACT

The electronic studies, vibrational frequencies, and optimal molecular geometry were computed using the density functional theory (DFT/B3PW91) method LANL2DZ as the basis set. A thorough vibrational assignment and analysis of the compound's fundamental modes were performed using the FTIR and FT-Raman data. To investigate the chemical reactivity, frontier molecular orbitals and molecular electrostatic potential were examined. The HOMO-LUMO energies are used to compute the band gap energy of the title molecule, which comes out to be 5.9249 eV. The charge transfer interactions verified the intermolecular charge transport inside the molecule.

Methodology: All the computations were performed using the Gaussian'09 program package. The density functional theory (DFT) approach was utilized to optimize the ground-state geometry and Gauss View 5.0 was used to view the findings.

Result and Discussion: Because of the carboxylic group, the bond lengths of C1-C2 and C5-C6 decrease from their typical values of 1.540 Å to 1.508 Å and 1.506 Å, respectively. The broad, intense OH stretching band is found around 3317 cm⁻¹. HOMO is spotted on the Cadmium Chloride, whereas the LUMO is perceived on the whole molecule. According to ESP, the electronegative oxygen atoms are the targets of nucleophilic assault, while the hydrogen and cadmium atoms are the targets of electrophilic attack.

Conclusion

The molecular geometry optimization was carried out by DFT/B3PW91/LANL2DZ. FMO Energy gap reveals the eventual charge transfer within the molecule and the reactive sites were elucidated from ESP map.

KEYWORDS: DFT, HOMO-LUMO, charge transfer, Vibration.

ASM-0013

DIELECTRIC PROPERTIES & SURFACE MORPHOLOGY OF SWIFT HEAVY ION BEAM IRRADIATED POLYMERIC THIN FILMS

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ABSTRACT

Swift heavy ion beam irradiation induces modification in the dielectric properties and surface morphologies of polycarbonate (PC) films. The PC films were irradiated by 55 MeV energy of C⁵⁺ beam at various ions fluences ranging from 1×10^{11} to 1×10^{13} ions cm⁻². The dielectric properties (i.e., dielectric constant, dielectric loss, and AC conductivity) and surface morphologies of pristine and SHI beam irradiated PC films were investigated by dielectric measurements, atomic force microscopy (AFM), and optical microscopy. The dielectric measurements show that the dielectric constant, dielectric loss, and AC conductivity increase with ion fluences and temperature, however, the dielectric constant and AC conductivity decrease while dielectric loss increases with frequency. AFM shows the increase in average roughness values with ion fluences. The change of color in PC films has been observed from colorless to yellowish and then dark brown with increases of ion fluence by using optical microscopy.

Keywords:- SHI, Polycarbonate, Dielectric properties, Optical micrographs, AFM.

ASM-0014

**ADVANCEMENTS IN THE FINITE ELEMENT METHOD FOR NONLINEAR
PARTIAL DIFFERENTIAL EQUATIONS****JYOTI SHARMA**

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Mail Id : chottiyarn3@gmail.com Contact: 9887138156**ABSTRACT**

The numerical simulation of nonlinear partial differential equations (PDEs) poses significant challenges, demanding sophisticated computational methods to achieve accurate solutions. The FEM, a versatile numerical technique widely employed in engineering and applied mathematics, has proven invaluable in tackling nonlinearities arising in diverse scientific fields. The first section provides an overview of the governing principles of nonlinear PDEs and the unique complexities they introduce. Nonlinear phenomena are inherent in various real world systems, ranging from fluid dynamics and heat transfer to structural mechanics. Traditional linear methods fall short in accurately representing such intricate dynamics, necessitating the integration of nonlinear terms into numerical frameworks. The second part delves into the fundamental concepts of the Finite Element Method, elucidating its application to linear PDEs and subsequently extending its capabilities to nonlinear counterparts. The discretization process, mesh generation, and basis functions are discussed in the context of handling nonlinearities, emphasizing the adaptability of FEM in capturing intricate behaviors. It explores Innovations like adaptive mesh refinement, high-order elements, and specialized numerical algorithms, all geared towards improving accuracy and efficiency in handling nonlinear problems. Additionally, the **ABSTRACT** emphasizes the integration of parallel computing and machine learning to boost computational speed and enhance convergence of nonlinear solvers, showcasing the intersection of traditional numerical methods with modern technologies. Overall, the **ABSTRACT** provides a comprehensive outlook on how theoretical insights and practical developments aim to elevate FEM as a robust tool for simulating complex nonlinear phenomena across various scientific disciplines.

Key words : Nonlinear pde , FEM , mesh generation, fluid dynamics.

ASM-0015

OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS**BHARAT KUMAR JANGIR¹, DEEPANSHU VERMA¹, SANDEEP KUMAR¹, LUCKY¹,
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RATHORE^{1,*},**¹Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042 (Raj.), INDIA²Department of Physics, S.N.K.P. Government College, Neem Ka Thana, Neem Ka Thana, Sikar 332713 (Raj.)
INDIA*Corresponding author E-mail addresses: bsrathorephy@gmail.com**ABSTRACT**

Swift heavy ion beam irradiation induces modification in the dielectric properties and surface morphologies of polycarbonate (PC) films. The PC films were irradiated by 55 MeV energy of C⁵⁺ beam at various ions fluences ranging from 1×10^{11} to 1×10^{13} ions cm⁻². The dielectric properties (i.e., dielectric constant, dielectric loss, and AC conductivity) and surface morphologies of pristine and SHI beam irradiated PC films were investigated by dielectric measurements, atomic force microscopy (AFM), and optical microscopy. The dielectric measurements show that the dielectric constant, dielectric loss, and AC conductivity increase with ion fluences and temperature, however, the dielectric constant and AC conductivity decrease while dielectric loss increases with frequency. AFM shows the increase in average roughness values with ion fluences. The change of color in PC films has been observed from colorless to yellowish and then dark brown with increases of ion fluence by using optical microscopy.

Keywords:- SHI, Polycarbonate, Dielectric properties, Optical micrographs, AFM.

ASM-0016

PRELIMINARIES RECOGNITION OF COMPLEX ANALYSIS AND ITS APPLICATION

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ABSTRACT

We explore foundational aspects of complex numbers, basic operations on complex numbers, modulus and conjugate of complex number, complex numbers in polar & exponential forms, roots of a complex number, some essential definitions about sets in the complex plane like as circle, open disk, closed disk, annulus, neighbourhood of a point. In this section, we also define the complex valued function, the concept of limit, continuity, differentiability of complex valued functions and analytic function with its sufficient and necessary conditions. The study aims to provide a comprehensive understanding of these preliminaries in higher level mathematical concepts and various scientific disciplines.

Keyword: Complex number and complex valued functions, complex plane, differentiable and analyticity.

ASM-0017

THE ALLURE OF LINEAR ALGEBRA AND ITS APPLICATION IN CERTAIN REAL-WORLD SCENARIOS**SHANKAR LAL¹ & VIDYADHAR SHARMA²**

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ABSTRACT

This study of linear algebra dives into basic ideas like matrices, vectors, and eigen values. It shows how these concepts are used in various areas, such as computer graphics, machine learning, quantum mechanics, cryptography, and physics. Linear algebra is a key math concept that helps us understand many mathematical structures and operations. It improves our math skills and plays a big role in **ABSTRACT** algebra and functional analysis. It's not just theoretical – it's used in signal processing, optimization, and data analysis, making it practical too. To make AI algorithms and model dynamic systems in physics, we need a good grasp of linear algebra. This introduction is a handy tool for students dealing with the subject's theory and its applications in math and physics.

ASM-0018

MG₆₅CU₂₅Y_xGD_{10-x} (X=0, 5, 8, 9, 10) BULK METALLIC GLASSES AND POISSON RATIO**PATEL RAM SUTHAR**

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ABSTRACT

Bulk metallic glasses (BMGs) are distinguished by their unique amorphous glassy atomic structure, in contrast to the crystalline arrangements found in their counterparts. This amorphous nature imparts distinctive mechanical properties to BMGs, particularly in terms of the Poisson ratio (ν), which can exhibit a wide range of values influenced by factors such as alloy composition, cooling rate, alloying elements and their fractions, atomic structure, and processing conditions. Unlike the typical Poisson ratios ranging from 0 to 0.5 in crystalline materials, BMGs, owing to their lack of regular crystal planes and amorphous composition, demonstrate a greater degree of isotropic deformation behaviour, resulting in elevated Poisson ratios. This higher Poisson ratio, often approaching 0.5, is not uncommon for BMGs and is directly correlated with increased plasticity (ductility). The critical ν value demarcating the transition from ductile to brittle behaviour in BMGs falls within the range of 0.32 to 0.33. Notably, the Poisson ratio of BMGs Mg₆₅Cu₂₅Y_xGd_{10-x} (x=0, 5, 8, 9, 10) spans from 0.277 to 0.313, positioning it in the lower range of this mechanical property. The introduction of additional elements to BMGs may induce changes in their crystal structure, influencing their mechanical and thermal properties. The study aims to discern how alterations in the fraction of constituent elements correlate with shifts in the Poisson ratio, as well as with changes in the effective value of thermal conductivity, coefficient of thermal expansion, and covalent radius.

Keywords: BMGs, Poisson ratio, Thermal Conductivity, Covalent Radius.

Introduction

Bulk metallic glasses (BMGs) showcase an impressive array of advantageous physical and chemical attributes, including exceptional wear and heightened corrosion resistance. Their inherent flexibility is pronounced at elevated temperatures, while extraordinary strength is evident at lower temperatures. Notably, akin to certain polymer materials, BMGs exhibit a substantial elastic limit of nearly 2% strain, setting them apart. In stark contrast to their crystalline counterparts, BMGs boast approximately 2 to 3 times the strength, a remarkable enhancement [1].

These unique properties make BMGs highly appealing for real-world applications, positioning them as an innovative category of materials with both functional and structural utility. Such characteristics, rarely found in crystalline materials, underscore the significance of comprehending the complex phenomena and formation of glass in bulk metallic glasses. The amalgamation of scientific intrigue and technological promise has ignited widespread interest in BMG research endeavours.

The journey into BMGs commenced with their discovery in 1969 by Chen and Turnbull [2], with ternary Pd-Cu-Si alloys leading as the pioneering “bulk” amorphous alloy, showcasing an exceptional critical cooling rate of approximately 10^2 Ks^{-1} . Momentum surged in the scientific community, particularly with the emergence of novel multi-component BMGs like $\text{La}_{55}\text{Al}_{25}\text{Ni}_{20}$ (unveiled in 1989 by Inoue et al.) [3] and $\text{Zr}_{41.2}\text{Ti}_{13.8}\text{Cu}_{12.5}\text{Ni}_{10}\text{Be}_{22.5}$ (introduced in 1993 by Peker and Johnson) [4]. Notably, these alloys could be crafted at lower cooling rates through direct casting from molten liquids, marking a significant advancement in BMG fabrication techniques.

Poisson’s ratio (ν) is defined as the ratio of transverse compressive stress (negative) to longitudinal extensional stress (positive) experienced by a material under an axial load. In the context of bulk metallic glasses (BMGs), the deformation behaviour is intricately linked to Poisson’s ratio, making it a crucial mechanical property in the characterization of BMGs. These materials are distinct due to their amorphous glassy atomic structure, a departure from the well-ordered atomic arrangements observed in their crystalline counterparts. The amorphous nature of BMGs imparts unique mechanical properties, setting them apart from crystalline materials.

Bulk metallic glasses (BMGs) typically exhibit a noticeable amount of plastic strain before failure, particularly when subjected to compression testing. This contrast in behaviour during compression and tensile testing is attributed to variations in the nucleation and propagation of shear bands. In compression tests, BMGs display distinct differences, manifesting some plastic strain before eventual failure. This occurrence is in stark contrast to tensile testing, where, shortly after the formation of the initial shear band, crack initiation takes place. Consequently, BMGs subjected to tensile stress typically demonstrate minimal plastic strain before undergoing catastrophic failure.

In scenarios involving constrained geometry, such as compression, BMGs exhibit a more intricate behaviour. Under compression, specimens display a noteworthy amount of plastic strain before eventual failure. The failure mechanism in this case involves the elastic and fully plastic deformation, characterized by the formation and propagation of multiple shear bands. This nuanced response highlights the complexity of the deformation processes in BMGs, showcasing distinct behaviours based on the loading conditions and geometry.

Objectives

The investigation of the dependence of the Poisson ratio (ν) on the enhanced fraction of constituent elements, particularly in bulk metallic glasses (BMGs), necessitates an examination of the impact on the crystal structure of these constituent elements. This study involves exploring variations in the effective values of thermal conductivity (W), coefficient of thermal expansion (α), and covalent radius (R) in BMGs following the addition of supplementary elements.

The introduction of additional elements to BMGs may induce changes in their crystal structure, influencing their mechanical and thermal properties. The study aims to discern how alterations in the fraction of constituent elements correlate with shifts in the Poisson ratio, as well as with changes in the effective value of thermal conductivity, coefficient of thermal expansion, and covalent radius.

Research Methodology

The theoretical investigation unveils the intricate connections between the composition of bulk metallic glasses (BMGs) and their thermal and structural properties. Throughout this theoretical exploration, a series of distinct steps were taken to thoroughly analyze the attributes of BMGs: Constituent element data for BMGs were methodically categorized, drawing upon available standard datasets, thereby establishing a systematic foundation for subsequent calculations. The effective values of thermal conductivity (W), coefficient of thermal expansion (α), and covalent radius (R) in BMGs were ascertained through a specific formula that incorporated standard parameter values and their respective fractions within the BMG composition. This approach aimed to foster a comprehensive comprehension of how alterations in constituent elements influence the characteristics, including the Poisson ratio, of BMGs [6], [8].

Analysis of Data

Table 1 presents the atomic characteristics and thermal properties of the constituent elements (Mg, Cu, Y, and Gd) in bulk metallic glasses $Mg_{65}Cu_{25}Y_xGd_{10-x}$, where x takes values of 0, 5, 8, 9, and 10.

S. No.	Element	Atomic Weight	Crystal Structure	ν	α { $\mu\text{m}/(\text{m}\cdot\text{K})$ }	W {W/(m·K)}	R {pm}
1.	Mg	24.3	Hcp	0.29	24.8	156	130
2.	Cu	63.55	Fcc	0.34	16.5	401	138
3.	Gd	157.25	Hcp	0.26	9.4	10.6	161
4.	Y	88.9	Hcp	0.24	10.6	17.2	162

Table 1: Atomic Characteristics and Thermal Properties of Mg, Cu, Y, and Gd Elements

The effective values of parameters x (α , W, and R) has been calculated using the following formula:

$$x = \sum_i f_i x_i$$

Where: f_i - fraction of constituent element x_i in the BMG

The value of coefficient of thermal expansion (α) in BMG $\text{Mg}_{65}\text{Cu}_{25}\text{Y}_9\text{Gd}_1$ is-

$$\alpha = \sum_i f_i \alpha_i$$

$$\alpha = f_{\text{Mg}} \alpha_{\text{Mg}} + f_{\text{Cu}} \alpha_{\text{Cu}} + f_{\text{Y}} \alpha_{\text{Y}} + f_{\text{Gd}} \alpha_{\text{Gd}}$$

$$= 0.65 \times 24.8 + 0.25 \times 16.5 + .09 \times 10.6 + 0.01 \times 9.4$$

$$= 21.293 \mu\text{m}/(\text{m}\cdot\text{K})$$

Similarly, the effective value of thermal conductivity (W) and covalent radius (R) are 203.304 and 135.19, respectively.

Table 2 presents the effective value of parameters α , W, and R of the bulk metallic glasses $\text{Mg}_{65}\text{Cu}_{25}\text{Y}_x\text{Gd}_{10-x}$ ($x = 0, 5, 8, 9, 10$). It also reflects the currently available experimental value for the Poisson's ratio (ν) concerning bulk metallic glasses (BMG).

S. No.	BMG	α { $\mu\text{m}/(\text{m}\cdot\text{K})$ }	W {W/(m·K)}	R {pm}	ν	References
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1.	Mg ₆₅ Cu ₂₅ Y ₉ Gd ₁	21.293	203.304	135.19	0.277	[6, 7, 8]
2.	Mg ₆₅ Cu ₂₅ Y ₈ Gd ₂	21.281	203.238	135.18	0.284	[6, 7, 8]
3.	Mg ₆₅ Cu ₂₅ Y ₅ Gd ₅	21.245	203.04	135.15	0.284	[6, 7, 8]
4.	Mg ₆₅ Cu ₂₅ Gd ₁₀	21.185	202.71	135.1	0.313	[6, 7, 8]
5.	Mg ₆₅ Cu ₂₅ Y ₁₀	21.305	203.37	135.2	0.302	[6, 7, 8]

Table 2: Data for parameters ν , α , W, and R

The hypotheses centre on potential modifications, either an increase or decrease, in the Poisson ratio (ν). These variations stem from quantitative shifts in the constituent elements of the BMG group combination. The investigation delves into alterations in the effective values of α , W, and R, examining how these values affect the variations in the ν [6], [8].

- i. In the BMG group combination, if there is no alteration in the quantitative fraction of the base element and the crystal structure remains akin to that of the base element, the Poisson ratio (ν) experiences an inverse relationship with identical changes in α (coefficient of thermal expansion), W (thermal conductivity), and R (covalent radius), whether it involves an increase or decrease.
- ii. Conversely, if there is no change in the quantitative fraction of the base element and of elements sharing the same crystal structure in the BMG, but the quantitative fraction of two elements interchange, the reversal in the Poisson ratio (ν) corresponds to identical changes in α , W, and R.
- iii. In the BMG, the element designated as the base element is the one with the maximum quantitative fraction. However, if there is no change in the base element, the element selected as the base element among the others is the one with the maximum quantitative fraction in that BMG.
- iv. These principles are applicable even when there is a change in the quantitative fraction of the elements, provided there is no consequential change in the crystal structure. The partial replacement of elements by others is also recommended.

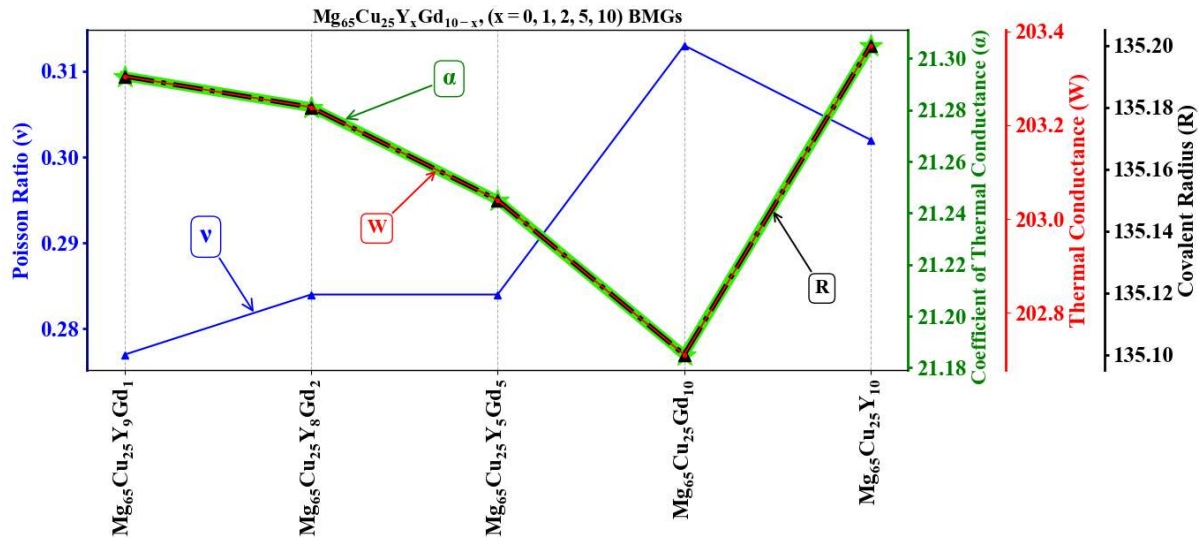


Figure: Representation of data for parameters v , α , W , and R

In the BMG group combinations with serial numbers 1 and 2 in table 2; $Mg_{65}Cu_{25}Y_9Gd_1$ and $Mg_{65}Cu_{25}Y_8Gd_2$, the effective values of α , W , and R of BMGs are 21.293, 203.304, 135.19 and 21.281, 203.238, 135.18. The mechanical behaviour of BMG group combinations 1 and 2 reveals a noteworthy pattern, as the effective values of α , W , and R exhibit a consistent decreasing order. Notably, despite this variation, the quantitative fraction of the base element Mg remains constant within this group combination. A particularly intriguing observation arises from the relationship between the Poisson ratio (v) and the changes in α , W , and R , which are found to be inversely related. Specifically, in comparing the Poisson ratios of $Mg_{65}Cu_{25}Y_8Gd_2$ and $Mg_{65}Cu_{25}Y_9Gd_1$, it is anticipated that the former must be greater than or equal to the latter. Confirming these expectations, the actual values of v for the BMG group combinations are 0.284 and 0.277, respectively. This consistency aligns seamlessly with our theoretical framework. Furthermore, extending our analysis to serial numbers 1 and 2, and subsequently to serial numbers 2 and 3, and 3 and 4 within table 5.2 under the same hypotheses, we observe similar results. This underscores a repeatable mechanical trend within the BMG group combinations.

In table 2 of the BMG group combinations featuring S. Nos. 4 and 5, namely $Mg_{65}Cu_{25}Gd_{10}$ and $Mg_{65}Cu_{25}Y_{10}$, the effective values of α , W , and R for BMGs are documented as 21.185, 202.71, 135.1 and 21.305, 203.37, 135.2, respectively. The effective values of α , W , and R consistently displaying an ascending order. Although there is no alteration in the quantitative fraction of the base element Mg and the elements sharing the same crystal structure in the BMG, a significant shift occurs in the quantitative fraction of the two elements, Gd and Y. This interchange leads to a corresponding reversal in the Poisson ratio (v), mirroring identical changes in α , W , and R . An intriguing observation emerges from the relationship between the

Poisson ratio (ν) and the variations in α , W , and R , revealing an inverse correlation. Specifically, when comparing the Poisson ratios of $Mg_{65}Cu_{25}Y_{10}$ and $Mg_{65}Cu_{25}Gd_{10}$, it is anticipated that the former should be less than or equal to the latter. Confirming these expectations, the actual values of ν for the BMG group combinations are 0.302 and 0.313, respectively, aligning seamlessly with our theoretical framework.

Conclusion

The pursuit of making quantitative adjustments to the constituent elements of bulk metallic glasses (BMGs) holds significant potential, as it opens avenues for influencing crucial material properties such as the thermal expansion coefficient (α), thermal conductivity (W), and covalent radius (R). These subtle modifications have the capability to initiate meaningful changes in fundamental characteristics, whether by increasing or decreasing the Poisson's ratio (ν). This applies equally to considerations of either an increase or decrease in crystallization temperature (T_x), glass transition temperature (T_g), and elastic moduli, thereby expanding the range of possibilities for customizing and optimizing the performance of these groundbreaking materials. The critical cooling rate plays a pivotal role in shaping both the crystallization and glass transition temperature of materials. Moreover, the extent of quantitative changes in these properties after modifications in the quantitative fraction of the constituent elements remains an unanswered question.

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ASM-0019

TYPES OF OPTIMIZATION MODEL USING STOCHASTIC LINEAR PROGRAMMING

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ABSTRACT

Many Optimization model problems in mathematics and economics involve the challenging task of pondering both conflicting goals and random data. We give an up-to-date overview Types of optimization model how important ideas from linear programming, probability theory and Type of decision analysis are interwoven to address situations where the presence of several objective functions and the stochastic nature of data are under one roof in a linear optimization context. In this way users of these models are not bound to caricature their

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problems by arbitrarily squeezing different objective functions into one and by blindly accepting fixed values in lieu of imprecise ones. The optimization model problems of line structure routing. The problem is solved in some stages in interrelation with optimization model using stochastic linear programming problems.

Keywords: Optimization Model, Linear Programming, Expected Value Efficiency, Variance Optimality, Standard Deviation, Decision maker

ASM-0020

EFFECT OF 120 MEV AU ION IRRADIATIONS ON NANOCRYSTALLINE TiO₂ THIN FILMS

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ABSTRACT

We have deposited nanocrystalline TiO₂ thin films on quartz and silicon substrates using PLD technique. Pristine films were irradiated using 120 MeV Au ions at different fluences ranging from 1×10^{11} to 1×10^{13} ions/cm². Pristine and irradiated films were characterized using XRD,

UV-Vis and AFM techniques for studying the modifications in structural, optical and surface morphological properties respectively. XRD spectra show that the pristine film is nanocrystalline in nature. Irradiation at the lowest fluence (1×10^{11}) increases the crystallinity and further irradiations at higher fluences lead to amorphization. Absorption spectra reveal that the bandgap of the pristine film is 3.50 eV. Irradiation upto 1×10^{12} ions/cm² decrease bandgap upto 3.35 eV and at the highest fluence it increases to 3.56 eV. The AFM micrograph of the pristine film shows that surface has randomly distributed nanostructures of sizes from 80 to 120 nm with surface roughness 3.36 nm. Lowest fluence irradiation increases the grain size and roughness from 100 to 150 nm and 3.36 nm respectively. Agglomeration of nanostructures is observed at the middle fluence (1×10^{12} ions/cm²) irradiation. Application of the highest fluence (1×10^{13} ions/cm²) irradiation make the nanostructures disappeared. The modifications in the structural, optical and surface morphological properties with irradiation can be attributed to dense energy deposition by electronic energy loss.

ASM-0021

STUDY OF THERMAL PROPERTIES OF SHIFT HEAVY ION BEAM IRRADIATED POLYCARBONATE/POLYSTYRENE DOUBLE LAYERED FILM

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ABSTRACT

The double layered films of polycarbonate/polystyrene (PC/PS) have been prepared by solvent casting method and irradiated with C beam at different ion fluences range from 1×10^{11} to 1×10^{13} ion/cm². The effect of swift heavy ion (SHI) beam in interfacial phenomena, phase change, dielectric relaxation, degradation temperature, stability, charge storage and transport mechanism of PC/PS pristine and irradiated double layered films have been studied by thermally stimulated discharge current (TSDC), differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA). TSDC show α , β -relaxation peaks shifted to the lower temperatures side with increase of ions fluences. The activation energy and relaxation time decrease, while the depolarization current and charge released increase with increase in the ions fluences. DSC curve show the glass transition temperature (T_g) and heat capacity decreases with increase in the ions fluences. The TGA characteristics represent the thermal stability, which is found to be decreased with increase in the ions fluences.

Keywords:- SHI, TSDC, TGA, Polycarbonate and Polystyrene.

ASM-0022

OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS

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ABSTRACT

Polycarbonate/polystyrene composites films were irradiated by 55 MeV Carbon ion beam with fluence ranging from 1×10^{11} to 1×10^{13} ions/cm². The polymer composites films were prepared by solution mixing method. The effects of ion beam on structural, optical, surface morphology of PC/PS composites films were investigated by X-ray diffraction (XRD), UV Visible spectroscopy (UV-Vis), Fourier Transform Infrared Spectroscopy (FTIR) and Optical Microscopy. The XRD pattern shows the decrease in the crystallinity and average inter-chain separation increases with ion fluences. UV-Vis spectra show that the energy band gap decreases and increases the number carbon atoms with fluences. UV-Vis transmittance spectra show the transmittance was found to be decrease with increase in the ion fluence. The FTIR spectra evidenced very small change in cross linking and chain scissoring at high ion fluences, while the optical microscopy shows a color change with ion fluence.

Keywords:- SHI, TSDC, TGA, Polycarbonate and Polystyrene.

ASM-0023

Analyzing the Complexity of Linear Programming Problems

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ABSTRACT

Linear Programming is an important branch of functional exploration and it's a Mathematical Method to help the people to carry out scientific operation. Linear Programming is a Mathematical system for determining a way to handle certain types of optimization problems. The main ideal of this paper is to understand how Graphical system and Simplex system can be

applied in a simple way for a cabinet network manufacturer and gold smith as to optimize their profit. Operations Research is a branch of Statistics in Applied Mathematics. Operations Research is a discipline that provides scientific styles used to working real life problems which helps us in determining the optimal decision timber. A Linear Programming Problem is a special kind of Operations Research and it consists of three corridors. First, the objective function which is to be either maximized or minimized. Second, there's a set of direct constraints which contains the specialized specifications of the problems in relation to the given coffers or conditions. Third, there's a set of on-negativity constraints. Over once 70 times, Linear Programming has been applied in colorful fields similar as service, Financial, Marketing, Accounting and Agrarian Problems. The most common styles are used to break Linear Programming Problems are Graphical system and Simplex Method. Graphical system is one of the most introductory styles to break Linear Programming Problems by chancing the optimal result. Through this system, we can formulate a real- world problem into a fine model. It's used to optimize the two variable direct programming problems. It's a simplest system to break Linear Programming Problems.

Keywords: Linear programming, Graphical Method and Simplex method, Optimum solution

ASM-0024

FRACTIONAL INTEGRAL FORMULAS INVOLVING H-FUNCTION

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ABSTRACT

A large number of fractional integral formulas involving certain special functions have been presented. Here, in this paper, our aim at establishing two formulas fractional integral formulas involving H-Function by using generalized fractional integration operators given by Saigo and

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Maeda [M. Saigo, N. Maeda, Varna, Bulgaria, (1996), 386–400]. the present paper we evaluate a number of key Eulerian integrals involving the H- function of several variables. Our general Eulerian integral formulas are shown to provide the key formulae from which numerous other potentially useful results for various families of generalized hypergeometric functions of several variables can be derived. In this paper, we evaluate a class of MacRobert’s integral associated with the multivariable I-function define. „Also using I-Function on ‘Certatain class of eulerian integrals of multivariable generalized hypergeometric function’ (for details of H-function ,see Saxena and Nishimoto.

Keywords and Phrases: Fractional integrals operators,H-function, Eulerian Integral, 2020 AMS Subject Classification : 33C45, 33C60, 33C70

ASM-0025

QUANTUM HORIZONS: ELEVATING ROCKET SCIENCE THROUGH TRANSFORMATIVE COMPUTING

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ABSTRACT

The title encloses applications of quantum computing in rocket science, elucidating its transformative potential and specific use cases. Beginning with an exploration of foundational quantum principles relevant to aerospace computations, the discussion highlights quantum

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computing's impact on trajectory optimization, showcasing its capacity to efficiently solve intricate path-planning problems for spacecraft, leading to more fuel-efficient trajectories and reduced travel time. The paper also emphasizes the role of quantum simulations in modeling critical physical phenomena in rocket science, offering unparalleled precision in understanding fluid dynamics, combustion processes, and material behaviors under extreme conditions. Despite challenges like error correction and hardware limitations, ongoing collaborative efforts between quantum computing researchers and aerospace engineers are addressing these issues. Looking ahead, the paper outlines future prospects, envisioning quantum computing's role in optimizing interplanetary travel, enhancing spacecraft autonomy, and analyzing large datasets generated during space missions, thus paving the way for a new era in space exploration.

Keywords: Aerospace computations, fuel-efficient trajectories, unparalleled precision, interplanetary travel etc.

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ASM-0026

SOME PROPERTIES OF CLASS FOR THE MEROMORPHIC MULTIVALENT FUNCTIONS

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ABSTRACT

Background

In this paper, we introduce new class of meromorphic multivalent functions. Such results as subordination properties, coefficient inequalities, convolution properties and integral representations are proved for belonging to the class. Several sufficient conditions for meromorphic multivalent starlikeness and convexity are also derived. We will also obtain some geometric properties such as growth and distortion bounds.

Keyword: Meromorphic multivalent functions, Subordination, Convolution, growth and distortion bounds.

ASM-0027

UNLOCKING THE POWER OF SPECIAL FUNCTIONS: A GUIDE FOR BEGINNERS

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ABSTRACT

Special functions are a class of mathematical functions that arise in many areas of science and engineering. These functions are not always easy to understand or use as they can be complex.

However, mastering special functions can be incredibly rewarding as these functions can unlock the power to solve complex equations and problems. In this Article, we will provide a beginner's guide to special functions. We will cover the basic concepts; the most commonly used special functions, and how to use them in real-world problems. Whether you're a student or a professional, this guide will provide you with the knowledge and tools you need to unlock the power of special functions and take your mathematical skills to the next level.

1. Introduction to special functions and their significance

Special functions play a crucial role in various branches of mathematics and have applications in a wide range of scientific fields. These functions, unlike elementary functions, are not easily expressible in terms of basic algebraic or transcendental functions. They are typically defined as solutions to specific differential equations or integral representations that arise in diverse areas of study, such as physics, engineering, and statistics. The significance of special functions lies in their ability to provide elegant and efficient solutions to complex mathematical problems. They possess unique properties and specialized behaviors that make them indispensable tools in solving mathematical equations that cannot be simplified using elementary functions alone. One of the key reasons special functions are so important is their ability to accurately model real-world phenomena. For instance, Bessel functions find applications in the study of wave propagation and diffraction, while Legendre polynomials are used to describe the shape of the Earth, among other things. These functions offer precise representations of physical phenomena and enable scientists and engineers to analyze and predict behaviors in a wide range of scientific and technological fields. In this guide for beginners, we will delve into the fascinating world of special functions and explore their significance in different areas of mathematics and science. By understanding the fundamentals of special functions, you will gain the tools to unlock their power and apply them to solve complex problems in your own field of study or research. So, let's embark on this journey of discovery and unravel the secrets of special functions together.

2. Understanding the basics: What are special functions?

Special functions are mathematical functions that are distinct from the elementary functions we encounter in basic algebra. They are often used to solve complex mathematical problems and have applications in various fields such as physics, engineering, and finance. Unlike elementary functions like polynomials, exponentials, and trigonometric functions, special functions are more specialized and have specific properties that make them useful for solving particular types of equations or problems. They are often defined as solutions to differential equations and have unique properties that make them valuable tools in mathematical analysis. Special functions encompass a wide range of mathematical functions, including but not limited to Bessel functions, Legendre functions, Hermite functions, Gamma functions, and many more. Each of these functions serves a distinct purpose and has its own set of properties and formulas. Understanding the basics of special functions is crucial for anyone looking to dive deeper into advanced

mathematics or explore specific areas of applied mathematics. They provide a powerful toolkit for solving complex problems that may not be easily solved using elementary functions alone.

3. Common types of special functions and their applications

Special functions are mathematical functions that have unique properties and play a crucial role in various fields of science and engineering. Understanding the common types of special functions and their applications can help beginners unlock their power and apply them effectively in solving complex problems. One of the most well-known special functions is the Bessel function. Bessel functions arise in problems involving wave propagation, such as heat conduction, fluid dynamics, and electromagnetic theory. They are particularly useful in solving partial differential equations with cylindrical symmetry, making them essential in fields like acoustics, optics, and signal processing. Another important class of special functions is the hypergeometric functions. These functions find applications in diverse areas such as probability theory, combinatorics, and mathematical physics. Hypergeometric functions are essential in solving problems involving sums, integrals, and differential equations, making them a powerful tool in mathematical analysis. The gamma function is another special function that emerges frequently in mathematical analysis and its applications. It is an extension of the factorial function, allowing for the calculation of factorials for non-integer values. The gamma function finds applications in areas such as statistics, number theory, and quantum mechanics. Other common types of special functions include the Legendre functions, Hermite functions, and Chebyshev functions. Legendre functions are important in solving problems with spherical symmetry, such as potential theory and quantum mechanics. Hermite functions appear in problems related to quantum mechanics, harmonic analysis, and probability theory. Chebyshev functions find applications in approximation theory, numerical analysis, and control systems. By familiarizing themselves with these common types of special functions and their applications, beginners can start to recognize their significance and potential usefulness in various scientific and engineering problems. Unlocking the power of special functions enables the exploration of advanced mathematical techniques and enhances problem-solving capabilities in complex domains.

4. Exploring the properties and characteristics of special functions

Special functions are a fascinating and powerful tool in mathematics and have applications in various fields such as physics, engineering, and computer science. While they may seem daunting at first, understanding their properties and characteristics can unlock a world of possibilities for problem-solving and analysis. Special functions are unique mathematical functions that cannot be expressed in terms of elementary functions like polynomials, exponentials, and trigonometric functions. They are often defined through differential equations or infinite series representations, making them highly specialized and specific to certain mathematical problems. One of the most well-known special functions is the Bessel function,

which arises in the study of wave phenomena and is essential in solving problems involving cylindrical symmetry. Bessel functions possess unique properties, such as orthogonality and recurrence relations, that make them invaluable in the analysis of physical systems. Another important class of special functions is the hypergeometric functions, which encompass a wide range of mathematical functions like the Gaussian hypergeometric function and the confluent hypergeometric function. These functions have diverse applications in areas such as statistics, quantum mechanics, and number theory. Understanding the properties and characteristics of special functions allows us to make connections between different areas of mathematics and apply them to real-world problems. By exploring their properties, we can uncover relationships, symmetries, and transformations that can simplify complex calculations and provide insights into the behavior of physical systems. Moreover, special functions often have specific identities, integral representations, and asymptotic behaviors that facilitate their manipulation and evaluation. Learning these properties and characteristics not only expands our mathematical toolkit but also enhances our problem-solving skills and analytical thinking. In conclusion, delving into the properties and characteristics of special functions is a worthwhile endeavor for any beginner looking to unlock the power and potential of these mathematical tools. By understanding their unique features, we can harness their capabilities to tackle complex problems and explore the intricate beauty of mathematics.

5. How to evaluate special functions: Techniques and methods

Evaluating special functions can seem daunting for beginners, but with the right techniques and methods, it becomes an achievable task. Special functions, such as the Bessel functions, hypergeometric functions, and the gamma function, play a crucial role in various scientific and mathematical applications. They often arise in fields like physics, engineering, and statistics. One effective technique for evaluating special functions is through the use of series expansions. Many special functions have well-known series representations, which can be used to approximate their values. These series expansions involve infinite sums or products that converge to the desired value of the function. By truncating the series at a certain point, we can obtain a good approximation of the function. Another method commonly employed is numerical approximation. With the aid of computational tools and algorithms, special functions can be evaluated to a high degree of accuracy. Numerical methods, such as Taylor series approximations, interpolation, or numerical integration, can be used to obtain numerical values of special functions. These approaches are particularly useful when dealing with complex or computationally intensive calculations. In addition to series expansions and numerical approximation, there are also specialized algorithms and software libraries available specifically for evaluating special functions. These resources contain precomputed values and optimized algorithms, allowing for efficient and accurate computations. Utilizing such tools can save time and effort, especially when dealing with intricate functions or large datasets. It is worth mentioning that understanding the properties and behaviors of special functions can greatly aid in their evaluation. Being aware

of their symmetries, recurrence relations, and asymptotic behavior can provide insights into efficient evaluation strategies. Furthermore, leveraging known identities and relationships between different special functions can simplify the evaluation process. In conclusion, evaluating special functions requires a combination of techniques, including series expansions, numerical approximation, and utilizing specialized algorithms or software libraries. By familiarizing yourself with these methods and understanding the properties of special functions, you can unlock the power of these mathematical tools and apply them effectively in your research or problem-solving endeavors.

6. Special functions in mathematics and physics

Special functions play a crucial role in both mathematics and physics, offering a powerful toolset for solving complex equations and describing natural phenomena. These functions, often denoted by symbols such as π , e , and i , possess unique properties that make them indispensable in various scientific disciplines. In mathematics, special functions are a class of functions that cannot be expressed in terms of elementary functions like polynomials, exponentials, or trigonometric functions. They arise as solutions to specific differential equations or integrals that are encountered in diverse areas of mathematics, such as calculus, number theory, and probability theory. In physics, special functions find widespread application in modeling physical systems and predicting their behavior. For instance, Bessel functions are employed in the study of wave propagation phenomena, such as sound and electromagnetic waves, while Legendre functions are crucial in analyzing problems involving spherical symmetry, such as the motion of planets and electrons in atoms. These special functions possess unique properties that make them invaluable. For example, they often exhibit symmetry, periodicity, or orthogonality, which allow for efficient mathematical manipulations and simplifications. Moreover, they can be expressed as infinite series or integrals, enabling numerical approximations and computational methods to solve complex problems. While special functions may appear daunting to beginners, understanding their fundamental concepts and properties can unlock a world of possibilities. Learning about their applications and becoming familiar with common special functions, such as the gamma function, hypergeometric function, and elliptic functions, can empower aspiring mathematicians and physicists to tackle intricate problems and broaden their understanding of the natural world. In conclusion, special functions serve as indispensable tools in mathematics and physics, enabling scientists and researchers to solve intricate equations, model physical systems, and unravel the mysteries of the universe. Embracing the power of special functions can open up new avenues of exploration for beginners and seasoned practitioners alike, propelling scientific progress and expanding our knowledge of the world we live in.

7. Practical examples and real-life applications of special functions

Special functions may seem complex and **ABSTRACT** at first, but they have numerous practical applications in various fields. Let's explore some practical examples and real-life applications of special functions to understand their power and relevance.

1. Engineering and Physics:

Special functions like Bessel functions are extensively used in engineering and physics. They describe wave phenomena, such as heat conduction, fluid flow, and electromagnetic waves. Bessel functions find applications in antenna design, signal processing, and analyzing vibrating systems.

2. Probability and Statistics:

Probability distributions often involve special functions. The Gaussian or normal distribution, for instance, relies on the error function, which is a special function. This function is widely used in statistical analysis, modeling financial markets, and understanding random processes.

3. Quantum Mechanics:

In quantum mechanics, special functions like the spherical harmonics help describe the behavior of electrons in atoms and the interactions between particles. These functions play a crucial role in understanding atomic structure, molecular bonding, and spectroscopy.

4. Image Processing:

Special functions find applications in image processing techniques, such as edge detection, noise reduction, and image enhancement. Functions like the Gaussian function are used to create blurring effects or generate smooth transitions between pixels.

5. Financial Modeling:

In finance, special functions like the Black-Scholes equation, which involves the normal distribution and its associated special functions, are used for option pricing and risk assessment. These functions help model and predict financial market behavior.

6. Control Systems:

Special functions, such as the transfer function in control systems, help design and analyze the behavior of feedback control systems. These functions aid in stability analysis, performance optimization, and robust control design.

By understanding and utilizing special functions, beginners can unlock the power of these mathematical tools in various practical scenarios. Whether it's engineering, physics, statistics, or finance, special functions provide valuable insights and enable sophisticated analyses in diverse fields.

8. Tips for solving problems using special functions

When it comes to solving problems using special functions, there are a few tips that can help beginners navigate through the complexities and unlock their power.

1. **Understand the properties:** Special functions have unique properties that make them useful in solving specific types of problems. Take the time to familiarize yourself with these properties, such as their symmetry, periodicity, or asymptotic behavior. Understanding these characteristics will give you insights into how to apply them effectively.
2. **Utilize recurrence relations:** Many special functions have recurrence relations that allow you to express them in terms of simpler functions. These relationships can be powerful tools for simplifying complex problems and finding elegant solutions. Take the time to study and understand the recurrence relations associated with the special functions you are working with.
3. **Explore integral representations:** Special functions often have integral representations that provide alternative ways to express them. These representations can offer insights into their behavior and allow you to manipulate them to solve specific problems. Experiment with different integral representations to find the one that best suits the problem at hand.
4. **Leverage known identities:** Special functions often have well-known identities that relate them to other functions or mathematical objects. These identities can be valuable shortcuts in problem-solving, allowing you to simplify expressions or recognize patterns. Invest time in learning these identities and their applications to make your problem-solving process more efficient.
5. **Use numerical methods when necessary:** While special functions have analytical properties, some problems may require numerical approaches for practical solutions. In such cases, leverage numerical methods, such as numerical integration or root-finding algorithms, to approximate the values of the special functions and solve the problem numerically.

By following these tips, beginners can begin to unlock the power of special functions and apply them effectively to solve a wide range of mathematical and scientific problems. With practice and further exploration, you will gain confidence in utilizing special functions as powerful tools in your problem-solving toolkit.

9. Resources and references for further learning

As a beginner exploring the world of special functions, it's important to have access to reliable resources and references that can further enhance your understanding and knowledge. Luckily, there are numerous valuable resources available that can help you unlock the power of special functions.

1. Books: Delve into the world of special functions with textbooks that provide comprehensive explanations and examples. Some highly recommended titles include "Special Functions for Scientists and Engineers" by W. W. Bell, "Handbook of Mathematical Functions" edited by M. Abramowitz and I. A. Stegun, and "Special Functions: A Graduate Text" by Richard Beals.

2. Online Courses: Take advantage of online platforms that offer courses specifically focused on special functions. Websites like Coursera, edX, and Khan Academy offer a wide range of courses, some of which are taught by renowned mathematicians and experts in the field.

3. Academic Journals and Research Papers: Stay up to date with the latest advancements in the field by exploring academic journals and research papers. Journals like the Journal of Mathematical Analysis and Applications, Journal of Computational and Applied Mathematics, and Proceedings of the American Mathematical Society often publish articles related to special functions.

4. Online Communities and Forums: Engage with like-minded individuals and experts in special functions through online communities and forums. Websites like MathOverflow and Stack Exchange provide platforms where you can ask questions, seek guidance, and participate in discussions related to special functions.

5. Mathematical Software: Utilize mathematical software packages such as MATLAB, Wolfram Mathematica, or Maple to explore and experiment with special functions. These software packages often have built-in functions and libraries specifically designed for working with special functions.

Remember, learning about special functions is a journey, and these resources can serve as valuable companions along the way. Embrace the opportunity to expand your knowledge, explore new concepts, and unlock the power of special functions.

10. Conclusion: Embracing the power and versatility of special functions

In conclusion, embracing the power and versatility of special functions is a game-changer for beginners and experienced users alike. Special functions offer a wide range of capabilities that can simplify complex tasks and enhance productivity. By taking the time to understand and utilize special functions, you can unlock a whole new level of efficiency and effectiveness in your work. From mathematical calculations to data manipulation, special functions provide tools that can revolutionize your approach. Moreover, special functions allow you to customize and tailor your work to your specific needs. With the ability to create personalized formulas or macros, you can streamline repetitive tasks and automate processes, saving you valuable time and effort. It is important to note that while special functions can be immensely powerful, they may also require a learning curve. However, with practice and perseverance, you can master these functions and harness their full potential. So, whether you are a beginner or a seasoned user, don't shy away from exploring the world of special functions. Embrace their power, experiment with their capabilities, and discover the countless ways they can elevate your work to new heights. In conclusion, special functions are not just tools but a gateway to enhanced productivity, efficiency, and creativity. Unlocking their potential will undoubtedly empower you to take your skills and projects to the next level. So, embrace the power of special functions and unlock a world of possibilities.

ASM-0028

THE DIFFERENTIAL GEOMETRY AND SOME POTENTIAL TOPICS**ROSHAN SAINI¹, RAHUL KUMAR²**

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ABSTRACT

In this review article we introduction the basic terminology of differential geometry lives as to 2-d,3-d space/eucledion space, tensor, vector etc. Also we have define metric tensor, riemannian manifolds, curvature, connections, isometries and some examples of riemannian geometry .bAgain we have define symplectic manifolds, symplectic forms, darboux theorem, hamiltonian vector fields of symplectic geometry. Again we describe the elemental problem of topological space and application of geometry.

ASM-0029

THE ROLE OF CRYPTOGRAPHY METHODS IN SAFEGUARDING SENSITIVE INFORMATION

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ABSTRACT

Security is the major concern when the sensitive information is stored and transferred across the internet where the information is no longer defended by physical boundaries. Cryptography is an essential, effective and effective element to insure the secure communication between the different realities by transferring ungraspable information and only the authorized philanthropist can be suitable to pierce the information. The right selection of cryptographic algorithm is important for secure communication that provides further security, delicacy and effectiveness. In this paper, we examine the security aspects and processes involved in the design and perpetration of utmost extensively used symmetric encryption algorithms similar as Data Encryption Standard(DES), Triple Data Encryption Standard(3DES), Blowfish, Advanced Encryption Standard(AES) and mongrel Cubes Encryption Algorithm (HiSea). Likewise, this paper estimated and compared the performance of these encryption algorithms grounded on encryption and decryption time, outturn, crucial size, avalanche effect, memory, correlation assessment and entropy. therefore, amongst the being cryptographic algorithm, we choose a suitable encryption algorithm grounded on different parameters that are stylish fit to the stoner conditions. Confidentiality is a crucial precedence when it comes to cryptography. It means that only people with the right authorization can pierce the information transmitted and that this information is defended from unauthorized access at all stages of its lifecycle. Confidentiality is necessary for maintaining the sequestration of those whose particular information is stored in enterprise systems. Encryption, thus, is the only way to insure that your information remains secure while it's stored and being transmitted. Indeed when the transmission or storehouse medium has been compromised, the translated information is virtually useless to unauthorized individualities without the right keys for decryption.

Keywords—Cryptography; encryption algorithms; Data Encryption Standard (DES); Triple Data Encryption Standard (3DES); Blowfish; Advanced Encryption Standard (AES); Hybrid Cubes Encryption Algorithm (HiSea)

ASM-0030

THE ROLE OF NANO MATERIALS IN ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

In recent years, the escalating concerns over environmental degradation have prompted researchers to explore innovative solutions that can mitigate the impact of human activities on the planet. One promising avenue of investigation is the utilisation of nanomaterials, which exhibit unique properties owing to their nanoscale dimensions. This paper explores the multifaceted role of nano materials in promoting environmental sustainability and addresses their applications across various domains. The first key aspect of nanomaterials in environmental sustainability lies in pollution remediation. Nano materials, such as nanoparticles and nanocomposites, have demonstrated remarkable efficiency in removing pollutants from air, water, and soil. Their high surface area and reactivity facilitate enhanced adsorption and catalytic degradation of contaminants, providing an effective means of combating environmental pollution. The second pivotal role of nano materials is in waste management. Nano-enabled technologies offer innovative solutions for waste treatment and recycling. Nanomaterials can be incorporated into waste treatment processes to improve efficiency, reduce energy consumption, and enhance the recovery of valuable resources from waste streams. This not only contributes to waste reduction but also promotes the circular economy concept, aligning with sustainable development goals. In the realm of renewable energy, nano materials play a crucial role in advancing photovoltaic technologies. Nanomaterial-based solar cells exhibit improved light absorption, charge carrier mobility, and overall energy conversion efficiency. These advancements hold promise for the development of cost-effective and sustainable energy sources, addressing the growing global demand for clean and renewable energy. Furthermore, nano materials contribute significantly to sustainable agriculture. Nano-enabled agrochemicals and nanoscale delivery systems enhance the efficiency of fertilisers and pesticides, minimising their environmental impact. In conclusion, the incorporation of nano materials into various environmental applications represents a paradigm shift in addressing the challenges of sustainability. From pollution remediation and waste management to renewable energy, agriculture, and the development of smart materials, nano materials offer versatile and effective solutions. As the world strives for a more sustainable future, the continued exploration and integration of nano materials into environmental technologies are essential for achieving lasting positive impacts.

Keywords : Nano materials, Environmental sustainability,

ASM-0031

OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS
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ABSTRACT

Polycarbonate films were irradiated with 55 MeV carbon beam at different fluences from 1×10^{11} to 1×10^{13} ions/cm². The structural, optical and dielectric properties are studied. The X-ray diffraction pattern shows the decrease in crystallinity and increase in average intermolecular spacing with an increase in fluence due to the formation of carbon nanoclusters in the polymer matrix. UV–VIS absorption spectra show that the band gap energy decreases upon irradiation. It depends on the ion fluence and growth of carbon nanoclusters. The Fourier transform infrared spectra evidenced cross-linking and chain scissoring both at high fluences. The dielectric constant decreases while dielectric loss and alternating current conductivity increase with fluence. Keywords: energy band gap; nanoclusters; refractive index; polycarbonate.

Keywords: Energy band gap; Nanoclusters; Refractive index; polycarbonate.

ASM-0032

A RECOGNISATION JOURNEY OF MEASURE THEORY THROUGH THE LENGTH OF INTERVALS

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ABSTRACT

In this article we are introducing the concepts of Measure Theory and Measurability. Bernhard Riemann made groundbreaking contributions to the field of analysis, particularly with his progress of the Riemann Integral. He gave the first rigorous solution of integration free from geometrical concepts. There are some drawbacks of Riemann Theory which are then sought out by the Henri Lebesgue. In his approach he used some basic terms like bounded sets, countable sets, length of intervals, algebra of sets and set function on the real line which is measurable. The main concept of his theory is based upon length of intervals.

ASM-0033

USE OF LIPID POLYMER HYBRID NANOPARTICLE AS NOVEL DRUG DELIVERY SYSTEM IN CANCER TREATMENT

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ABSTRACT

Among all diseases, cancer has the highest fatality rate in the world. Conventional therapies have come a long way, but they still are not a panacea for cancer. Nanotechnology-based compositions of several nanoparticles (NPs) hold promise as a cancer therapy. Lipid-polymer hybrid nanoparticles (LPHNPs) are promising platforms in the field of targeted drug delivery, integrating the positive features of polymeric and lipid nanocarriers. Drug delivery is a critical issue in treating many diseases. Drugs used conventionally have low efficacy, bio-distribution, and selectivity. As LPHNPs can hold a lot of drugs and release it slowly over time, they are an efficient drug delivery vehicle for hydrophobic chemicals. The development of lipid polymer hybrid nanostructures, on the other hand, looks to be a promising drug delivery approach. These methods are capable of altering their configurations, release properties and long-term behaviour in vivo. These nanoformulations can be utilized for both disease detection and targeted medicine delivery. Also, the best way to treat cancer is through a combination of drugs, and for that controlled drug delivery is needed.

Keywords – Nanoparticle, drug delivery, cancer, nanotechnology, polymer



INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT

CSM-001

DECODING DIGITAL FOOTPRINTS**MUKESH KUMAR SAINI**

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The concept of Digital Footprints that is frequently applied and stands for a phenomenon of modern digital era. The users who use digital services create, deliberately or unknowingly, a kind of digital imprint which contains sensitive personal information. Personal data can be relatively tracked by digital services providers and subsequently processed for commercial purposes, usually for targeted advertising, or misused for illegal purposes. Therefore, personal data shall be regarded as a potential threat to individual's privacy. It shall be borne in mind that awareness about digital safety within society is still low - social websites encourage users to share sensitive personal data with undisclosed range of contacts, some settings of internet browsers allows to track cookies or mere visiting websites enables specialized programs to create a comprehensive behavioral profile consisting of one's private life, customs, social status or consuming preferences. Current trend in digital security legislation seeks for a balances solution between the right to privacy and commercial interests of personal data processors. The European legislation has begun to constitute an integral part of consumer protection law on personal data protection and respective case law. This encompasses the usage of Google the search engine, Google Scholar the academic search engine, and diverse specific domains of certain countries.

CSM-002

**CONVERGENCE OF INDIAN ACCOUNTING STANDARDS WITH IFRS:
PROSPECTS AND CHALLENGES****Ramesh Pareek****Department of Management Studies,
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Consistent, comparable and understandable financial information is the lifeblood of commerce and making investment. The idea of global harmonization of accounting standards stems from lack of comparability of financial statements across the country. The main fascination with adoption or convergence of IFRS is sound business sense. Increasing cross border investing and proliferation of financial products have posed a challenge to companies as they faced multiple standards. Harmonization and convergence with IFRS can greatly contribute to the efforts to build global financial reporting infrastructure. This resulted in international initiative of convergence of Accounting Standards to a common standard viz. the International Accounting Standards/ International Financial Reporting Standards (IFRS). In India, the ICAI formulates the accounting standards on various issues. But since last few years, the aim has been following the IFRS to the extent possible. Henceforth, while issuing accounting standards, IFRS need to be adopted suitably. However, deviations from IFRS have been noted due to some unavoidable reasons like legal and regulatory requirements, economic environment, level of preparedness, conceptual differences etc. Thus, it can be argued that even if there has been a lot of deliberation on convergence of Indian accounting standards with IFRS, it is difficult to adopt IFRS considering the indigenous problems. In order to resolve this problem, the ICAI has given a roadmap through which, IFRS can be adopted in India in a phased manner. This analytical Paper deals with concept, objective and benefits of convergence with IFRS and explores the way how we converge the Indian GAAP with IFRS. Problems and challenges faced in the process of convergence in Indian perspective have been thoroughly discussed. This paper also focuses on IFRS prospects in Indian scenario. This paper puts forward a view point that convergence will bring forth galore benefits to investors, industry, professionals and the economy as a whole.

Keywords: Accounting standards, IFRS, IAS and Convergence.

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CSM-003

INVESTIGATIONS IN METAHEURISTIC TECHNIQUES WITH APPLICATION TO DATA MINING

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ABSTRACT

The objective of optimization is to maximize the profit/success, quality, efficiency, and to minimize the cost and time. We are confident to say that the optimization is desired in any real-world applications such as engineering design, industrial applications, scheduling, information security, healthcare, data mining, etc. An algorithm that optimizes the desired properties of a given problem is called optimization algorithm. Optimization algorithms have two classifications: exact algorithms and approximate algorithms. Exact algorithms are guaranteed that they will find the optimal solution of a given problem in a "limited amount of time" (Mirjalili and Gandomi, 2023). Nevertheless, for very difficult optimization problems (e.g., NP-complete, and NP-hard) the limited amount of time may rise exponentially with the size of the problem (Mirjalili and Gandomi, 2023). On the other hand, approximate algorithms do not guarantee to find the optimal solution, however, they determine the adequate solution to the problem in an "acceptable amount of time" (Mirjalili and Gandomi, 2023). Approximate algorithms further have two divisions: specific heuristics and metaheuristics. Specific heuristics are problem dependent, and they are designed and applicable to a particular problem only, while metaheuristics are more general, and they are applicable to a large variety of problems (Mirjalili and Gandomi, 2023). Concisely, metaheuristics are top-level problem-independent algorithmic framework that offers a set of rules to develop search and optimization heuristics (Mirjalili and Gandomi, 2023). This research work will utilize several metaheuristic techniques to automate some of the problems related to data mining, since it removes the need for time-consuming human interaction with a search process.

CSM-004

THE IMPORTANCE OF DEEP LEARNING IN THE FIELD OF OBJECT DETECTION^[1]ABHIMANYU SINGH KULHARI, ITY, ^[2]AKASH SARASWAT^[1] K.N. Modi University, ^[2] K.N. Modi University^[1] abhimanyusinghk@gmail.com,**ABSTRACT**

Background: Object detection has become a pivotal aspect of computer vision applications, finding relevance across diverse domains such as autonomous vehicles, surveillance, and healthcare. The conventional methods of object detection often faced limitations in accurately identifying objects in complex and dynamic environments. The advent of deep learning, particularly convolutional neural networks (CNNs), has ushered in a new era in object detection, promising improved accuracy and robustness. This research delves into the background of object detection, highlighting the evolution from traditional techniques to the current prominence of deep learning methodologies.

Methodology: The methodology involves a systematic exploration of various deep learning architectures, with a primary emphasis on CNNs due to their efficacy in visual feature extraction. An extensive dataset comprising annotated images is employed to train and fine-tune the deep learning models. The training process involves the iterative adjustment of model parameters to optimize performance. Evaluation metrics such as precision, recall, and F1 score are utilized to quantify the effectiveness of the trained models in object detection tasks.

Results and Discussion: The results reveal that deep learning significantly enhances the precision and recall rates of object detection systems compared to traditional approaches. CNNs, with their ability to hierarchically learn complex features, demonstrate superior performance in identifying objects across a range of scales and backgrounds. The study showcases instances where deep learning excels, such as in scenarios with multiple objects or instances of occlusion. Moreover, the discussion delves into the adaptability of deep learning models to different domains and their potential for transfer learning. In analyzing the results, it becomes apparent that deep learning mitigates challenges faced by traditional object detection methods. The models exhibit a capacity to generalize well to unseen data, indicating robustness acquired through extensive training on diverse datasets. The study also explores the transferability of pre-trained models, highlighting their role in expediting object detection implementation across various applications.

Conclusion: This research concludes with a synthesis of findings, emphasizing the transformative impact of deep learning on object detection. The adaptability and accuracy

achieved by deep learning models underscore their significance in addressing the complexities of real-world object recognition tasks. While celebrating the advancements facilitated by deep learning, the study also acknowledges ongoing challenges. These include the dependence on large annotated datasets, computational demands, and ethical considerations related to biases in training data. In conclusion, this research contributes to a comprehensive understanding of the importance of deep learning in shaping the future of object detection in computer vision. As the field continues to evolve, recognizing the broader implications and refining methodologies will be crucial for harnessing the full potential of deep learning in advancing object detection technologies. The study encourages further exploration and innovation in leveraging deep learning for enhanced object detection across diverse applications.

KEYWORDS: Autonomous vehicles, Computer vision, Convolutional neural networks (CNNs) Deep learning, Object detection

CSM-005

THE SIGNIFICANCE OF DEEP LEARNING IN THE CONTEXT OF PATH PLANNING

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ABSTRACT

Background: Object detection, a crucial facet of computer vision, has witnessed transformative advancements with the integration of deep learning. This research investigates the profound impact of deep learning methodologies on enhancing object detection systems. As the demand for accurate and efficient object recognition grows across various industries, understanding the underlying mechanisms and contributions of deep learning becomes imperative.

Methodology: The study employs a comprehensive methodology that involves the exploration of diverse deep learning architectures, with a primary focus on convolutional neural networks (CNNs). Extensive datasets are utilized for training these models, allowing them to autonomously learn and extract meaningful features for accurate object identification. The methodology encompasses the analysis of training processes, model optimization techniques, and the evaluation of performance metrics such as precision, recall, and F1 score.

Results and Discussion: The results reveal that deep learning significantly elevates the precision and recall rates of object detection systems compared to traditional methods. Convolutional neural networks, with their ability to hierarchically learn features, demonstrate superior performance in detecting objects amidst varying backgrounds and scales. The study showcases specific instances where deep learning excels, such as in complex scenes with multiple objects or instances of occlusion. Furthermore, the discussion highlights the adaptability of deep learning models to different domains, including autonomous vehicles, surveillance, and healthcare. In examining the results, it becomes evident that deep learning mitigates common challenges faced by traditional object detection approaches. The models exhibit a remarkable capacity to generalize well to unseen data, illustrating the robustness acquired through extensive training on diverse datasets. Additionally, the study discusses the transferability of pre-trained models, emphasizing their role in accelerating object detection implementation in various applications.

Conclusion: This research concludes with a synthesis of the findings, emphasizing the transformative role of deep learning in object detection. The adaptability and accuracy achieved by deep learning models underscore their significance in addressing the complexities inherent in real-world object recognition tasks. The study also discusses ongoing challenges, including the

need for large annotated datasets, computational requirements, and ethical considerations related to biases in training data. As the field continues to evolve, recognizing the broader implications and refining methodologies will be crucial for harnessing the full potential of deep learning in advancing object detection technologies. In conclusion, this research contributes to the comprehensive understanding of the importance of deep learning in shaping the future landscape of object detection in computer vision.

KEYWORDS: Autonomous vehicles, Computer vision, Deep learning, Object detection, Path Planning



INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING

EAL-001

रविन्द्रनाथ टैगोर के शिक्षा दर्शन की वर्तमान युग में प्रासंगिकता

डॉ. दुर्गा भोजक

प्राचार्य

सेठ जी. बी. पोदार टी. टी. कॉलेज, नवलगढ।

➤ सारांश :-

प्रस्तुत शोध प्रपत्र में रविन्द्रनाथ टैगोर का जीवन परिचय उनके शिक्षा संबंधी विचार और रविन्द्रनाथ टैगोर के शैक्षिक विचारों का प्रभाव एवं समावेशन के अध्ययन का उल्लेख किया गया है। आधुनिक भारत का निर्माण करने में जिन भारतीय विचारकों का महत्वपूर्ण योगदान रहा है। उनमें निःसंदेह गुरुदेव रविन्द्रनाथ टैगोर का नाम विशेष रूप से उल्लेखनीय है। इन्होंने भारतीय शिक्षा को न केवल अपने विचारों से प्रभावित किया है वरन् अपने शिक्षा दर्शन के द्वार समस्त शिक्षा जगत को शिक्षा की अमूल्य निधियां प्रदान की रविन्द्रनाथ टैगोर ने जिन शिक्षा सिद्धांतों का प्रतिपादन किया उन्हें वास्तविक धरातल पर उतारकर उन्हें समस्त मानव जगत के लिए उपयोगी भी सिद्ध किया। रविन्द्रनाथ टैगोर ने विश्वभारती की स्थापना करके शिक्षा के क्षेत्र में एक नई विचार धारा का सुत्रपात किया। रविन्द्रनाथ टैगोर का विचार था की मानव प्रकृति में सर्वश्रेष्ठ है। उनकी प्रकृति वादी विचारा धारा आदर्शवाद और यथार्थवाद से प्रभावित थी रविन्द्रनाथ टैगोर ने प्रकृतिवादी विचारधारा के द्वारा बालक के शारीरिक, मानसिक विकास पर बल दिया तो दूसरी ओर आदर्शवादी विचारधारा के द्वारा बालक के सर्वांगीण विकास हेतु शिक्षा में आध्यात्मिक व नैतिक मूल्यों को भी प्रतिष्ठित किया है।

➤ **मुख्य शब्दावली** – गुरु, शिक्षा, दर्शन, प्रासंगिकता।

➤ **प्रस्तावना** :- “सर्वोत्तम शिक्षा वही है, जो सम्पूर्ण सृष्टि से हमारे जीवन का सामंजस्य स्थापित करती है।”

गुरुदेव रविन्द्रनाथ टैगोर शिक्षा शास्त्रियों की भांति एक महान दार्शनिक और चिंतक होने के साथ एक सफल शिक्षक और शिक्षाविद् भी थे। इसलिए उन्होने दर्शन के अनुकूल और यथार्थ दृष्टिकोण के आधार पर सामाजिक आवश्यकताओं के अनुरूप अपने शिक्षा संबंधी विचार प्रस्तुत किए हैं। उनके इन शैक्षिक विचारों के कारण उनकी गणना महान शिक्षा शास्त्रियों में की जाती है। रविन्द्रनाथ टैगोर ने शिक्षा के संबंध में स्पष्ट कहा था कि – “सा विद्या या विमुक्तयो” अर्थात् विद्या वही है, जो सारे बंधनों से मुक्त कराती है।” रविन्द्रनाथ टैगोर का विश्वास था कि शिक्षा प्राप्त करने से व्यक्ति सामाजिक स्तर पर स्वयं को समायोजित करने में सफल हो पाता है तथा सामाजिक समायोजन सरलता के साथ कर अपने समाज व राष्ट्र की प्रगति में भीगीदार बनता है। रविन्द्रनाथ टैगोर का विश्वास था कि शिक्षा प्राप्त करने के लिए बालक को स्वतन्त्र वातावरण अर्थात् प्राकृतिक वातावरण मिलना परम आवश्यक है। आधुनिक भारत में शैक्षिक पुनरूत्थान के सबसे महान पैगम्बर गुरुदेव के अनुसार ईश्वर द्वारा निर्मित यह जगत उतना ही सत्य है जितना ईश्वर अपने-आप में सत्य है गुरुदेव रविन्द्रनाथ टैगोर ने

मातृभाषा के माध्यम से शिक्षा देने पर जोर दिया उनके अनुसार शिक्षा ऐसी होनी चाहिए जिससे छात्र का सर्वांगीण विकास हो सके शिक्षक – शिष्य के संबंध में रविन्द्रनाथ टैगोर ने कहा है कि शिक्षक – शिष्य का केवल मार्गदर्शक होना चाहिए क्यों कि छात्र अपने मनोभावों और आचरण की विधियों से स्वयं सीखते हैं शिक्षकों को अपने विषय का ज्ञाता होना चाहिए तथा उसे सामाजिक आवश्यकताओं का ज्ञान और अन्तर्राष्ट्रीय सहभाव होना चाहिए। गुरुदेव रविन्द्रनाथ टैगोर के अनुसार शिक्षार्थी को व्यवहार में प्रकृति एवं सौन्दर्य का उपासक होना चाहिए, उसे ज्ञान पिपासु, जिज्ञासु, परिश्रमी, धैर्यवान, सदाचारी होना चाहिए और सांसारिक एवं आध्यात्मिक दोनों प्रकार के ज्ञान प्राप्ति का इच्छुक होना चाहिए जब तक वे स्वयं से प्रेरित होकर और गुरु में श्रद्धा रखकर सीखने के लिए आगे नहीं बढ़ें तब तक वे कुछ नहीं सीख सकेंगे इसके अतिरिक्त रविन्द्रनाथ टैगोर ने विद्यालय एवं पाठ्यक्रम अनुशासन पर भी रविन्द्रनाथ टैगोर ने अपने विचार प्रस्तुत किए हैं। सार रूप में हम कह सकते हैं कि रविन्द्रनाथ टैगोर ने अपने विचारों के द्वारा शैक्षिक क्रान्ति लाने का प्रयास किया जिसमें वे कुछ हद तक सफल भी रहे क्यों कि उनके द्वारा स्थापित शान्ति निकेतन आज भी कार्यरत है। उनके शिक्षा संबंधी विचार मानव जाति के लिए बहुत ही उपयोगी हैं। इन्होंने शिक्षा को केवल सैद्धान्तिक न मानकर व्यावहारिक भी माना है जो कि व्यक्ति का सर्वांगीण विकास करती है।

➤ जीवन परिचय:-

रविन्द्रनाथ टैगोर का जन्म बंगाल के प्रसिद्ध टैगोर वंश में **6 मई 1861 ई.** में कलकता में हुआ था, उनके पिता **महर्षि देवेन्द्र नाथ टैगोर** थे टैगोर परिवार अपनी समृद्धि कला, विद्या एवं संगीत के लिए सम्पूर्ण बंगाल में प्रसिद्ध था। रविन्द्रनाथ टैगोर को अपने पिता से देशभक्ति, विद्वता, धर्मप्रियता, साधुता आदि गुण उत्तराधिकार के रूप में प्राप्त हुए वह अपने वंश से न केवल टैगोर को सर्वप्रथम ओरिएण्टल सेमेनरी स्कूल में भर्ती कराया गया परन्तु इनका यहाँ मन नहीं लगा इस कारण इनको कुछ महीनों बाद नोर्मल स्कूल में दाखिला दिलाया गया। इस काल में कुछ कटु अनुभव प्राप्त हुए जिनके परिणामस्वरूप आगे चलकर उन्होंने आजीवन शिक्षा सुधार के लिए प्रयास किया और आदर्श शिक्षा संस्था के रूप में शान्ति निकेतन की स्थापना की जो कि आज विश्वभारती के नाम से प्रख्यात है। वस्तुतः उनकी प्रारम्भिक शिक्षा स्कूल से अधिक घर पर हुई थी संस्कृत बंगला, अंग्रेजी, चित्रकला, संगीत आदि की शिक्षा घर पर देने के लिए अलग-अलग शिक्षक नियुक्त किए गए। **1878 ई.** में रविन्द्रनाथ टैगोर अपने भाई के साथ उच्च शिक्षा प्राप्त करने के लिए इंग्लैण्ड गए वहाँ उन्होंने ब्राइटन स्कूल में दाखिला दिलाया गया परन्तु टैगोर इस विद्यालय में भी अधिक दिन नहीं रहे वे वहाँ से लन्दन चले गए वहाँ उन्होंने किसी विद्यालय की शिक्षा के नाम पर कुछ भी प्राप्त न हुआ **1881 ई.** में रविन्द्रनाथ टैगोर पुनः इंग्लैण्ड गए वे वहाँ कानून की शिक्षा प्राप्त करने के ध्येय से गए परन्तु विचार परिवर्तन के कारण वापस लौट आए। **1951 ई.** रविन्द्रनाथ टैगोर ने बोलपूर के समीप शान्ति निकेतन की स्थापना कर स्वयं एक अध्यापक के रूप में काम किया यह विद्यालय उदारता एवं विभिन्न संस्कृतियों के संगम स्थल के रूप में दिन प्रतिदिन उन्नति करता गया आज यह विश्व भारती के नाम से विख्यात है। भारत के विश्वविद्यालयों में इसे अद्वितीय स्थान प्राप्त है। **1919 ई.** तक रविन्द्रनाथ टैगोर ने राजनीति के क्षेत्र में कार्य किया परन्तु वे इस क्षेत्र में होते हुए भी साहित्य की सेवा अनवरत रूप से करते रहे **1913 ई.** में उनको गीतांजलि पर नोबेल पुरस्कार प्राप्त हुआ। **1941 ई.** में इस महान कवि साहित्यकार, शिक्षाशास्त्री का देहान्त हो गया।

➤ टैगोर का शिक्षा दर्शन –

रविन्द्रनाथ टैगोर शिक्षा शास्त्री के रूप में अपने स्वयं के प्रयास से प्रकट हुए यह उनके जीवन और अनुभव का आवश्यक परिणाम था। क्यों कि वे तत्कालीन भारतीय समाज में प्रचलित शिक्षा व्यवस्था से भलि भौति परिचित थे। उनका मानना था कि अंग्रेजों द्वारा स्थापित शिक्षा प्रणाली भारत का उद्धार नहीं कर सकती इस शिक्षा का उद्देश्य केवल इतना ही है कि भारतीय थोडा बहुत पढकर सरकारी कार्यालयों में बाबू का कार्य कर सके। इसलिए उन्होंने अपने प्रयासों से भारतीय संस्कृति के अनुकूल आचरण करने व राष्ट्रीयता के विकास की भावना से ओत प्रोत शिक्षा प्रणाली की स्थापना का प्रयास किया। इस शिक्षा पद्धति में उन्होंने शिक्षा के उद्देश्य, पाठक्रम, गुरु – शिष्य संबंध, अनुशासन जैसे सभी पक्षों पर अपने विचार प्रकट कर शिक्षा जगत को धन्य किया है। उनका सम्बन्ध ऐसे परिवार से था जो सब प्रकार के प्रगतिशील विचारों और कार्यों तथा विभिन्न सामाजिक और सांस्कृतिक आन्दोलन का केन्द्र था। उनके परिवार के सदस्यों में प्रायः सभी अच्छी बातों के जानकार थे जैसे – दर्शन, विज्ञान, संस्कृति, कविता, कला, संगीत, नाटक, राष्ट्रनिर्माण, समाज सुधार, व्यापार, व्यवसाय और आध्यात्मिक अनुभव रविन्द्रनाथ टैगोर से ऐसी तीव्र और विविध ग्रहण शक्ति थी कि उन्होंने इन सभी बातों को बड़ी सरलता से अपना लिया सुनीलचन्द्र सरकार— टैगोर में शिक्षादर्शन को जो योगदान दिया उसमें पेस्टोलोजी और फ़ोबेल के कार्य सम्मिलित है और उनके कार्यों में जो कमियाँ रह गई थी उनकी पूर्ति भी है। **उदाहरणार्थ** – फ़ोबेल की किण्डरगार्टन पद्धति में रहस्यपूर्ण तत्व खेल, नृत्य और रचनात्मक कार्यों का विशेष स्थान है। रविन्द्रनाथ टैगोर ने बताया कि यह पद्धति सफलता पूर्वक तभी कार्य कर सकती है जब जीवन की कठोर वास्तविकताओं से दूर अति सुन्दर वातावरण का निर्माण किया जाता है। टैगोर ने स्वयं लिखा है कि – प्रकृति के पश्चात् बालक को सामाजिक व्यवहार की धारा के सम्पर्क में लाना चाहिए ताकि वह अपने समाज की उन्नति में योगदान दे सके। साथ ही वह एक सुयोग्य व कर्मठ नागरिक बनकर अपने राष्ट्र की सेवा कर सके।

➤ **शिक्षा दर्शन के आधार भूत सिद्धान्तः—**

➤ **शिक्षा का अर्थ—**

रविन्द्रनाथ टैगोर ने शिक्षा का प्रयोग व्यापक रूप में किया उन्होंने अपनी पुस्तक **PERSONALITY** में लिखा है। सर्वोच्च शिक्षा वहीं है जो सम्पूर्ण सृष्टि से हमारे जीवन का सामंजस्य स्थापित करती है इसी को रविन्द्रनाथ टैगोर ने पूर्ण मनुष्यत्व कहा है यह मनुष्य का शारीरिक, बौद्धिक, आर्थिक, सामाजिक, राजनीतिक, व्यवसायिक, धार्मिक एवं आध्यात्मिक विकास करती है। अतः रविन्द्रनाथ टैगोर के विचार में शिक्षा का रूप अत्यन्त व्यापक है जो बालक का सर्वांगीण विकास करने पर बल देती है साथ ही टैगोर ने अपने शिक्षा चिंतन में स्पष्ट किया है कि शिक्षा सामाजिक आवश्यकताओं को ध्यान में रखकर प्रदान की जानी चाहिए। रविन्द्रनाथ टैगोर ने बताया कि यह पद्धति सफलता पूर्वक तभी कार्य कर सकती है जब जीवन की कठोर वास्तविकताओं से दूर अति सुन्दर वातावरण का निर्माण किया जाता है। टैगोर ने स्वयं लिखा है कि – प्रकृति के पश्चात् बालक को सामाजिक व्यवहार की धारा के सम्पर्क में लाना चाहिए ताकि वह अपने समाज की उन्नति में योगदान दे सके। साथ ही वह एक सुयोग्य व कर्मठ नागरिक बनकर अपने राष्ट्र की सेवा कर सके।

उद्देश्य –

रविन्द्रनाथ टैगोर ने जिस शिक्षा प्रणाली को प्रस्तुत किया है वह अपने आप में समग्र दृष्टिकोण को प्रतिपादित करते हुए बालक के सर्वांगीण विकास पर बल देती है। रविन्द्रनाथ टैगोर द्वारा प्रतिपादित शिक्षा पद्धति के उद्देश्य अग्रांकित है

1. शारीरिक विकास का उद्देश्य-

शिक्षा का प्रथम एवं मुख्य उद्देश्य शारीरिक विकास को ही माना क्यों कि स्वस्थ शरीर में स्वस्थ मन निवास करता है शारीरिक विकास के लिए टैगोर ने पेड़ों पर चढ़ने, तालाबों में गोता लगाने, फूलों को तोड़ने तथा प्रकृति के साथ अनेक प्रकार की अटखेलियाँ तथा व्यवसाय को आवश्यक बताते हुए पौष्टिक एवं सन्तुलित भोजन पर बल दिया।

2. मानसिक विकास का उद्देश्य :-

रविन्द्रनाथ टैगोर के अनुसार शिक्षा का दूसरा प्रमुख उद्देश्य बालक का मानसिक विकास करना है। रविन्द्रनाथ टैगोर ने पुस्तकीय ज्ञान का घोर विरोध किया है, वे यह चाहते थे कि बालक, को प्राकृतिक वातावरण में बालक की स्वाभाविक क्रियाओं के अधिक से अधिक अवसर मिलें ताकि वह वास्तविक जीवन की परिस्थितियों में रहते हुए प्रत्यक्ष ज्ञान ग्रहण कर सके। रविन्द्रनाथ टैगोर – पुस्तकों की अपेक्षा प्रत्यक्ष रूप से जीवित व्यक्ति को जानने का प्रयास करना ही शिक्षा है।

3. सामाजिक दृष्टिकोण का विकास :-

रविन्द्रनाथ टैगोर व्यक्तिवादी होने के साथ-साथ एक समाजवादी चिंतक भी थे वे समाज सेवा को शिक्षा का एक उत्तम साक्ष्य मानते थे। रविन्द्रनाथ टैगोर शिक्षा द्वारा व्यक्तियों को एक ऐसे सामाजिक सेवा के बंधन में बाँधना चाहते थे जिससे कि व्यक्ति सामाजिक विकास और समाज सेवा हेतु निरंतर प्रयत्नशील रहे। रविन्द्रनाथ टैगोर ने इस बात पर अत्यधिक बल दिया कि शिक्षा में अन्तराष्ट्रीय दृष्टिकोण एवं विश्वबन्धुत्व की भावना का विकास होना चाहिए, क्यों कि इससे बालक के व्यक्तित्व का विकास तो होगा ही साथ ही उसमें सामाजिक गुणों, सार्वभौमिक मानवीय मूल्यों एवं समाज सेवा की भावना कूट-कूट कर विकसित करनी चाहिए।

4. नैतिक तथा आध्यात्मिक विकास का उद्देश्य :-

रविन्द्रनाथ टैगोर एक आदर्शवादी विचारक व शिक्षाशास्त्री थे इसलिए उन्होंने शिक्षा का उद्देश्य व्यक्ति के अन्दर नैतिक एवं आध्यात्मिक गुणों का विकास माना है। उनके अनुसार आध्यात्मिक मूल्यों तथा आदर्शों का बालक में विकास करना शिक्षा का मूल आधार है इससे छात्र को आत्मानुभूति तथा शांति प्राप्त होती है।

➤ पाठ्यक्रम :-

रविन्द्रनाथ टैगोर शिक्षा के पाठ्यक्रम के संबंध में अपने विचार व्यक्त करते हुए कहते हैं कि “अपने मस्तिष्क की खिड़कियों को पुस्तकों के पृष्ठों द्वारा बंद कर लेने की हमारी आदत पड़ गई है हमारी मानसिक विचारों में

पुस्तकीय उद्धरणों का प्लास्टर चिपक गया है जिसकी अप्रयेश्यता सत्य के प्रत्यक्षीकरण में बाधक है। डॉ. मुखर्जी- रविन्द्रनाथ टैगोर की शिक्षा संस्थाओं में लागू किया जाने वाला पाठ्यक्रम क्रिया प्रधान पाठ्यक्रम की रचना की जिससे बालक विभिन्न प्रकार की क्रियाओं के माध्यम से व्यवहारिक ज्ञान के क्षेत्र में प्रयोग करके पूर्ण मानव के रूप में विकसित हो सके।”

➤ **शिक्षण विधियाँ :-**

रविन्द्रनाथ टैगोर के अनुसार प्रत्यक्ष अनुभव अधिक अच्छा होता है क्योंकि इससे तार्किक शक्ति एवं निरीक्षण की शक्ति का विकास होता है शिक्षण विधियाँ क्रियात्मक हो, जीवन से पूर्व हो, नीरस एवं निष्क्रिय शिक्षण विधियों से बालक के जीवन का पूर्ण रूपेण विकास नहीं हो पाता इस प्रकार रविन्द्रनाथ टैगोर ने अपने प्रसिद्ध शैक्षिक संस्थान विश्वभारती में निम्नलिखित शिक्षण विधियों को स्थान दिया है।

1. **करके सीखना क्रिया विधि:-**

रविन्द्रनाथ टैगोर का मानना था कि जब तक बालक तितलियों के पीछे दौड़ना नहीं सीखेगा, पेड़ पर चढ़ना, नृत्य करना, अभिनय करना आदि स्वयं करके नहीं सीखेगा तब तक वह स्थायी ज्ञान प्राप्त नहीं कर सकेगा। रविन्द्रनाथ टैगोर का ऐसा विश्वास था कि स्वयं करके सीखी गई क्रियाएं शरीर, मन और मस्तिष्क दोनों को सजग रखती हैं तथा अत्यधिक शक्ति प्रदान करती हैं यही कारण है कि उन्होंने शान्ति निकेतन में किसी न किसी क्रिया को अपनाना तथा कार्य करना अनिवार्य कर दिया।

2. **प्रत्यक्ष अनुभव:-**

रविन्द्रनाथ टैगोर के अनुसार अनुकरण के द्वारा सीखना तथा प्रकृति का निरीक्षण कर घटनाओं व वस्तुओं से प्रत्यक्ष ज्ञान प्राप्त करना भी एक श्रेष्ठ विधि है।

3. **भ्रमण विधि:-**

रविन्द्रनाथ टैगोर का मत था कि सहज एवं सशक्त सीखने के लिए भ्रमण के साथ ज्ञान दिया जाना चाहिए इनका मानना था कि भ्रमण करते समय बालक की समस्त शक्तियाँ एवं ज्ञानेन्द्रियाँ सक्रिय एवं सतर्क रहती हैं अतः इस अवस्था में बालक विभिन्न विषयों पर प्रत्यक्ष ज्ञान सरलतापूर्वक प्राप्त कर लेते हैं। रविन्द्रनाथ टैगोर भ्रमण के समय प्रत्यक्ष अनुभव के द्वारा सीखना शिक्षण की सर्वोत्तम विधि मानते हैं।

4. **वाद – विवाद एवं विचार – विमर्श विधि :-**

रविन्द्रनाथ टैगोर का मत था कि बालकों को शिक्षा रटाकर या पुस्तकीय ज्ञान के आधार पर नहीं बल्कि वाद – विवाद एवं विचार – विमर्श के द्वारा दी जानी चाहिए। बालकों के समक्ष विभिन्न समस्याएं उपस्थित की जाएँ जिनका समाधान या निराकरण वे आपस में वाद-विवाद, तर्क और विचार – विमर्श के माध्यम से निकालने में सक्षम हो सके।

5. **स्वाध्याय विधि :-**

रविन्द्रनाथ टैगोर का मत है कि गहन चिन्तन – मनन के लिए चित की एकाग्रता के साथ स्वाध्याय द्वारा ज्ञान प्राप्त करना चाहिए।

6. प्रश्नोत्तर विधि :-

रविन्द्रनाथ टैगोर के अनुसार जिज्ञासाओं के समाधान के लिए शंकाओं को प्रश्नों के द्वारा दूर किया जा सकता है।

7. तर्क विधि :-

रविन्द्रनाथ टैगोर ने गूढ़ ज्ञान को तर्क के द्वारा जानने पर बल दिया।

➤ **शिक्षक का स्थान :-**

रविन्द्रनाथ टैगोर ने शिक्षण विधि की तुलना में शिक्षक को बहुत अधिक महत्वपूर्ण स्थान प्रदान करते हुए लिखा है कि – “ शिक्षा केवल शिक्षण विधि के द्वारा कदापि नहीं दी जा सकती है मनुष्य केवल मनुष्य से ही सीखता है।” इस प्रकार रविन्द्रनाथ टैगोर ने शिक्षक को शिक्षा व्यवस्था का प्रमुख आधार माना है इस रूप में शिक्षक के कार्य निम्नलिखित है –

1. शिक्षक और बालक दोनों को समान रूप से अपने देश की सांस्कृतिक परम्पराओं का अनुसरण और सत्य की खोज करनी चाहिए।
2. शिक्षक को बालक के जीवन को गति और मस्तिष्क के बन्धन से मुक्ति देनी चाहिए
3. शिक्षक को ऐसे वातावरण का निर्माण करना चाहिए जिसमें बालक स्वानुभव द्वारा अधिक सरलता एवं दक्षता से सीख सके।
4. शिक्षक का कोई भी कार्य बालक की रचनात्मक शक्ति का दमन करने वाला और उसकी उल्लास वर्द्धक वृत्ति में बाधक नहीं होना चाहिए।
5. शिक्षक को शिक्षण विधियों में विश्वास न करके जीवन के सिद्धान्तों और मानव आत्मा की पवित्रता और व्यक्तिगत प्रेम में विश्वास करना चाहिए।
6. शिक्षक को बालक को प्रेरणादायी और शिक्षा प्रद अनुभव प्रदान करने चाहिए न कि पुस्तकीय ज्ञान, क्योंकि ऐसा करने से वह बालक को ज्ञान का अर्जन करने की प्रेरणा नहीं दे सकता है।

➤ **छात्र संकल्पना :-**

रविन्द्रनाथ टैगोर के विचार में शिक्षा प्रक्रिया का मूल आधार छात्र है इसलिए उसे उदात्त गुणों से युक्त होना चाहिए छात्र दैवी प्रकाश से युक्त होता है, उच्च मानवीय मूल्य से ओत प्रोत संयम एवं स्वतन्त्र चिन्तन की प्रकृति का होना छात्र के लिए अनिवार्य है तथा छात्र को अपनी इन्द्रियों पर नियंत्रण रखना चाहिए। छात्र की व्यैक्तिक विभिन्नताओं

के आधार पर उसे व्यवहार जीवन के लिए तैयार किया जाना चाहिए रविन्द्रनाथ टैगोर ने छात्र के सर्वांगीण विकास का पक्ष लिया।

➤ **अनुशासन :-**

रविन्द्रनाथ टैगोर के अनुसार स्वाभाविक अनुशासन सर्वश्रेष्ठ है वास्तव में अनुशासन एक नैतिक मूल्य है, जिसे प्राप्त करना शिक्षा का कार्य है। दण्ड के प्रति रविन्द्रनाथ टैगोर के विचार नकारात्मक हैं। रविन्द्रनाथ टैगोर दण्ड देने के पक्ष में नहीं थे। इन्होंने कहा कि वास्तविक अनुशासन का अर्थ है – अपरिपक्व एवं स्वाभाविक आवेगों की अनुचित उतेजना और दिशाओं में विकास से सुरक्षा। स्वाभाविक अनुशासन की स्थिति में रहना छोटे बच्चे के लिए सुखदायक है यह उनके पूर्व विकास में सहायक होता है। रविन्द्रनाथ टैगोर स्वानुशासन और आत्मानुशासन को महत्व प्रदान करते हुए अपराध के अनुपात में हल्के अनुशासनात्मक दण्ड प्रयोग की सलाह देते हैं।

➤ **निष्कर्ष :-**

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डॉ. एच. बी. मुखर्जी – “ रविन्द्रनाथ टैगोर आधुनिक भारत में शैक्षिक पुनरुत्थान के सबसे महान पैगम्बर थे उन्होंने अपने देश के सामान शिक्षा के सर्वोच्च आदर्शों को स्थापित रखने के लिए निरन्तर संघर्ष किया उन्होंने अपनी शिक्षा संस्थाओं में शैक्षिक प्रयोग किए, जिन्होंने उनको जीवंत आदर्श का सजीव प्रतीक बना दिया।”

➤ **संदर्भग्रंथसूची**

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स्वामी विवेकानंद का शिक्षा दर्शन और राष्ट्रीय शिक्षा नीति – 2020

डॉ. रेवत सिंह

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राजस्थान विश्वविद्यालय, जयपुर।

➤ सारांश :-

प्रस्तुत शोध प्रपत्र में स्वामी विवेकानंद का जीवन परिचय, उनके शिक्षा संबंधी विचार तथा राष्ट्रीय शिक्षा नीति – 2020 की शिक्षा नीति और उसमें स्वामी विवेकानंद के शैक्षिक विचारों का प्रभाव और समावेशन के अध्ययन का उल्लेख किया गया है। स्वामी विवेकानंद हमारे राष्ट्र के महान देशभक्त संत और उच्चतम अनुभूति वाले युग-दृष्टा थे। मानव कल्याण और उत्थान उनका परम लक्ष्य था। वे एक अग्रणी चिंतक थे जो आध्यात्मिक सत्यों का प्रतिपादन अत्यंत सरल ढंग से करने के साथ-साथ, विविध विषयों यथा विज्ञान, कला, समाज और शिक्षा आदि पर सारगर्भित विवेचन भी प्रस्तुत करते रहे हैं। उनके विचार और शब्द नीति-निर्माताओं, समाज सेवकों, प्रशासकों, छात्रों और अध्यापकों के लिए सदैव ही प्रेरणा स्रोत रहे हैं। स्वामी विवेकानंद का मत है कि शिक्षा एक विकास की प्रक्रिया है और आर्यों की प्रत्येक विद्या का बीज वेद में विद्यमान है। शिक्षा का उद्देश्य मनुष्य को सत्चित आनंद स्वरूप आत्मा को पहचानना है और आत्मा के अस्तित्व में विश्वास करते हुए परब्रह्म के अस्तित्व को स्वीकार करना है। इस प्रकार स्वामी विवेकानंद ने बालक के सर्वांगीण विकास हेतु शिक्षा में आध्यात्मिक व नैतिक मूल्यों को भी प्रतिष्ठित किया। स्वामी जी के इन्हीं उच्च आदर्शों को वर्तमान भारत सरकार द्वारा घोषित राष्ट्रीय शिक्षा नीति-2020 में शामिल किया गया है ताकि भारतीय सनातन संस्कृति के उच्च आदर्शों व जीवन मूल्यों को समाज में पुनर्प्रतिष्ठित किया जा सके।

➤ मुख्य शब्दावली :- स्वामी, शिक्षा, दर्शन, राष्ट्र, नीति।

➤ प्रस्तावना :-

“शिक्षा का अर्थ तुम्हारे मस्तिष्क में रखी हुई ऐसी जानकारियों का ढेर नहीं है, जो आजीवन अनपची रहकर गडबडी पैदा करती रहे। जिस शिक्षा से हम अपना जीवन-निर्माण कर सकें, मनुष्य बन सकें, चरित्र गठन कर सकें और विचारों का सामंजस्य कर सकें, वही वास्तव में शिक्षा कहलाये जाने योग्य है। यदि तुम केवल पाँच ही विचारों को पचाकर तदनुसार अपना जीवन और चरित्र बना सको, तो तुम्हारी शिक्षा उस आदमी की अपेक्षा बहुत अधिक है, जिसने पूरे ग्रंथालय

को ही कण्ठस्थ कर लिया है। यदि तरह-तरह की सूचनाएँ एकत्र करना ही शिक्षा है, तब ये ग्रंथालय ही विश्व के श्रेष्ठ ज्ञानी और विश्वकोष ही ऋषि होते।” – स्वामी विवेकानंद

स्वामी विवेकानंद अन्य शिक्षा शास्त्रियों की भाँति एक महान दार्शनिक और चिंतक थे इसलिए उन्होंने दर्शन के अनुकूल शैक्षिक विचार प्रस्तुत किये हैं। इन्हीं शैक्षिक विचारों के कारण उनकी गणना महान शिक्षा शास्त्रियों में की जाती है। उन्होंने तत्कालीन भारतीय समाज में प्रचलित शिक्षा पद्धति का विरोध किया और उसे निषेधात्मक और भावात्मक बताया। स्वामी जी ने स्पष्ट शब्दों में कहा कि वर्तमान विद्यालयों में दी जाने वाली शिक्षा मनुष्य बनाने वाली शिक्षा नहीं है। यह शिक्षा जन समुदाय को जीवन संग्राम के योग्य नहीं बनाती, उनकी चारित्रिक शक्ति का विकास नहीं करती, उनके अंदर दया का भाव और सिंह जैसा साहस उत्पन्न नहीं करती। ऐसी शिक्षा निरर्थक है, हमें तो ऐसी शिक्षा चाहिए जिससे चरित्र का निर्माण हो, मानसिक शक्ति का विकास हो, व्यक्ति अपने पैरों पर खड़ा हो सके। स्वामी विवेकानंद ने अपने शैक्षिक चिंतन में एक ऐसी शिक्षा योजना का खाका तैयार किया जो बालक का सर्वांगीण विकास कर सके। उन्होंने शिक्षक व छात्र के संबंधों के बारे में कहा कि गुरु-शिष्य का संबंध केवल सांसारिक ही नहीं होना चाहिए, बल्कि उन्हें एक-दूसरों के दिव्य स्वरूप को भी देखना चाहिए। उनका मानना था कि शिक्षक को संयमी, आत्मज्ञानी, परिश्रमी और उच्च चरित्र वाला होना चाहिए ताकि छात्र अपने शिक्षक का अनुकरण कर एक आदर्श मनुष्य बन सके। इसी प्रकार उन्होंने छात्रों के संबंध में कहा है कि ज्ञान चाहे भौतिक हो या आध्यात्मिक, उसे प्राप्त करने के लिए छात्रों द्वारा ब्रह्मचर्य का पालन करना अनिवार्य है। ब्रह्मचर्य के पालन द्वारा ही वह अपनी इन्द्रियों पर नियंत्रण रख सकता है और उसमें सीखने की प्रबल इच्छा उत्पन्न होती है। व्यक्ति, समाज और राष्ट्र तीनों की प्रगति को सुनिश्चित करने के लिए स्वामी विवेकानंद ने छात्रों को पढाये जाने वाले विषयों पर भी खुलकर अपने विचार व्यक्त किये स्वामी जी के अनुसार पाठ्यक्रम ऐसा हो जिससे छात्रों का शारीरिक, बौद्धिक और आध्यात्मिक विकास हो तथा छात्रों को रोजगार योग्य बना सके। इन शिक्षा संबंधी मूल बातों के अतिरिक्त स्वामी जी ने विद्यालय, शिक्षण विधि और अनुशासन पर भी अपने विचार व्यक्त किये हैं। सार रूप में हम कह सकते हैं कि स्वामी विवेकानंद ने अपने विचारों के द्वारा शैक्षिक क्रांति लाने का प्रयास किया और कुछ सीमा तक वे इसमें सफल भी हुए। उनके शिक्षा संबंधी विचार मानव जाति के लिए बहुत ही उपयोगी हैं क्योंकि उन्होंने शिक्षा को केवल सैद्धांतिक मात्रा ही नहीं समझा वरन् उसे एक व्यावहारिक प्रक्रिया के रूप में देखा जो हमारा चरित्र निर्माण करती है। स्वामी विवेकानंद व्यक्ति की अंतर्निहित पूर्णता की अभिव्यक्ति को ही शिक्षा मानते हुए कहते हैं कि – “तुम्हें कोई पढा नहीं सकता, कोई आध्यात्मिक नहीं बना सकता। तुमको सब कुछ अंदर से सीखना है, आत्मा से अच्छा कोई शिक्षक नहीं है।”

➤ जीवन परिचय :-

स्वामी विवेकानंद का जन्म 12 जनवरी, 1863 को कलकत्ता के एक प्रतिष्ठित कायस्थ परिवार में हुआ था। उनके बचपन का नाम नरेन्द्र नाथ दत्त था विवेकानंद नाम तो उन्हें 1893 में अमेरीका के शिकागो में विश्व धर्म सम्मेलन भाग लेने जाते समय खेतडी महाराजा अजित सिंह ने दिया था। स्वामी जी पर अपनी माता के सदगुणों का गहरा प्रभाव पडा किंतु उनको सर्वाधिक प्रभावित करने वाला कारण उनका श्री रामकृष्ण परमहंस का शिष्यत्व था। 1881 में रामकृष्ण परमहंस से उनकी भेंट उनके जीवन में एक क्रांतिकारी मोड़ लायी और कुछ दिनों तक मानसिक प्रतिरोध का सामना करने के पश्चात् उन्होंने अपने गुरु के समक्ष पूर्ण आत्म समर्पण कर दिया। स्वामी विवेकानंद ने कॉलेज स्तर तक शिक्षा प्राप्त की वे प्रारंभ से ही प्रतिभाशाली छात्र थे उनके विषय में उनके प्रधानाचार्य मिस्टर हेस्टी ने कहा था – “नरेन्द्रनाथ दत्त वस्तुतः प्रतिभाशाली

है। मैंने विश्व के विभिन्न देशों की यात्राएँ की हैं, किंतु किशोरावस्था में ही इसके समान योग्य एवं महान क्षमताओं वाला युवक मुझे जर्मन विश्वविद्यालयों में भी नहीं मिला। 1893 के शिकांगो धर्म सम्मेलन में भाग लेने से पूर्व उनकी भेंट हार्वर्ड यूनिवर्सिटी के विख्यात प्रोफेसर हेनरी राइट से हुई। प्रो. राइट ने धर्म सम्मेलन के सभापति को विवेकानंद के नाम का एक परिचय पत्र दिया जिसमें उन्होंने लिखा कि “यहाँ एक ऐसा व्यक्ति है जो अपने यहाँ के सारे विद्वान प्रोफेसरों की इकट्टी विद्वता से भी कहीं अधिक विद्वान है।” इस सम्मेलन से स्वामी जी ने विश्व पटल पर भारतीय ज्ञान एवं सभ्यता को सर्वोच्च आसन पर प्रतिष्ठित कर दिया। शिकांगो से 1895 में वे भारत लौटे और 1897 में कलकत्ता के पार बैलुर में रामकृष्ण मिशन की स्थापना की। देश के विभिन्न भागों में मिशन की अनेक शाखाएँ थीं और स्कूलों, अस्पतालों, दवाखानों, अनाथालयों, पुस्तकालयों आदि की स्थापना द्वारा उन्होंने भारत की समाज सेवा की। 1898 में स्वामी जी ने पश्चिम की दूसरी यात्रा की इस दौरान उन्होंने सेनफ्रांसिस्को में शान्ति आश्रम और वेदांत सोसायटी की स्थापना की। 1890 में वापिस भारत लौट आये और अपने जीवन के अंत तक संगठन, वेदांत के प्रचार, दीन-दुखियों की सेवा और विश्व बंधुत्व के प्रचार कार्य में लगे रहे। 4 जुलाई, 1902 को इस महान सन्यासी, शिक्षाशास्त्री, देशभक्त तथा समाज सुधारक का 39 वर्ष की अल्पायु में ही निर्वाण हो गया।

➤ स्वामी विवेकानंद का शिक्षा दर्शन :-

स्वामी विवेकानंद के शिक्षा दर्शन का आधार भारतीय वेदांत और उपनिषद् ही रहे हैं। उनका मत था कि सभी प्रकार का लौकिक तथा आध्यात्मिक ज्ञान मनुष्य की आत्मा में ही निहित है। ज्ञान बाहर से नहीं आता वह तो अंदर ही है और शिक्षा इसी ज्ञान का अनावरण करती है। स्वामी जी के अनुसार कोई व्यक्ति किसी दूसरे व्यक्ति को नहीं सिखाता, प्रत्येक व्यक्ति अपने आप सीखता है बाहरी शिक्षक तो केवल सुझाव देता है और मार्गदर्शन करता है। स्वामी विवेकानंद वर्तमान शिक्षा प्रणाली के कटु आलोचक और व्यावहारिक शिक्षा प्रणाली के प्रबल समर्थक थे। उनका मानना था कि वर्तमान शिक्षा, मनुष्य को जीवन संग्राम के लिए तैयार नहीं करती, वरन् उसे शक्तिहीन बनाती है। वर्तमान शिक्षा के प्रभाव से हम उँची जाति कहलाने वाले नीची जाति के व्यक्तियों को, उनके कार्यों को हेय दृष्टि से देखते हैं। इसलिए प्रचलित शिक्षा के स्थान पर स्वामी जी जिस प्रकार की शिक्षा चाहते थे उसके संबंध में उन्होंने कहा है कि – “हमें उस शिक्षा की आवश्यकता है; जिसके द्वारा चरित्र का निर्माण होता है; मस्तिष्क की शक्ति बढ़ती है, बुद्धि का विकास होता है और मनुष्य अपने पैरों पर खड़ा हो सकता है।” स्वामी जी सैद्धांतिक शिक्षा के स्थान पर व्यावहारिक शिक्षा को महत्व प्रदान करते हैं इसलिए उन्होंने कहा है कि – “तुमको कार्य के क्षेत्रों में व्यावहारिक बनना पड़ेगा। सिद्धांतों के ढेरों ने संपूर्ण देश का विनाश कर दिया है।” इस प्रकार स्पष्ट है कि स्वामी विवेकानंद का शिक्षा के प्रति अत्यंत विस्तृत दृष्टिकोण रहा। उन्होंने यह भी बताया कि भारत को परतंत्रता की बेड़ियों से मुक्त कराने के पश्चात् यहाँ के नागरिकों को पाश्चात्य विद्वानों का अध्ययन करके तकनीकी शिक्षा की भी व्यवस्था करनी चाहिए जिससे उद्योग-धंधे विकसित हो सकें और हमारा देश पुनः आर्थिक दृष्टि से आत्मनिर्भर बन सके।

स्वामी विवेकानंद के शिक्षा दर्शन में प्रकृतवाद, आदर्शवाद तथा प्रयोजनवाद आदि सभी मुख्य दार्शनिक विचारधाराओं की झलक दिखाई पड़ती है। प्रकृतिवादियों की भाँति स्वामी जी ने बताया कि सच्ची शिक्षा प्रकृति के सानिध्य में रहकर ही प्राप्त हो सकती है। आदर्शवादियों की भाँति उन्होंने बताया कि शिक्षा का प्रमुख उद्देश्य बालक का आध्यात्मिक विकास करके उसके उस पूर्णत्व की अभिव्यक्ति करना है, जो उसमें पहले से ही विद्यमान है। इसी प्रकार प्रयोजनवादियों की भाँति स्वामी जी ने पाश्चात्य देशों की कला, उद्योग तथा तकनीकी शिक्षा की उपयोगिता को अपनी कला के साथ समन्वित करने का सुझाव

प्रस्तुत किया। इस प्रकार स्वामी विवेकानंद के शिक्षा संबंधी विचारों में प्राचीन तथा आधुनिक विचारों का समन्वय है। अतः वे जहाँ एक ओर बालक के आध्यात्मिक विकास पर बल देते हैं, वहाँ दूसरी ओर वे उसको लौकिक स्मृति के लिए भी तैयार करना चाहते हैं। इसी प्रकार एक महान संत की भाँति स्वामी जी जहाँ एक ओर वसुधैव कुटुंबकम् के भाव का प्रचार करते हैं वहाँ दूसरी ओर वे राष्ट्र को शक्तिशाली बनाने के लिए शक्ति के निर्माण तथा उसके संचय पर भी बल देते हैं। उन्होंने बालक के शारीरिक, मानसिक, सामाजिक, व्यावसायिक तथा आध्यात्मिक विकास पर ही बल नहीं दिया अपितु स्त्री शिक्षा, जनसमुदाय की शिक्षा तथा धार्मिक शिक्षा आदि अनेक पक्षों की विस्तृत व्याख्या करते हुए मानव के चारित्रिक विकास पर बल दिया है। इस प्रकार स्वामी जी ने शिक्षा का समग्र दृष्टिकोण प्रस्तुत किया है

➤ स्वामी विवेकानंद के प्रमुख शैक्षिक विचार :-

❖ शिक्षा का अर्थ :-

स्वामी विवेकानंद के अनुसार शिक्षा का अर्थ मनुष्य में निहित शक्तियों का पूर्ण विकास है, न कि मात्र सूचनाओं का संग्रह। स्वयं स्वामी जी के शब्दों में – “शिक्षा उस सन्निहित पूर्णता का प्रकाश है जो मनुष्य में पहले से ही विद्यमान है।” अतः समस्त ज्ञान, चाहे वह लौकिक हो अथवा आध्यात्मिक, मनुष्य के मन में है। बहुधा वह प्रकाशित न होकर ढका रहता है। और जब आवरण धीरे-धीरे हट जाता है, तो हम कहते हैं कि हम सीख रहे हैं। जिस मनुष्य से यह आवरण पुरा हट जाता है वह सर्वज्ञ, सर्वदर्शी हो जाता है। इस प्रकार स्वामी जी के अनुसार शिक्षा वह प्रक्रिया है जो मनुष्य के अज्ञान के आवरण को हटाकर उसे ज्ञानी और सर्वदर्शी बनाती है।

❖ शिक्षा के उद्देश्य :-

स्वामी विवेकानंद के अनुसार सभी प्रकार की शिक्षा और अभ्यास का उद्देश्य मनुष्य निर्माण ही हो। सारे प्रशिक्षणों का अंतिम ध्येय मनुष्य का विकास करना ही है। जिस अभ्यास से मनुष्य की इच्छाशक्ति का प्रवाह और प्रकाश संयमित होकर फलदायी बन सके, उसी का नाम है शिक्षा। स्वामी जी शिक्षा का प्रमुख उद्देश्य बालक का सर्वांगीण विकास करना है ताकि वो जीवन संघर्ष का सामना कर सके। उन्होंने आजीवन इस बात पर बल दिया कि स्वयं पर विश्वास रखना, श्रद्धा तथा आत्मत्याग की भावना को विकसित करना शिक्षा का महत्वपूर्ण उद्देश्य है। स्वयं उनके शब्दों में – “उठो! जगो और तब तक बढ़ते रहो जब तक कि चरम उद्देश्य की प्राप्ति न हो जायें।”

❖ पाठ्यक्रम :-

स्वामी विवेकानंद के मतानुसार मानव जीवन का चरम लक्ष्य आध्यात्मिक विकास था आध्यात्मिक शिक्षा का पाठ्यक्रम ऐसा होना चाहिए जिससे आध्यात्मिक उन्नति के साथ-साथ मानव की भौतिक अथवा लौकिक उन्नति भी हो सके। अतः स्वामी जी के अनुसार पाठ्यक्रम में दोनों ही प्रकार के विषयों का समावेश होना चाहिए। स्वयं विवेकानंद के शब्दों में – “हमें अपने ज्ञान के विभिन्न अंगों के साथ-साथ अंग्रजी भाषा और पाश्चात्य विज्ञान का अध्ययन करने की आवश्यकता है। हमें प्राविधिक शिक्षा और उन सभी विषयों का ज्ञान प्राप्त करने की आवश्यकता है, जिनसे हमारे देश के उद्योगों का विकास हो

और मनुष्य नौकरियों खोजने की बजाय अपने स्वयं के लिए पर्याप्त धन का अर्जन कर सकें और दुर्दिन के लिए कुछ बचा भी सकें।”

❖ शिक्षण विधि :-

स्वामी विवेकानंद के अनुसार ज्ञान प्राप्त करने की एकमात्र पद्धति है, और वह है एकाग्रता। मन की एकाग्रता ही शिक्षा का मूल है। चाहे वह अति सामान्य व्यक्ति हो या उच्चतम योगी हो, सभी को ज्ञान प्राप्ति हेतु यही पद्धति अपनानी होगी। जितनी अधिक एकाग्रता होगी उतना ही अधिक ज्ञान प्राप्त होगा, कर्म के किसी भी क्षेत्र में सफलता इसी का परिणाम है। ललित कलाओं, संगीत आदि में महान उपलब्धियाँ एकाग्रता का परिणाम है। स्वयं उन्हीं के शब्दों में – “मेरे लिए शिक्षा का मूल तत्व मन की एकाग्रता है न कि तथ्यों का संकलन। यदि मुझे एक बार पुनः शिक्षा प्राप्त करने का अवसर प्राप्त हुआ, तो मैं तथ्यों का कदापि अध्ययन न करूँगा, मैं एकाग्रता की शक्ति तथा निर्लिप्त भाव को विकसित करूँगा और तब एक उत्तम उपकरण द्वारा इच्छानुसार तथ्यों का संकलन करूँगा।” स्वामी जी ने उत्तम शिक्षण के लिए कतिपय शिक्षण विधियों का उल्लेख भी किया है जैसे –

1. मन को एकाग्र करने हेतु केंद्रीयकरण विधि का प्रयोग।
2. चित्तवृत्तियों के निरोध के लिए योग विधि का प्रयोग।
3. ज्ञान अर्जित करने हेतु विचार-विमर्श, व्याख्यान, उपदेश तथा तर्क विधि का प्रयोग।
4. शिक्षक के आदर्श व गुणों के अनुकरण हेतु अनुकरण विधि का प्रयोग।
5. छात्रों को सुझाव देने हेतु व्यक्तिगत निर्देशन एवं परामर्श विधि का प्रयोग।

❖ गुरु शिष्य संबंध :-

स्वामी विवेकानंद ने शिक्षण व्यवस्था में शिक्षक को अत्यंत महत्वपूर्ण स्थान प्रदान किया है। उनके अनुसार बालक की अर्न्तनिहित शक्तियों का विकास गुरु के बिना संभव नहीं है। वे कहते हैं कि शिक्षा ‘गुरु-गृह-वास’ है, गुरु के व्यक्तिगत जीवन के बिना शिक्षण हो ही नहीं सकता। किंतु इसके लिए एक योग्य शिक्षक का होना अति आवश्यक है इस हेतु शिक्षक को शास्त्रों का ज्ञान हो, वह निष्पाप हो, उच्च चरित्रवान हो, कर्तव्यनिष्ठ और त्याग की भावना से परिपूर्ण हो। इसी प्रकार स्वामी जी ने शिक्षक के साथ-साथ शिष्य के भी आवश्यक गुणों का उल्लेख किया है यथा – शिष्य को मन, वचन और कर्म से सत्य का पालन करना चाहिए, उसे पूर्ण ब्रह्मचारी होना चाहिए, उसे इंद्रियजय होना चाहिए, उसमें ज्ञान प्राप्ति की उत्कंठा, जिज्ञासा और उत्साह होना चाहिए तथा शिष्य में मन की एकाग्रता और लगन के साथ परिश्रम करने की इच्छाशक्ति होनी चाहिए।

❖ जन शिक्षा :-

जन शिक्षा के विषय में स्वामी विवेकानंद का बड़ा ही दृढ़ और सुस्पष्ट विचार था। वे इसे सर्वाधिक अदृश्य से दृश्य रूपों में प्रचलित हमारी भेदभाव की समस्या के निराकरण का एकमात्र समाधान मानते थे। वे इस बात के प्रबल समर्थक थे कि शिक्षा प्रत्येक घर तक पहुँचनी चाहिए और शिक्षा का माध्यम देशी भाषाएँ और मातृ भाषा होनी चाहिए।

➤ **राष्ट्रीय शिक्षा नीति – 2020 :-**

राष्ट्रीय शिक्षा नीति 2020, 21वीं सदी की प्रथम शिक्षा नीति है जिसका लक्ष्य भारत के विकास के लिए अनिवार्य आवश्यकताओं को पूर्ण करना है। यह नीति भारत की परंपरा और सांस्कृतिक मूल्यों के आधार को बनाये रखते हुए, 21वीं सदी की शिक्षा के लिए आकांक्षात्मक लक्ष्यों के संयोजन में शिक्षा व्यवस्था, उसके नियमन और गवर्नंस सहित सभी पक्षों के सुधार और पुनर्गठन का प्रस्ताव रखती है। राष्ट्रीय शिक्षा नीति प्रत्येक व्यक्ति में निहित रचनात्मक क्षमताओं के विकास पर विशेष बल देती है। यह शिक्षा नीति प्राचीन और सनातन भारतीय ज्ञान और विचार की समृद्ध परंपरा के आलोक में तैयार की गई है। ज्ञान, प्रज्ञा और सत्य की खोज को भारतीय विचार परंपरा और दर्शन में सदा सर्वोच्च मानवीय लक्ष्य माना गया। प्राचीन भारत में शिक्षा का लक्ष्य सांसारिक जीवन अथवा विद्यालय के बाद के जीवन के तैयारी के रूप में ज्ञान अर्जन नहीं बल्कि पूर्ण आत्म ज्ञान और मुक्ति के रूप में माना गया था। इस नीति का उद्देश्य ऐसे मानवों का विकास करना है जो तर्क संगत विचार और कार्य करने में सक्षम हो, जिनमें करुणा और सहानुभूति, साहस और लचीलापन, वैज्ञानिक चिंतन और रचनात्मकता, कल्पना शक्ति और नैतिक मूल्यों का समावेश हो। जिस प्रकार स्वामी विवेकानंद ने शिक्षा का उद्देश्य मनुष्य को मनुष्य बनाना और उसे जीवन संघर्ष के लिए तैयार करना बताया है उसी प्रकार हमारी नयी शिक्षा नीति मानवतावाद और संस्कारों से युक्त नागरिकों का निर्माण करने के लिए तैयार की गई नीति है। स्वामी विवेकानंद ने आध्यात्मिक शिक्षा के साथ-साथ व्यावसायिक एवं तकनीकी शिक्षा का समावेश करने की बात कही है उसी प्रकार राष्ट्रीय शिक्षा नीति में व्यावसायिक शिक्षा को प्राथमिकता देते हुए कहा गया है कि समस्त स्कूल चरणबद्ध तरीके से व्यावसायिक शिक्षा के कार्यक्रमों को मुख्यधारा की शिक्षा में एकीकृत करे। यह शिक्षा नीति शिक्षकों की गुणवत्ता पर विशेष बल देती है, विद्यार्थी कैसे सीखें तथा सीखे हुए ज्ञान को वास्तविक जीवन में कैसे उतारे, अपने अस्तित्व और जीवन का लक्ष्य कैसे निर्धारित करे तथा उनमें सामाजिक सरोकार व दायित्व का भाव कैसे विकसित करे। इन सभी तथ्यों को वास्तविक रूप प्रदान करने के लिए एक योग्य व कुशल अध्यापक का होना आवश्यक है इसलिए इस शिक्षा नीति में अध्यापकों की व्यावसायिक कुशलता पर पर्याप्त ध्यान दिया गया है। राष्ट्रीय शिक्षा नीति 2020 के द्वारा बालकों शारीरिक, मानसिक, चारित्रिक, सांस्कृतिक और सामाजिक विकास पर जोर देते हुए बालकों के सर्वांगीण विकास की बात कही गयी है। इस प्रकार सार रूप में हम कह सकते हैं कि नयी शिक्षा नीति प्राचीन भारत के गौरव को पुनर्प्रतिष्ठित करने की दिशा में एक सकारात्मक कदम है। जैसा कि स्वामी विवेकानंद ने भारतीय गौरव को 1893 के शिकांगो धर्म सम्मेलन में प्रतिष्ठित किया और सभी भारतीयों का आह्वान करते हुए कहा कि 'गर्व से कहो कि मैं भारतीय हूँ।'

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EAL-003

नवलगढ क्षेत्र के माध्यमिक स्तर के विद्यार्थियों की संज्ञानात्मक शैली का बुद्धि के संदर्भ में अध्ययन

प्रवेश कुमार

व्याख्याता शिक्षा शास्त्र

सेठ जी. बी. पोदार टी. टी. कॉलेज, नवलगढ।

सारांश

वर्तमान समय में मनोवैज्ञानिकों और शिक्षाविदों के लिए प्रमुख चुनौती यह है कि ऐसे सार्वभौमिक सिद्धांतों की खोज की जाये जिससे कि शिक्षण अधिगम के उद्देश्यों को प्राप्त किया जा सके।

समस्या का औचित्य

संज्ञानात्मक शैली और बुद्धि को लेकर कई शोध जैसे स्टर्नबर्ग, रिडिंग चिमा फोर्ड कोजन आदि के शोध कार्यो ने संज्ञानात्मक शैली के संदर्भ में नये आयामों को विकसित किया। ये शोध नवीन क्षेत्रों और स्थानीय सांस्कृतिक कारकों के संदर्भ में नवीन शोध कार्यो को आवश्यकता को रेखांकित करते है।

समस्या कथन “नवलगढ के माध्यमिक स्तर के विद्यार्थियों की संज्ञानात्मक शैली का उनकी बुद्धि के संदर्भ में अध्ययन”

शोध के प्रश्न:-

1. क्या बौद्धिक क्षमता के विकास से संज्ञानात्मक शैली में आवश्यक परिवर्तन सम्भव है
2. क्या संज्ञानात्मक शैली की भिन्नताओं के अध्ययन के द्वारा शिक्षण-अधिगम प्रक्रिया को सार्थक बनाया जा सकता है?
3. क्या संज्ञानात्मक शैली और बुद्धि के सहसम्बन्धों का अध्ययन विद्यार्थियों के अंतिम व्यवहार परिवर्तन में सहायक होगा?

शोध के उद्देश्य

नवलगढ के मध्य. स्तर के सरकारी और निजी विद्यालयों के विद्यार्थियों में संज्ञानात्मक शैली के अन्तर का अध्ययन करना।
नवलगढ के माध्य. स्तर के विद्यार्थियों की संज्ञानात्मक शैली में लैंगिक अन्तरों को जानना।
नवलगढ के माध्य. स्तर के ग्रामीण और शहरी विद्यालयों के विद्यार्थियों की बुद्धि के अन्तरों को जानना।

शोध पत्र परिकल्पना

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नवलगढ के माध्य. स्तर के सरकारी और निजी विद्यालयों के विद्यार्थियों में की संज्ञानात्मक शैली में सार्थक अन्तर पाया जाता है।

नवलगढ के माध्य. के ग्रामीण और शहरी विद्यालयों के विद्यार्थियों की संज्ञानात्मक शैली में सार्थक अंतर नहीं पाया जाता। नवलगढ के माध्य. स्तर के विद्यार्थियों की संज्ञानात्मक शैली में लैंगिक आधार पर कोई सार्थक अन्तर नहीं पाया जाता।

शोध पत्र का परिसीमन

- प्रस्तुत शोध पत्र में शोधकर्ता द्वारा नवलगढ तहसिल के 100 विद्यार्थियों को सम्मिलित किया गया है।
- प्रस्तुत शोध में शोधकर्ता द्वारा केवल सर्वेक्षण विधि का प्रयोग किया गया है।

शोध विधि

प्रस्तुत शोध में सर्वेक्षण विधि का प्रयोग किया गया है।

उपकरण

- डॉ. प्रवीण झा द्वारा निर्मित संज्ञानात्मक शैली इन्वेन्ट्री
- बुद्धि कैटल का संस्कृति मुक्त टेस्ट

न्यादर्श

इस शोध कार्य हेतु नवलगढ क्षेत्र के 100 विद्यार्थियों का चयन किया गया है। इस हेतु ग्रामीण व शहरी विद्यालय, सार्वजनिक और निजी विद्यालयों के 50-50 विद्यार्थियों का चयन किया गया है। कुल 100 विद्यार्थियों में से 50 छात्र व 50 छात्राओं का चयन किया गया है।

प्रस्तुत शोध पत्र में प्रयुक्त सांख्यिकी

- मध्यमान
- प्रमाप विचलन
- टी परीक्षण

शोध पत्र के निष्कर्ष

परिकल्पना की जांच से यह निष्कर्ष निकलता है। कि नवलगढ क्षेत्र के माध्यमिक स्तर के विद्यार्थियों में भिन्न भिन्न संज्ञानात्मक शैलियां पायी जाती है। 100 विद्यार्थियों के प्राप्तांको में भिन्नता के आधार पर यह निष्कर्ष निकलता है कि बहुतायत विद्यार्थियों में व्यवस्थित संज्ञानात्मक शैली पायी जाती है तथा संज्ञानात्मक शैली को और बुद्धि में सहसंबंध पाए जाते है। इस आधार पर बालकों की बौद्धिक क्षमताओं के विकास द्वारा संज्ञानात्मक शैलियों में आवश्यक परिवर्तन किया जा सकता है।

EAL-004

बच्चे असफल कैसे होते हैं

दलीप सिंह शेखावत

सहायक प्रोफेसर ए सेठ ज्ञानीराम बंसीधर पोदार शिक्षण प्रशिक्षण महाविद्यालय नवलगढ़

शोध सारांश

कलम के धनी योद्धाओं (संघर्ष करने वाले शिक्षकों) के कटु अनुभवों से उपजा ज्ञान हर किसी के भाग्य में नहीं होता है और जिसे वह ज्ञान मिलता है, वह जीवन की सभी विपरीत बहने वाली धाराओं में भी पार पाने में सफल होता है। अर्जुन सभी बन सकते हैं, लेकिन वह द्रौणाचार्य कहाँ से लाएँ। सच्चा शिक्षक तो सारथी भी बनकर जीवन के कुरुक्षेत्र में ज्ञान ही देगा, लेकिन आज के युग में कृष्ण जैसा सारथी मिलना ही मुश्किल है, जो रणक्षेत्र से पलायन को रोकने के लिए गीता का पाठ पढ़ाकर हमारे ज्ञान चक्षु खोलने में हमारी मदद करे। विद्यालयों से पलायन भी एक ऐसी ही समस्या है जिससे शायद ही कोई देश अछूता रहा हो। यह ऐसी असफलता है जो बहुत से बालकों के हिस्से में आती है, जो शायद हमारे समय की सबसे बड़ी विडंबना है। आज की इन परिस्थितियों में विद्यालय विद्यार्थियों के लिए एक रोचक स्थान न होकर एक उबाऊ एवं असुरक्षित स्थान हो गया है, जहाँ से विद्यार्थी या बच्चा तुरंत भागकर घर जाना चाहता है। ऐसा अकसर देखने में भी आया है कि बच्चे स्कूल तो धीर-धीरे जाते हैं, किंतु विद्यालय से छुट्टी होने के बाद तुरंत घर की तरफ दौड़ कर भागते हैं जो हमारी शिक्षा व्यवस्था पर एक गहरा प्रश्न चिह्न लगाता है? साथ ही साथ हमारे विद्यालयों की असफलता को भी उजागर करता है।

जॉन होल्ट द्वारा सन् 1964 में प्रकाशित 'बच्चे असफल कैसे होते हैं' (**How Children Fail**) से शिक्षा में सुधार और शिक्षा की गुणवत्ता को लेकर शिक्षक और विद्यालय पर किए गए प्रहार से एक अंतर्राष्ट्रीय बहस शुरू हुई। द न्यूयॉर्क रिव्यू ऑफ बुक्स ने जॉन होल्ट को पिआने की संज्ञा दी है। लाइफ पत्रिका ने तर्क की विनम्र आवाज़ कहकर संबोधित किया है। इस पुस्तक का हिंदी अनुवाद पूर्वा याज्ञिक कुशवाहा ने और प्रकाशन एकलव्य ने किया है। सत्य तो यह है कि यह पुस्तक शिक्षकों की असफलता को उजागर करती है, क्योंकि असफल होना तो छात्र के लिए मार्ग का चयन करने हेतु एक विकल्प मात्र है। बच्चे अपने अंदर छिपे हुए ज्ञान का अंश मात्र ही विद्यालय में विकसित कर पाते हैं, जबकि यही वह समय होता है, जब बालक अपने सामर्थ्य का भरपूर उपयोग कर अपने सभी आयामों का विकास करने के लिए तैयार रहते हैं। एक छोटी-सी सुई से लेकर अनंत

आकाश में उड़ने की इच्छा उनके मन में पल रही होती है। शिक्षक और विद्यालय को चाहिए कि बालक को सीखने के लिए स्वतंत्र छोड़ दें ताकि वह नीरस, निरर्थक, भ्रमित, अर्थहीन और बंद वातावरण से मुक्त होकर कुछ स्वयं का अस्तित्व निर्धारित कर सके। होल्ट ने बच्चों को खेलने, सीखने और बड़े होने की आज़ादी मिलने की पैरवी की है ताकि बच्चे अपनी क्षमताओं के शिखर को छू सकें। इस पुस्तक में होल्ट ने अपने विशेष अनुभवों को साझा करते हुए बच्चों की दुनिया को देखने के नज़रिए, उनके सामाजिक सरोकारों और अपने लिए अधिकार के मुद्दों से निपटने के तरीकों को उजागर किया है। यह पुस्तक भारत के संदर्भ में मौजूदा शैक्षणिक परिस्थितियों को समझने, उनमें परिवर्तन करने का मार्ग प्रशस्त करती है। वर्तमान परिदृश्य में भी ये सारी समस्याएँ बनी हुई हैं। शिक्षक बच्चों को अपने तरीके से पढ़ाना चाहता है, जबकि होना यह चाहिए कि वह बच्चों को उस तरह से पढ़ाएँ, जिस तरह से वो पढ़ना चाहते हैं। बच्चे उन समस्त चीज़ों को जल्दी सीखते हैं जिनमें उनकी रुचि होती है।

पुस्तक में संकलित चारों भागों में बालकों की व्यूह रचनाओं, उनके चिंतन के तरीकों, उनमें जिन उपस्थित भय, भय से उत्पन्न असफलता उनके डार लग ग्रहण करने के तरीकों, उनकी वास्तविक बौद्धिक क्षमताओं, विद्यालय के घटकों और विद्यालय की असफलता के कारणों को होल्ट के व्यक्तिगत अनुभवों के माध्यम से विश्लेषित किया गया है।

होल्ट ने अपने अनुभवों में पाया कि मेधावी व्यक्ति एक समस्या को सुलझाने में स्वयं को पूरी तरह प्रयत्नशील कर देता है। वह बार-बार गलतियाँ करके अपने साहस को बटोर कर वास्तविकता तक पहुँचने के लिए हर संभव प्रयास करता है। लेखक अपने प्रत्यक्ष अनुभवों से बयाँ करता है कि कुछ बच्चे प्रखर, जिज्ञासु और कुछ निस्तेज होते हैं। प्रखर बालक प्रयोग करने में विश्वास रखते हैं, वहीं निस्तेज बालक एक बार की असफलता से निराश होकर बैठ जाते हैं। प्रखर बालक विपरीत परिस्थितियों में भी अपना धैर्य नहीं खोते और पराकाष्ठा तक चुनौती का सामना करने में समर्थ रहते हैं। प्रखर बालक अधूरे ज्ञान और अपूर्ण जानकारी के आधार पर भी आगे बढ़ने, जोखिम उठाने, नए सागरों को पार करने, अंधकार में भी प्रकाश की खोज करने को तैयार रहते हैं, क्योंकि उनको लगता है संपूर्ण सृष्टि तार्किक, विवेकपूर्ण और भरोसेमंद स्थान है। वहीं निस्तेज बालक अपरिचित परिस्थिति से भयभीत होकर निष्क्रिय हो जाता है।

लेखक अपने विचार रखता है कि मानसिक रूप से विकलांग बालकों को छोड़ दें, सामान्य बालकों ऐसा में क्या होता है कि अचानक सीखते-सीखते उनकी क्षमताओं पर विराम-सा लग जाता है। एक शिक्षक ज्ञान देने की प्रक्रिया में नकारात्मकता द्वारा बालक के विकास को अवरुद्ध कर देने के लिए पूर्ण में जिम्मेदार है, क्योंकि शिक्षक को वे ही बच्चे अच्छे लगते हैं, जो उनसे भयभीत रहते हैं। उसे अंकों का लालच देकर उसकी जिज्ञासा को जागने का अवसर यही नहीं देते। उदाहरण के तौर पर,

स्विट्जरलैंड का त भौगोलिक ज्ञान वहाँ के लोक गीत गायन से नहीं आएगा अथवा लिंकन के बारे में जानकारी लकड़ी की चीरने संबंधी गणित से कोई समानता नहीं रखती ही अर्थात् उदाहरण कल्पनाशील होना चाहिए।

लेखक कहता है कि शिक्षक को जब यह पता चलता है कि जो कुछ उसने पढ़ाया है, उसे समझने में बालकों को परेशानी हो रही है तो वह अपना सीना चौड़ा कर लेता है। वास्तव में, यह शिक्षक की ही हार है, क्योंकि बच्चे यहीं से सोचने लगते हैं कि विद्यालय नीरसता और भय का स्थान है और शिक्षक भय को उत्पन्न करने वाला।

लेखक अपने अनुभव वृत्तांत में कहता है कि एक बार वह अपने मनोविज्ञान के शिक्षक मित्रों के शिक्षक महाविद्यालय में उनकी कक्षाओं को संबोधित कर रहा था, तो पाया कि जिस प्रशिक्षणार्थी की तरफ़ लेखक देखता, वही प्रशिक्षणार्थी आँखें चुरा लेता। इस पर लेखक कहता है कि काश! मैं उन नौजवानों और अकुशल मजदूरों (प्रशिक्षणार्थियों को कहा है) को यह सलाह दे पाता कि जब तुम इस भय पर काबू पा लो और स्वयं से प्रेम करने लग जाओ, तब इस कक्षा में आने के लायक हो। इसलिए व्यक्ति को अधिक-से-अधिक सामाजिक संबंध स्थापित करने की सलाह देता है, क्योंकि जितने अधिक लोगों कसे मिलाप होगा उतनी ही समस्याओं से उलझकर निखरने और भय रहित होने का अवसर मिलेगा। लेखक ने पुस्तकों पर भी झूठ और विकृत छवि प्रस्तुत करने का आरोप मढ़ा है, क्योंकि पुस्तकें भी पक्षपात और कल्पना के पाश में रची जाने लगी हैं।

लेखक स्वयं एक शिक्षक होते हुए अपने अनुभवों श्रृंखला में शिक्षकों पर कटाक्ष करने से नहीं चूका। अपने संस्मरण की चर्चा करते हुए बताता है कि कोई भी शिक्षक सिवाय उसके यह कहते नहीं मिला कि एक शिक्षक को अपनी कक्षा के सभी बच्चों से स्नेह नहीं है, जबकि एक बालक की माता लेखक को बताती है कि उसका बेटा पहले ही दिन कक्षा में बात करने का दंड अध्यापक और अन्य बालकों की हँसी का पात्र बनकर भुगत चुका है अर्थात् विद्यालय मानसिक बलाघात का स्थान भी ले चुके हैं। एक शिक्षक को सत्य बोलने और न कहने के लिए अबोध बालक की तरह साहसी व ईमानदार होने की आवश्यकता है। लेखक को ऐसे कितने ही बच्चे मिले जो अपने शिक्षकों को पसंद नहीं करते थे। यही बात चार्ल्स सिल्वरमैन ने अपनी पुस्तक क्राइसिस इन द क्लास और एडा माउरे ने द लास्ट रिजोर्ट पत्रिका द्वारा विद्यालयों पर किए गए राष्ट्रव्यापी सर्वेक्षण में लिखी है कि विद्यालय के अधिकांश शिक्षकों का मानसिक संतुलन 15 लाख बच्चों की प्रतिवर्ष औपचारिक पिटाई से तय होता है, जिसमें अनौपचारिक प्रताड़ना को तो कोई स्थान ही नहीं है। शिक्षा के प्रोफेसर आर्थर पर्ल इन प्रताड़नाओं को "बेइज्जती के रस्मों-रिवाज" की संज्ञा देते हैं। दूसरी तरफ़ लेखक उन शिक्षकों के प्रति सम्मान भी व्यक्त करता है जो बच्चों से बेहद स्नेह करते हैं, लेकिन उनकी सामाजिकता और विनम्रता के कारण या तो वे स्वयं विद्यालय छोड़ देते हैं या निकाल दिए जाते हैं।

पुस्तक को लिखने का लेखक का क्या मकसद रहा है इसका आभास पुस्तक को पढ़ने पर आसानी से हो जाता है। कहीं-कहीं वृत्तांत इतना मार्मिक है कि लगता है लेखक कोई काल्पनिक कहानी गढ़ने की कोशिश कर रहा है। लेखक लिखता है कि हर शिक्षक जो बालक को प्रयोगशाला के रूप में देखता है, घातक है। एक बालक को 5000 वर्ष पुराना इतिहास पढ़ाकर उसे कंठस्थ करने हेतु प्रताड़ित करने जैसा है, बजाय इसके कि वह उसे जानकारी समझकर अपने जीवन के आने वाले उतार-चढ़ावों में उसकी प्रासंगिकता समझे। यथार्थ ज्ञान का बोध कराने के बजाय बालक को वह ज्ञान क्यों जो केवल किताबी और कल्पनातीत है। हमें ऐसे लोग तैयार करने चाहिए जो आवश्यकता पड़ने पर ज़रूरतों के लिए स्वयं निर्माण करने लगें। एक पुरानी कहावत है कि घोड़े को पानी के पास तो ले जाया जा सकता है, लेकिन पीने के लिए मजबूर नहीं किया जा सकता। लेकिन लेखक का दृष्टिकोण है कि अब घोड़े को पानी के पास ले जाने के बजाय उसे आवश्यकताओं का ज्ञान और उसमें खोजने की प्रवृत्ति जाग्रत करने की आवश्यकता है। एक बालक को वह पढ़ने दिया जाए, जिसे पढ़ने का उसका मन है, न कि वह, जिसे वह पसंद ही नहीं करता। ज्ञान निगलने के बजाय स्वाभाविक रूप से सीखने पर जोर दिया जाए तो बालक का ज्ञान स्थायी होगा। एक यह भी विचार नकारने योग्य है कि विद्यालय और कक्षा ऐसा स्थान है, जहाँ बच्चे अपना अधिकांश ज्ञान प्राप्त करते हैं।

लेखक के विचार कि अभिव्यक्ति में भारतीय वर्तमान संदर्भ में बदलती हुई शिक्षा नीतियों ने छड+h के प्रयोग पर अवश्य अंकुश लगाया है, परंतु बालक के प्रति स्नेह अभी शेष है। लेखक के अनुसार प्रत्येक वह स्थान, जहाँ बालक स्वयं को स्वतंत्र पाता है। वही चाहे सीखने के लिए उपयुक्त स्थान होना चाहिए, वह पेड़ की डाल हो या फिर खेल का मैदान।

पुस्तक को लिखने के लिए लेखक जितना प्रशंसा का पात्र है, उतना ही धन्यवाद का पात्र अनुवादक भी है। इस अनुवाद में भाषा का जैसा प्रवाह दिखता है वह वास्तव में अद्भुत है। एक सरल भाषा शैली का उपयोग कर राष्ट्रभाषा हिंदी में अनुवाद कर अनुवादक ने विचारों के सार्वभौमीकरण को प्रोत्साहित किया है। शायद अनुवादक यह बात जानता है कि प्रत्येक भारतीय के लिए आंग्ल भाषा सरल, सुलभ और प्रिय नहीं है, परंतु विचारों का आदान-प्रदान बिना अवरोध बेहद ज़रूरी भी है। इसके साथ-साथ प्रकाशक भी बधाई का पात्र है, चूँकि उसने बहुत ही सस्ती दर पर यह पुस्तक साधारण जनता तक उपलब्ध कराने का असाधारण कार्य किया है।

EAL-005

सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित विशिष्ट अध्यापन क्षेत्रों के प्रति अध्यापकों की अभिवृत्ति का अध्ययन

प्रवीण कुमार और सुरेश कुमार

व्याख्याता

सेठ जी. बी. पोदार टी. टी. कॉलेज नवलगढ़

अध्ययन के उद्देश्य (Objective)

प्रस्तुत शोध में निम्नलिखित उद्देश्य निर्धारित किये गये हैं :-

1. शहरी अध्यापक एवं अध्यापिकाओं की सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित विशिष्ट अध्यापन क्षेत्रों के प्रति अभिवृत्ति का अध्ययन करना।
2. ग्रामीण अध्यापकअध्यापिकाओं की सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित - विशिष्ट अध्यापन क्षेत्रों के प्रति अभिवृत्ति का अध्ययन करना।
3. शहरी एवं ग्रामीण पुरुष अध्यापकों की सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित विशिष्ट अध्यापन क्षेत्रों के प्रति अभिवृत्ति का अध्ययन करना।

परिकल्पना

1. शहरी अध्यापक एवं अध्यापिकाओं की सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित विशिष्ट अध्यापन क्षेत्रों के प्रति अभिवृत्ति में कोई सार्थक अन्तर नहीं है।
2. ग्रामीण अध्यापकअध्यापिकाओं की सेवारत कार्यक्रमों में निर्धारित विशिष्ट अध्यापन - अभिवृत्ति में कोई सार्थक अन्तर नहीं है। शिक्षक प्रशिक्षण क्षेत्रों के प्रति
3. शहरी एवं ग्रामीण पुरुष अध्यापकों की सेवारत शिक्षक प्रशिक्षण कार्यक्रमों में निर्धारित विशिष्ट अध्यापन क्षेत्रों के प्रति अभिवृत्ति में कोई सार्थक अन्तर नहीं है।

अध्ययन में प्रयुक्त शब्दावली की व्याख्या

सेवारत शिक्षक प्रशिक्षण कार्यक्रम :-

सेवारत अध्यापक शिक्षा के अन्तर्गत जो अध्यापक आते हैं, उन्हें व्यावसायिक तथा अन्य अध्यापकों के रूप में विभक्त किया जाता है। उन अध्यापकों को उनके व्यवसाय से सम्बन्धित जानकारी देना, व्यावसायिक गुणों तथा कौशलों में सुधार व विकास करना आता है। सेवारत अध्यापक शिक्षा की व्यवस्था अध्यापक को शिक्षण व्यवस्था में प्रवेश करने के लिए बाद उनके निरन्तर विकास हेतु उचित अनुदेशन को निश्चित करने के लिए दी जाती है। इससे अध्यापक अपनी व्यवस्था का विकास कर पाता है। सेवारत अध्यापक शिक्षा के माध्यम से अध्यापकों में व्यावसायिक गुणों को विकसित किया जाता है। शिक्षक प्रशिक्षण एक पूर्णकालीन परम्पराधारित प्रणाली के रूप में अधिमान्य एवं सर्व परिचित है। इसमें कौशल, दक्षता आदि की सम्प्राप्ति के साथ-साथ नैतिक, सामाजिक, चारित्रिक एवं सांस्कृतिक मूल्यों को एवं व्यवसायगत व्यवहार प्रारूप एवं अभिवृत्तियों के प्रदर्शन के साथ-साथ उच्च मानसिक क्रियाकलापों को भी विशेष महत्व दिया जाता है। शिक्षक प्रशिक्षण के अन्तर्गत नीतिगत सन्दर्भ तथा आचरणगत मानदण्डों को भी अधिक महत्व दिया जाता है। कार्यकुशलता दक्षता, सम्प्रेषणगत योग्यता एवं उद्यमगत श्रेष्ठता की स्थापना हेतु शिक्षक प्रशिक्षण की आवश्यकता होती है। मानवीय एवं बातावरण सम्बन्धी पक्षों को विकसित करने के साथ ही उत्तरदायित्व की भावना तथा कर्तव्यपरायणता को कार्य कुशलता के साथ जोड़ने से शिक्षक प्रशिक्षण का स्वरूप और व्यापक हो गया है।

सेवारत अध्यापक :-

जो अध्यापक सेवा पूर्व प्रशिक्षण प्राप्त करने के पश्चात राजकीय या अर्द्ध राजकीय विद्यालयों में अध्यापक नियुक्त हैं इन अध्यापकों को सेवा काल के दौरान ही नई शिक्षा नीति 1986 के अन्तर्गत सेवारत अध्यापकों को विशेष प्रशिक्षण देने की व्यवस्था की गई ताकि उनको नयी

शिक्षण विधियाँ और शिक्षण सामग्री से अवगत कराया जा सके। ये अध्यापक एक निश्चित समयावधि में विशेषज्ञों द्वारा अभिनवन प्रशिक्षण प्राप्त कर अपने शिक्षण कौशल को उन्नत बनाते हैं।

अभिवृत्ति :-

अभिवृत्ति (*Attitude*) शब्द *Actus* शब्द से बना है। *Actus* शब्द लेटिन भाषा का शब्द है जिसका तात्पर्य योग्यता या सुविधा होती है। किसी कार्य को करने में सक्षम होना ही अभिवृत्ति है। अभिवृत्ति एक परिकल्पनात्मक तथ्य है क्योंकि इसे प्रत्यक्ष रूप से नहीं देखा जा सकता है। किन्तु इसके प्रभावों को अनुभव किया जा सकता है। इसीलिये इसे परिकल्पनात्मक तथ्य की संज्ञा दी गयी है क्योंकि परिकल्पना में केवल तथ्यों का ही अनुभव होता है। अभिवृत्ति एक परिकल्पनात्मक तथ्य होते हुए भी मनोवैज्ञानिकों के लिए बहुत ही महत्वपूर्ण रही है क्योंकि इसका सम्बन्ध व्यवहार तथा अनुभव के संगठन से है। जब अनुभव तथा व्यवहार दोनों आपस में जुड़े होते हैं तो मनोवैज्ञानिकों के लिए यह बहुत ही महत्वपूर्ण होते हैं। सामाजिक व्यवहार की अभिवृत्ति तथा निर्धारण में अभिवृत्तियों की भूमिका महत्वपूर्ण होती है।

परिसीमन :

इस समस्या के अध्ययन के लिए क्षेत्रीय एवं व्यक्तिगत शोध की परिसीमाओं को ध्यान में रखते हुए अध्ययन की सीमा का निर्धारण इस प्रकार किया गया है :-

1. प्रस्तुत शोध कार्य राजस्थान के नागौर जिले तक ही सीमित है।
2. प्रस्तुत शोध कार्य में कुल 50 अध्यापकों को शामिल किया गया है। जिनमें 100 अध्यापक ग्रामीण क्षेत्र से हैं। 50 अध्यापक शहरी क्षेत्र से तथा
3. शहरी क्षेत्र से (25+25) तथा ग्रामीण क्षेत्र से (25+25) अध्यापिकाओं को -अध्यापक (शामिल किया गया है।

EAL-006

श्री अरविन्द घोष के शैक्षिक विचारों की वर्तमान युग में प्रासंगिकता

डॉ अल्पना शर्मा

अर्चना शर्मा

शोध निर्देशक

शोधार्थी

उच्च अध्ययन शिक्षा संस्थान मानित विश्वविद्यालय

गाँधी विद्या मन्दिर सरदारशहर

सारांश

प्रस्तुत शोध मे श्री अरविन्द घोष का जीवन परिचय, शिक्षा सम्बंधित विचार, शिक्षा दर्शन मे वर्णित पाठ्यक्रम एवं शिक्षा पद्धति को शिक्षा व्यवस्था मे शामिल किया जाये तो शिक्षा व्यवस्था मे गुणात्मक सुधार होगा। अरविन्द घोष के शिक्षा दर्शन के आधार पर वर्तमान शिक्षा प्रणाली के स्वरूप को निर्धारित किया जा सकता है। इस प्रकार की शिक्षा प्रणाली के द्वारा व्यक्ति विशेष मे नैतिकता, नवीनता, मानसिक विकास, गुरु शिष्य सम्बन्ध, चरित्र निर्माण तथा उधमशीलता के कौशलो मे विकास के नए आयाम स्थापित किये जा सकते है।

प्रस्तावना

अरविन्द घोष के अनुसार शिक्षा मात्र ज्ञान की प्राप्ति नहीं है वरन शिक्षा वह है जो मानव का पूर्ण विकास करने की क्षमता रखती हो।

श्री अरविन्द घोष एक महान दर्शनिक के साथ साथ उच्च कोटि के शिक्षशास्त्री भी थे। उन्होंने मानव जाति को सर्वोच्च आध्यात्मिक विकास का मार्ग दिखाया। इस दृष्टि से उन्हें मानव के सच्चे धैर्यदाता की भी संज्ञा दी जाती है।

अरविन्द घोष के अनुसार बालक को इस प्रकार की शिक्षा दी जाये जिसमे वह अपनी किर्यात्मक, नैतिक, बौद्धिक तथा सोन्दर्यात्मक शक्तियों को विकसित कर सके इन सब के विकास के लिए यह आवश्यक है की बच्चे को स्वतंत्र वातावरण प्रदान किया जाये। पाठ्यक्रम ऐसा होना चाहिए जो बालको के भौतिक, नैतिक, मानसिक और आध्यात्मिक विकास मे सहायक सिद्ध हो सके। अरविन्द जी के शिक्षा दर्शन भारत के लिए कल्याणप्रद तो है साथ ही साथ भारत की आत्मा तथा भारत की वर्तमान और भावी आवश्यकताओ के अनुकूल भी है।

श्री अरविन्द घोष – जीवन परिचय

रोमा रोला ने अरविन्द घोष को ‘भारतीय दर्शनिक का सम्राट’ एवं ‘एशिया तथा यूरोप की प्रतिमा का समन्वय’ कह कर पुकारा है। डॉ. फ्रेडरिक स्पजलबर्ग ने उन्हें हमारे “युग का पैगम्बर” कहा है। अरविन्द घोष का जन्म 15 अगस्त 1872 ई. मे कलकत्ता मे हुआ। उनके पिता कृष्णाधन घोष एक चिकित्सक थे। अरविन्द की भी भाषा, रहन सहन एवं विचारों से अंग्रेज बनना चाहते थे अरविन्द 14 वर्ष तक इंग्लैंड मे रहे और मेंचेस्टर लन्दन केम्ब्रीज मे उनकी शिक्षा हुई। सन 1906 तक बड़ौदा नरेश की सेवा मे 13 वर्ष तक रहे। बड़ोदा मे रहते हुये भी अरविन्द ने संस्कृत तथा अन्य भारतीय भाषाओ का ज्ञान प्राप्त किया।

सन 1905 ई. मे बंग-भंग आंदोलन के समय वे पूरी तरह राजनीति मे आ गये। बड़ोदा से वे बंगाल चले आये और प्रकट रूप से राजनीति क्षेत्र मे कार्य करने लगे। उन्होंने वीरेंद्र घोष के युगान्तर साप्ताहिक मे अनेक लेख लिखे। विपिनचंद्र पाल के वन्देमातरम साप्ताहिक मे सम्मिलित हुए और सन 1909 मे कर्मयोगिनी नाम का एक साप्ताहिक पत्र स्वयं प्रारम्भ किया। मुजफ्फर के जिला जज की किंग्सफोर्ड को गाड़ी पर 10 अप्रैल 1908 को एक बम फेका गया जिसमे किंग्सफोर्ड नहीं थे उनकी पत्नी और पुत्री की मृत्यु हो गयी। सन 1908 मे अरविन्द को गिरफ्तार कर लिया गया। 13 अप्रैल 1909 को देशबंधु

चिंतरनजनदास के अकाट्य तर्कों एवं कुशल पैरवी के कारण उन्हें जेल से मुक्त कर दिया गया। सन 1910 मे आप पाण्डुचेरी गये और योग साधना मे लीन हो गए। यही सन 5 दिसंबर 1950 को महायोगी ने रात्रि मे महासमाधि ले ली।

श्री अरविन्द घोष के प्रमुख शैक्षिक विचार

सच्ची और वास्तविक शिक्षा वही है जो व्यक्ति तथा बालक मे छिपी हुई शक्तियों के विकास मे सहायक हो तथा व्यक्ति के जीवन अंत करण एवं आत्म मे समुचित सम्बन्ध स्थापित कर सके।

- श्री अरविन्द घोष

शिक्षा का उद्देश्य

श्री अरविन्द घोष के बालको का उत्तम चारित्रिक विकास, शारीरिक विकास तथा अन्तः करण की शुद्धता पर बल दिया है। साथ-साथ विभिन्न इन्द्रियों तथा ज्ञानेन्द्रियों का समुचित विकास करना भी शिक्षा का उद्देश्य बताया गया है। बालको की नैतिक, चारित्रिक, आध्यात्मिक के विकास पर बल देते हुए बालको की भावनाओं का समुचित विकास करना, उसकी कल्पित शक्ति, अच्छी आदतों का विकास करते हुए शिक्षा प्रदान करना मुख्य बताया है।

शिक्षा का पाठ्यक्रम

अरविन्द महोदय ने बालक के शारीरिक, मानसिक, संवेगात्मक, आध्यात्मिक विकास का समर्थन करते हुये प्रत्येक स्तर के लिए अलग – अलग पाठ्यक्रम बताये है। उन्होंने मातृभाषा मे अध्ययन पर बल दिया है। सभी प्रकार की भाषाओं का ज्ञान होना चाहिए। व्यावसायिक शिक्षा पर बल दिया है। जिसमे काष्ठ कला, मेकेनिकली और इलेक्ट्रिकल, पत्र – व्यवहार, कुटीर उद्योग, शिल्पकला,

संगीत, नृत्य और नर्सिंग आदि विषय है। बालक का स्वभाविक तथा सर्वांगीण विकास पाठ्यक्रम पर निर्भर है।

शिक्षण विधि

अरविन्द जी ने शिक्षण में छात्र की इच्छा का अत्यधिक महत्व दिया है। ऐसी विधि का प्रयोग करना चाहिए जिसमें विद्यार्थी शिक्षण में रुचि जाग्रत हो सके। शिक्षण विधि ऐसी हो कि छात्र अनेकानेक सूचनाएं प्राप्त करने को अध्ययन का लक्ष्य ना माने। वह ज्ञान प्राप्त करने के कौशलों के विकास को मूल्यवान समझें। छात्र में स्मृति, निर्णय, कल्पना, तर्क – वितर्क, प्रत्यक्षण, चिंतन जैसे शक्तियों का विकास है अतः शिक्षण विधि ऐसी हो कि विषय सामग्री का चयन कुशलतापूर्ण होता चले। मातृभाषा के माध्यम से शिक्षा प्रदान की जाए। व्यावहारिक शिक्षा के साथ धार्मिक शिक्षा भी प्रदान की जाए।

इन्द्रियों का प्रशिक्षण

अरविन्द घोष के अनुसार बालक की शिक्षा का प्रारम्भ आँख, कान, नाक, जीभ और त्वचा के प्रशिक्षण से होना चाहिए। ज्ञानेन्द्रियों के प्रयोग का अधिकतम अभ्यास होना चाहिए। ज्ञानेन्द्रियों के प्रशिक्षण के लिए विभिन्न प्रकार की परिस्थितियों में बालको को रखकर उनकी इन्द्रियों के समुचित प्रयोग को प्रोत्साहित करना चाहिए।

मानसिक प्रशिक्षण

इन्द्रिय प्रशिक्षण के साथ साथ मानसिक शक्तियों के प्रशिक्षण पर भी अरविन्द घोष बल देते हैं। मानसिक शक्तियों के प्रशिक्षण में अवधान या ध्यान केंद्रित करना अत्यंत महत्वपूर्ण है। छात्रों को ध्यान केंद्रित करने का प्रशिक्षण दिया जाना चाहिए। निरीक्षण, कंठस्थीकरण के अतिरिक्त बालक की निर्णायक

शक्ति का भी विकास होना चाहिए। मानसिक शक्तियों के प्रशिक्षण के लिए अरविन्द घोष ने ब्रह्मचार्य को महत्वपूर्ण माना है।

बालक एवं शिक्षक का सम्बन्ध

अरविन्द घोष के अनुसार बालक के साथ अध्यापक को निर्देशक, पथ प्रदर्शक और सहायक के रूप में कार्य करना चाहिए। शिक्षक को चाहिए कि वह बालक की आंतरिक शक्तियों का अध्ययन करे तथा उनके अनुसार शिक्षण सामग्री प्रदान करे। बालक पर शिक्षक के द्वारा ज्ञान देने का प्रयास नहीं करना चाहिए और न ही बालक पर बाहर का ज्ञान थोपा जाना चाहिए। बालक अपनी अभिरूचि के अनुसार ज्ञान प्राप्त करते हुए शिक्षा प्राप्त करने में समर्थ हो सके।

श्री अरविन्द घोष ने शिक्षक की अपेक्षा बालक को अधिक महत्व दिया है। बालक की रुचियों, प्रकृति, स्वभाव, धर्म आदि के विकास के लिए शिक्षा को आवश्यक समझा है। शिक्षक को एक सहायक के रूप में माना है।

श्री अरविन्द घोष के शैक्षिक विचारों की वर्तमान युग में प्रासंगिकता

अरविन्द जी के शैक्षिक विचारों का अध्ययन करने के बाद शोधकर्ता ने पाया कि इनके विचारों की वर्तमान युग में बहुत उपादेयता व प्रासंगिकता है जो निम्नलिखित बिंदुओं के आधार पर समझा जा सकता है।

- श्री अरविन्द के अनुसार शिक्षा का माध्यम मातृभाषा होना चाहिए क्योंकि मातृभाषा द्वारा ही संपूर्ण राष्ट्र को अच्छे ढंग से शिक्षित किया जा सकता है।

- श्री अरविन्द का मानना था कि वर्तमान शिक्षा के पाठ्यक्रम में आदर्शों, इन्द्रियों का प्रशिक्षण, आध्यात्मिक विकास एवं नैतिक मूल्य को स्थान दिया जाना चाहिए क्योंकि वर्तमान समय में विद्यार्थियों में इन मूल्यों का पतन होता जा रहा है।
- श्री अरविन्द जी आध्यात्मिक विषयों के अध्ययन पर बल दिया है जो वर्तमान समय में सार्थक है। क्योंकि वर्तमान समय में आध्यात्मिक विचारों का पतन होता जा रहा है।
- श्री अरविन्द जी ने मानसिक शक्तियों के प्रशिक्षण पर बल दिया है। जो वर्तमान शिक्षा के लिए बहुत उपयोगी है।
- श्री अरविन्द जी योग व पूर्णयोग पर बल देते हुए योग विश्वविद्यालय की स्थापना की जो वर्तमान शिक्षा में महत्वपूर्ण भूमिका रखता है।
- श्री अरविन्द जी ने शारीरिक शिक्षा की आवश्यकता पर बल दिया।
- श्री अरविन्द जी ने राष्ट्रीय शिक्षा पर बल दिया। जो वर्तमान शिक्षा में विद्यार्थियों के लिए आवश्यक है।
- श्री अरविन्द जी ने बालको की रुचि, प्रकृति को महत्व दिया। शिक्षा व्यवस्था बाल – केन्द्रित हो जिससे विद्यार्थी अपनी रुचि से सीख सकें।
- अरविन्द जी ने शिक्षा का उद्देश्य अन्तःकरण की शुद्धता पर बल दिया है।

निष्कर्ष

हम श्री अरविन्द घोष जी के शैक्षिक विचारों को कभी नहीं भुला जा सकते हैं। अरविन्द जी के शैक्षिक विचार आज भी उतने ही सत्य व प्रासंगिक हैं जितने तत्कालीन समय में थे अरविन्द जी के विचार बाल केन्द्रित शिक्षा व्यवस्था के पक्ष में हैं। अरविन्द जी नैतिक, आध्यात्मिक गुणों पर बल दिया है।

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शिक्षण व अधिगम क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की प्रासंगिकता

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सार

डिजिटल अधिगम शिक्षण और अध्ययन के दौरान डिजिटल उपकरणों और प्रौद्योगिकियों का उष्कृष्ट उपयोग है, और इसे अक्सर प्रौद्योगिकी सुदृढ़ शिक्षण या ई-शिक्षण के रूप में संदर्भित किया जाता है। डिजिटल अधिगम के माध्यम के रूप में पाठ्यवस्तु प्रबंधन प्रणाली एक नवीन अवधारणा है। पाठ्यवस्तु प्रबंधन प्रणाली एक सॉफ्टवेयर अनुप्रयोग है। जो उपयागेकर्त्ता को डिजिटल सामग्री के सृजन, संपादन, सहयोग, प्रकाशन और संग्रह करने, मूल्यांकन करने, छात्र की प्रगति की जानकारी रखने, प्रतिपुष्टि साझा करने तथा कक्षा के बाहर छात्र के सवालियों का जवाब देने में सक्षम बनाता है, जैसे कि गूगल कक्षा, वर्ड-प्रेस, जुमला, ड्रुपल। वर्तमान समय में डिजिटल अधिगम के प्रचलन से कई संगठनों ने डिजिटल सामग्री के सृजन, प्रकाशन, और भंडारण के लिए पाठ्यवस्तु प्रबंधन प्रणाली लाभ उठाया जिससे वेब पाठ्यवस्तु प्रबंधन शिक्षकों के मध्य लोकप्रिय हो पाया है। पाठ्यवस्तु प्रबंधन प्रणाली ने शिक्षकों को अपनी कक्षा के प्रस्तुतीकरण को संग्रहित करने और प्रस्तुत करने में सहायता की है। अतः पाठ्यवस्तु प्रबंधन प्रणाली का उद्भव कैसे हुआ ? पाठ्यवस्तु प्रबंधन प्रणाली के विभिन्न मंच कौन-कौन से हैं? शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की क्या प्रासांगिकता है? शिक्षक-शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की उपयोगिता क्या है? व डिजिटल अधिगम के विषय में नई शिक्षा नीति 2020 ने क्या सुझाव दिये हैं, इस पत्र के माध्यम से इन प्रश्नों का उत्तर देने का प्रयास किया गया है।

कुंजी पटल- डिजिटल अधिगम, पाठ्यवस्तु प्रबंधन प्रणाली,

प्रस्तावना

पाठ्यवस्तु प्रबंधन प्रणाली एक कम्प्यूटर प्रोग्राम है जिसका उपयोग लगातार संगठित तरीके से पाठ्यवस्तु बनाने, संपादित करने, प्रबंधित करने के लिए किया जाता है। पाठ्यवस्तु प्रबंधन प्रणाली का उपयोग अक्सर विशिष्ट दस्तावेजीकरण जैसे समाचार, तकनीकी मैनुअल, गाइड और ब्रोशर को सभालने के लिए किया

जाता है। पाठ्यवस्तु प्रबंधन प्रणाली में छवि, मीडिया, ऑडियो और वीडियो फाइलें, इलेक्ट्रॉनिक दस्तावेज और अन्य वेब सामग्री शामिल हो सकती है। पाठ्यवस्तु प्रबंधन प्रणाली ऐसी प्रणाली है जिसका उपयोग किसी वेबसाइट पर पाठ्यवस्तु को प्रबंधित करने के लिए किया जाता है। यह पाठ्यवस्तु कुछ भी हो सकती है। इसके लिए किसी तकनीकी कौशल या ज्ञान की आवश्यकता नहीं है। पाठ्यवस्तु प्रबंधन प्रणाली एक ऐसा एप्लिकेशन है जो पाठ्यवस्तु को प्रबंधित करने के लिए अलग-अलग अनुमति स्तर वाले कई उपयोगकर्ताओं के लिए क्षमता प्रदान करता है साथ ही साथ यह एक वेब अनुप्रयोग है जो एच.टी.एम.एल. ज्ञान के बिना वेब पेज को प्रबंधित करने के लिए विभिन्न अनुमति स्तरों वाले एकाधिक उपयोगकर्ताओं के लिए क्षमता प्रदान करता है।

उद्देश्य

1. पाठ्यवस्तु प्रबंधन प्रणाली के उद्भव के विषय में जानना।
2. पाठ्यवस्तु प्रबंधन प्रणाली के विभिन्न मंचों को पहचानना।
3. शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की प्रासांगिकता के विषय में जानना।
4. शिक्षक-शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की उपयोगिता के विषय में जानना।
5. डिजिटल अधिगम के विषय में नई शिक्षा नीति 2020 के सुझाव जानना।

पाठ्यवस्तु प्रबंधन प्रणाली का उद्भव

एक पाठ्यवस्तु प्रबंधन प्रणाली एक सॉफ्टवेयर एप्लिकेशन प्रारूप है जिसका उपयोग कई उपयोगकर्ताओं को बनाने और प्रकाशित करने की अनुमति देते हुए पाठ्यवस्तु को प्रबंधित और वितरित करने के लिए किया जाता है। सी.एम.एस. का इतिहास १९९० में टिम बर्नर्स ली द्वारा पहली वेब साइट के निर्माण से शुरू होता है। जिसने इंटरनेट आधारित हाइपरटेक्स्ट सिस्टम एच.टी.एम.एल. तैयार किया था। वर्तमान समय में, यदि आप एक ब्लॉग लिख रहे हैं या एक ईकॉमर्स शॉप चला रहे हैं, तो आप शायद इसे किसी प्रकार के सी.एम.एस. प्लेटफॉर्म पर कर रहे हैं। हालांकि ऐसा हमेशा से नहीं था यह समझने के लिए हमें वर्ल्ड वाइड वेब की शुरुआत पर जाना होगा। नब्बे के दशक के मध्य तक फास्ट फॉरवर्ड जैसे-जैसे वर्ल्ड वाइड वेब की लोकप्रियता बढ़ती है और वेबसाइटें लगातार अपडेट की आवश्यकता को बढ़ाती है। इसने और कई अन्य सी.एम.एस. उत्पादों की अधिकता की शुरुआत में ओपन सोर्स सी.एम.एस. सामने आए, जिनमें वर्ड-प्रेस, ड्रूपल, और जुमला शामिल थे। वर्ड-प्रेस में एक एक्स्टेंसिबल प्लगइन आर्किटेक्चर शामिल था

और ऐसे टेम्प्लेट प्रदान किए गये जिसका उपयोग उपयोगकर्ताओं को एच.टी.एम.एल. और सी.एम.एस. के ज्ञान की आवश्यकता के बिना वेबसाइट बनाने के लिए किया जा सकता है।

पाठ्यवस्तु प्रबंधन प्रणाली के विभिन्न मंच

पाठ्यवस्तु प्रबंधन प्रणाली एक सॉफ्टवेयर है जो उपयोगकर्ता को विशेष तकनीकी कौशल के बिना वेबसाइट सामग्री बनाने, प्रबंधित करने और संशोधित करने की अनुमति देता है। संक्षेप में यह एक ऐसा प्रोग्राम है जो आपको स्कैच से सभी को लिखे बिना एक वेबसाइट विकसित करने की अनुमति देते हैं, और सबसे अच्छे आपकी सुरक्षा और मापनीयता की जरूरतों का भी ध्यान रखते हैं। यह लेख दस पाठ्यवस्तु प्रबंधन प्रणालियों के विषय में साझा करता है।

१. वर्ड-प्रेस

विश्व स्तर पर सबसे लोकप्रिय सी.एम.एस. वर्ड-प्रेस है। यह सी.एम.एस. बाजार का ६२.३ प्रतिशत हिस्सा है। वर्ड-प्रेस में ५०,००० से अधिक ऐप उपलब्ध है। जिनमें से कुछ निःशुल्क तथा कुछ भुगतान से लिए जा सकते हैं। वर्ड-प्रेस से किसी भी संख्या में पूर्व निर्मित टेम्प्लेट का उपयोग करके अपना स्वयं का कस्टम सी.एम.एस. अनुभव डिजाइन प्राप्त कर सकते हैं।

२. जूमला जिन लोगों को कस्टम तरह की पोस्ट की आवश्यकता होता है, उनके लिए जूमला कई अलग-अलग टेम्प्लेट और एक्सटेंशन के साथ आता है। जूमला स्थापित करना नये व्यक्तियों के लिए अनुकूल नहीं है, लेकिन डेवलपर्स और अनुभवी वेबसाइट निर्माताओं के लिए आसान है।

३. ड्रुपलड्रुपल एक ओपन सोर्स सी.एम.एस. सॉफ्टवेयर है जो आपको अत्यधिक अनुकूलित वेबसाइट बनाने की सुविधा देता है जो बहुत सारे डेटा को प्रोसेस करती है। ड्रुपल आधारित साइटों में उच्च स्तर की सुरक्षा होती है और इन्हें हैक करना मुश्किल होता है यह मुफ्त इस्टॉलेशन प्रदान करता है और मौजूदा ड्रुपल साइट को स्थानांतरित करने में मदद करता है। ड्रुपल नियमित रूप से अपडेट इस्टॉल करना चाहिए।

४. विक्स विक्स एक मुफ्त योजना के साथ उपयोगकर्ता के अनुकूल मंच है। यह अनुकूलन योग्य ड्रैग एंड ड्रॉप बिल्डर है जो आपके अनुसार पृष्ठों को बनाना आसान बनाता है।

५. कंकीट फाइव

यह फ्री ऑफ चार्ज प्लेटफॉर्म एक ओपन सोर्स सी.एम.एस. सॉफ्टवेयर है। जो आपकी कंपनी की मांगों के अनुकूल हो सकता है यह छोटे व्यवसायों के लिए बहुत अच्छा है। कंक्रिट फाइव का उपयोग सामाजिक नेटवर्क, एक ब्लॉग या समान रुचियों वाले लोगों के लिए एक मंच बनाने के लिए भी कर सकते हैं।

६. पायरो सी.एम.एस.

पायरो सी.एम.एस. अधिक कोडिंग ज्ञान की आवश्यकता के बिना बड़ी वैश्विक वेबसाइटों से लेकर छोटे आला उद्यमों तक, सामग्री बनाने के लिए कई अलग-अलग विकल्प प्रदान करता है। इसमें कोई खतरनाक प्लगइन शामिल नहीं है।

७. सी.एम.एस. मेड सिंपल यह एक ओपन सोर्स सी.एम.एस. सॉफ्टवेयर है। जो वेबसाइटों और वेब एप्लीकेशन को बना और बनाए रख सकता है। संपादकों को इसका उपयोग करना सरल लगेगा, जबकि डेवलपर्स इसे अत्यधिक अनुकूलित वेब पेज और एप्लीकेशन बनाने में प्रभावी पाएंगे।

८. मजेंटो

मजेंटो दुनिया की सबसे बड़ी सॉफ्टवेयर फर्म अडोब का एक मजबूत ओपन सोर्स सी.एम.एस. प्लेटफॉर्म है। इसमें कूपन जैसे कई प्रचार और मार्केटिंग टूल उपलब्ध है। उपयोगकर्ताओं को डाउनलोड करने के लिए मजेंटो का निःशुल्क संस्करण उपलब्ध है। इसमें व्यवसाय को पेशेवर रूप से शुरू करने, चलाने और विकसित करने में मदद करने के लिए शक्तिशाली सुविधाएँ शामिल हैं।

९. स्कॉरस्पेस

इस सॉफ्टवेयर में एक पॉलिश उपस्थिति है। इसमें आप उद्योग द्वारा वर्गीकृत कई थीम और टेम्पलेट उपलब्ध पा सकते हैं। स्कॉरस्पेस कोडिंग या जटिल बैकएंड की आवश्यकता के बिना एक सुंदर वेबसाइट बनाता है। यह छोटे व्यवसायों के लिए सर्वश्रेष्ठ सी.एम.एस. में से एक है।

१०. साइटफिनिटी

यह मंच सभी श्रेणियों और आकारों के व्यवसायों के लिए सहायक है। यह इन कंपनियों को ग्राहकों के साथ जुड़ने और बनाए रखने की अनुमति देता है। साइटफिनिटी मल्टीचैनल अनुभवों को अनुकूलित कर सकती है और एक तेज गति वाले मार्केटिंग वातावरण में आदर्श है।

शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की प्रासांगिकता

कुछ वर्ष पहले वेबसाइट के प्रशासन जैसे अद्यतन करने, या नई पाठ्यवस्तु जोड़ने के लिए आई.टी. कंपनियों या वेब डिजाइनर से सहायता की आवश्यकता होती थी। लेकिन आज कम्प्यूटर में कुछ कौशल के साथ, गैर-तकनीकी उपयोगकर्ताओं के लिए सी.एम.एस. एप्लिकेशन का उपयोग करके एक व्यापक वेबसाइट बनाना और प्रबंधित करना आसान हो गया है। वे वेबसाइट की सामग्री बनाने,

संपादित करने, व्यवस्थित करने और प्रकाशित करने के लिए उपयोग किये जाते हैं। शैक्षिक पोर्टल के प्रबंधन के लिए सी.एम.एस. का उपयोग पाठ्यवस्तु की गतिविधियों को अधिक विश्वसनीय और प्रदर्शन करने में आसान बनाता है।

सी.एम.एस. निम्नलिखित दृष्टिकाणों के माध्यम शिक्षा के क्षेत्र में प्रासांगिक है—

१. संचार— सी.एम.एस. शिक्षकों और छात्रों के बीच संचार को बढ़ाता है। डॉयनेमिक वेबसाइट कॉलेज से दूर रहने के दौरान कोर्सवर्क के साथ संचार बनाए रखती है और फोरम मॉड्यूल एक ऑनलाइन इंटरैक्शन प्रदान करता है। जहां छात्र और शिक्षक पाठ्यक्रम सामग्री के साथ-साथ कॉलेज में होने वाली घटनाओं पर चर्चा कर सकते हैं।

२. प्रयोज्य— कॉलेजों के लिए सी.एम.एस. ने अपनी वेबसाइट के प्रबंधन में उपयोगकर्ता के समय को अनुकूलित करने के लिए कार्यों को सुगम बनाना है। मॉड्यूल, मेनू प्रबंधकों, दृश्य डिजाइन और इंटरफेस तत्वों के भौतिक स्थान के उचित उपयोग का निर्धारण कार्यों के माध्यम से नेविगेट करने के लिए शिक्षकों की क्षमता में सुधार किया है।

३. पाठ्यवस्तु प्रकाशन— सी.एम.एस. ने सभी कॉलेज वेबसाइट पाठ्यवस्तु को प्रकाशित और प्रबंधित करना आसान बनाया है। इसके अलावा कॉलेज को विशिष्ट मॉड्यूल की आवश्यकता होती है जो कॉलेज के समुदाय के लिए शैक्षिक गतिविधियों की सेवा करते हैं। उदाहरण के लिए पाठ्यक्रम प्रबंधन जो शिक्षकों को पाठ्यक्रम सामग्री की योजना बनाने और प्रबंधित करने में मदद करने के लिए सुविधाओं की एक पूरी श्रृंखला प्रदान करता है। साथ ही, यह छात्रों को ऑनलाइन सीखने का संचालन करने में सहायता करता है। इसके अलावा कक्षा प्रबंधन जो वैकल्पिक सहयोगी शिक्षा को प्रोत्साहित करता है। यह असाइनमेंट, चैट, फ़ारेम और क्विज़ के लिए मॉड्यूल सहित सुविधाएं प्रदान करता है।

४. पाठ्यवस्तु प्रबंधन सॉफ्टवेयर के साथ अनुकूलन विकल्प

अधिकांश पाठ्यवस्तु प्रबंधन प्रणालियों में बहुत सारे अनुकूलन विकल्प होते हैं जिससे शिक्षक एक नई थीम स्थापित करके आसानी से समग्र डिजाइन, रूप और लेआउट को समायोजित कर सकते हैं। ये अनुकूलन शिक्षकों को सब कुछ बदलने की अनुमति देते हैं— मूल रंगों और मेनू स्थानों से लेकर पाठ्यवस्तु प्रदर्शित करने के तरीके तक।

५. समय—सुलभ

यदि शिक्षक ऐसी पाठ्यवस्तु प्रबंधन प्रणाली चुनें जो क्लाउड आधारित हो ताकि वे उन्हें कहीं से भी, कभी भी, इंटरनेट से कनेक्ट कर सकते हैं, एक्सेस कर सकते हैं। यह एक्सेसिबिलिटी शिक्षकों के लिए दुनिया में कहीं भी दूर से काम करना व्यवहारिक बनाती है।

६. मोबाइल के अनुकूल

अधिकांश सी.एम.एस. सिस्टम स्थापना के समय से ही मोबाइल के अनुकूल हैं। हालांकि शिक्षक को यह सुनिश्चित करना होगा कि उनके द्वारा उपयोग किये जाने वाले प्लग-इन्, थीम और ऐड-ऑन भी मोबाइल उपकरणों के अनुकूल हों।

७. शीघ्र स्थापित और उन्नयित

पाठ्यवस्तु प्रबंधन सॉफ्टवेयर का उपयोग करने का एक सबसे बड़ा लाभ यह है कि किसी वबेसाइट को स्कैच से कोडिंग करने की तुलना में इसे स्थापित करना या अपग्रेड करना काफी तजे है।

शिक्षक—शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की उपयोगिता

शिक्षक—शिक्षा के क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की उपयोगिता को हम निम्नलिखित बिन्दुओं के माध्यम से स्पष्ट कर सकते हैं—

१. आसान पहुँच

शिक्षा—शिक्षक सी.एम.एस. प्लेटफॉर्म का उपयोग करके लाभान्वित हो सकते हैं। मीडियों को जोड़ना और अपनी वबेसाइट के लेआउट को नया स्वरूप देना आसान है। कुछ प्रणालियां आभासी प्रशिक्षण पाठ्यक्रम प्रदान कर सकती हैं जो शुरूआती शिक्षा—शिक्षकों को जटिल सुविधाओं का उपयोग करना सिखाती हैं। अधिकांश बेहतरीन सी.एम.एस. प्लेटफॉर्म वेब आधारित हैं। जिससे शिक्षा—शिक्षक बिना किसी अतिरिक्त

सॉफ्टवेयर को इस्टॉल किए इंटरनेट कनेक्शन वाले किसी भी कंप्यूटर से अपनी साइट को संपादित और अपडेट कर सकते हैं।

२. कार्य-प्रवाह प्रबंधन

सी.एम.एस. प्लेटफॉर्म के माध्यम से शिक्षा-शिक्षकों को पाठ्यवस्तु देखने, साझा करने, पूर्वावलोकन करने और स्वीकृत करने में सहायता प्राप्त होती है। इसके अलावा सर्वोत्तम सी.एम.एस. प्लेटफॉर्म उन्हें ऐसे नियम बनाने में सक्षम बनाते हैं जो यह सुनिश्चित करते हैं कि पाठ्यवस्तु संपादक मानकों को पूरा करने के लिए सभी आवश्यक जानकारी भरें।

३. अनुकूलित करना आसान

सी.एम.एस. में प्लगइन और एक्सटेंशन उपलब्ध कार्यों की संख्या का विस्तार करने की अनुमति देते हैं। साथ ही, एक नई थीम स्थापित करने से समग्र डिजाइन और लेआउट को बदल सकते हैं।

४. आसान अद्यतन

सी.एम.एस. शिक्षा-शिक्षकों को पाठ्यवस्तु को त्वरित रूप से जोड़ने और निकालने की अनुमति देता है। इसमें किये गये सभी बदलाव अपने आप लागू हो जाते हैं। इसलिए शिक्षा-शिक्षकों को हर चरण को मैन्युअल रूप से स्वीकृत करने की आवश्यकता नहीं है। शिक्षा-शिक्षकों वेबसाइट अपडेट को स्वाचालित करने में भी सक्षम हैं। कोई भी ऐसे सॉफ्टवेयर का उपयोग करना पसंद नहीं करता है। जिसे नेविगेट करना और उपयोग करना मुश्किल हों। लेकिन अधिकांश सी.एम.एस. प्लेटफॉर्म इस तरह के हैं। जिनको नेविगेट करना आसान है।

५. लागत प्रभावी और वहनीय

पाठ्यवस्तु प्रबंधन प्रणाली के उपयोग से शिक्षक का समय और पैसा दोनों बच सकते हैं। साइट में मामूली परिवर्तन के लिए उन्हें वेब डेवलपर को भुगतान करने की आवश्यकता नहीं है। वे इन परिवर्तनों को उसी समय आसानी से स्वयं कर सकते हैं जब उन्हें प्रकाशित करने की आवश्यकता हो।

डिजिटल अधिगम के विषय में नई शिक्षा नीति 2020 के सुझाव डिजिटल प्रौद्योगिकी के उद्भव और स्कूल से लेकर उच्चतर शिक्षा तक सभी स्तरों पर शिक्षण अधिगम के लिए प्रौद्योगिकी के उभरते हुए महत्व को देखते हुए— यह नीति निम्नलिखित प्रमुख पहलों की सिफारिश करती है:

क. ऑनलाइन शिक्षा के लिए पायलट अध्ययन:

ऑनलाइन शिक्षा की हानियों को कम करते हुए उसे शिक्षा के साथ एकीकृत करने के लाभों का मूल्यांकन करने के लिए और छात्रों को उपकरणों की आदत, ई-कॉन्टेंट का सबसे पसंदीदा प्रारूप आदि जैसे संबंधित विषयों का अध्ययन करने के लिए भी इसके साथ साथ प्रमुख अद्यतन संचालित करने के लिए एनईटीएफ, सीआईईटी, एनआईआएस, इग्रू, आईआईटी, एनआईटी आदि जैसी उपयुक्त एजेंसियों की पहचान की जायेगी। इन पायलट अध्ययनों के परिणामों को सार्वजनिक रूप से सूचित किया जायेगा और निरंतर सुधार के लिए इनका उपयोग किया जाएगा।

ख. डिजिटल इन्फ्रास्ट्रक्चर

भारत के क्षेत्रफल, विविधता, जटिलता और डिवाइस अर्थबोध को हल करने के लिए शिक्षा के क्षेत्र में खुले, परस्पर, विकसित, सार्वजनिक डिजिटल इन्फ्रास्ट्रक्चर का निर्माण करने की आवश्यकता है, जिसका उपयोग कई प्लेटफॉर्मों और पॉइंट सॉल्यूशंस द्वारा किया जा सकता है। इससे यह सुनिश्चित होगा कि प्रौद्योगिकी आधारित समाधान प्रौद्योगिकी में तेजी से प्रगति के साथ पुराने न हो जाए।

ग. ऑनलाइन शिक्षण मंच और उपकरण

शिक्षार्थियों की प्रगति की निगरानी के लिए शिक्षको को सहायक उपकरण के संरचित, उपयोगकर्ता अनुकूल, विकसित सेट प्रदान करने के लिए स्वयं, दीक्षा जैसे उपयुक्त मौजूदा ई-लर्निंग प्लेटफॉर्म का विस्तार किया जायेगा। वर्तमान महामारी ने स्पष्ट कर दिया है कि ऑनलाइन कक्षाओं के आयोजन के लिए दो-तरफा वीडियो और दो-तरफा-ऑडियो इंटरफेस जैसे उपकरण एक वास्तविक आवश्यकता है।

घ. सामग्री निर्माण, डिजिटल रिपॉजिटरी और प्रसार

कोर्स वर्क, लर्निंग गोम्स और सिमुलेशन, ऑगमेंटेड रियलिटी के निर्माण सहित कंटेंट की एक डिजिटल रिपोजिटरी विकसित की जायेगी, जिसमें प्रभावशीलता और गुणवत्ता के लिए उपयोगकर्ताओं द्वारा रेटिंग करने के लिए एक स्पष्ट सार्वजनिक प्रणाली होगी। छात्रों के लिए मनोरंजन आधारित अधिगम हेतु उपयुक्त जैसे ऐप, स्पष्ट संचालन निर्देश के साथ कई भाषाओं में भारतीय कला और संस्कृति का

एकीकरण आदि भी बनाए जाएंगे। छात्रों को ई-सामग्री का प्रसार करने के लिए एक विश्वसनीय बैकअप तंत्र प्रदान किया जायेगा।

ड. डिजिटल अंतर को कम करना

इस तथ्य को देखते हुए कि अभी भी जनसंख्या का एक बड़ा हिस्सा ऐसा है, जिसकी डिजिटल पहुँच अत्यधिक सीमित है, मौजूदा जनसंचार माध्यम जैसे टेलीविजन, रेडियों और सामुदायिक रेडियों का उपयोग टेलीकास्ट और प्रसारण के लिए बड़े पैमाने पर किया जाएगा। इस तरह के शैक्षिक कार्यक्रमों को छात्रों की बदलती आवश्यकताओं को पूरा करने के लिए विभिन्न भाषाओं में 24/7 उपलब्ध कराया जायेगा। सभी भारतीय भाषाओं में सामग्री पर विशेष ध्यान दिया जायेगा और इस पर विशेष बल दिया जाएगा कि जहाँ तक संभव हो, शिक्षकों और छात्रों तक डिजिटल सामग्री उनकी सीखने की भाषा में पहुँचे।

च. वर्चुअल लैब्स

वर्चुअल लैब्स बनाने के लिए दीक्षा, स्वयम और स्वयमप्रभा जैसे मौजूदा ई-लर्निंग प्लेटफॉर्म का उपयोग किया जाएगा ताकि सभी छात्रों को गुणवत्ता पूर्ण व्यवहारिक और प्रयोग-आधारित अनुभव का समान अवसर प्राप्त हो। एसईडीजी छात्रों और शिक्षकों को पहले से लोड की गई सामग्री वाले टैबलेट जैसे उपयुक्त डिजिटल उपकरण पर्याप्त रूप से देने की संभावना पर विचार किया जायेगा और उन्हें विकसित किया जाएगा।

छ. शिक्षकों के लिए प्रशिक्षण और प्रोत्साहन

शिक्षकों को शिक्षार्थी-केंद्रित अध्यापन में गहन प्रशिक्षण दिया जाएगा और यह भी बताया जाएगा कि वे ऑनलाइन शिक्षण प्लेटफॉर्मों और उपकरणों का उपयोग करके उच्चतर गुणवत्ता वाली ऑनलाइन सामग्री का स्वयं सृजन करेंगे। ई-सामग्री के साथ साथ छात्रों में आपसी सहयोग स्थापित करने के लिए शिक्षक की भूमिका पर जोर दिया जाएगा।

ज. ऑनलाइन मूल्यांकन और परीक्षाएं

उपयुक्त निकाय, जैसे कि प्रस्तावित राष्ट्रीय मूल्यांकन केंद्र अथवा 'परख', स्कूल बोर्ड, एनटीए, और अन्य चिन्हित निकाय मूल्यांकन रूपरेखाओं का निर्धारण करेंगे और कार्यान्वित करेंगे, जिसमें दक्षताओं, पोर्टफोलियो, रूब्रिक्स, मानकीकृत मूल्यांकन और मूल्यांकन विश्लेषण के डिजाइन शामिल होंगे। 21 वीं सदी के कौशल पर ध्यान केंद्रित करते हुए शिक्षा प्रौद्योगिकियों का उपयोग कर मूल्यांकन के नए तरीकों का अध्ययन किया जाएगा।

झ. सीखने के मिश्रित मॉडल

डिजिटल शिक्षा व शिक्षण को बढ़ावा देने के साथ ही, परंपरागत व्यक्तिगत रूप से आमने-सामने सीखने के महत्व को भी पूरी तरह से स्वीकार किया जाता है। तदनुसार, विभिन्न विषयों के लिए सीखने के विभिन्न विषयों के लिए सीखने के विभिन्न मिश्रित प्रभावी मॉडल, उपयुक्त प्रतिकृति के लिए चिन्हित किए जाएंगे।

ज. मानकों को पूरा करना

जैसे जैसे ऑनलाइन/डिजिटल शिक्षा पर शोध सामने आ रहे है, एनईटीएफ और अन्य उपयुक्त निकाय ऑनलाइन/डिजिटल शिक्षण-शिक्षण के लिए सामग्री, प्रौद्योगिकी और शिक्षाशास्त्र के मानक स्थापित करेंगे। ये मानक राज्यों, बोर्डों, स्कूलों और स्कूल परिसर, उच्चतर शिक्षण संस्थानों, आदि द्वारा ई-लर्निंग के लिए दिशानिर्देश तैयार करने में मदद करेंगे।

निष्कर्ष

निसंदेह यह कहना गलत नहीं होगा कि पाठ्यवस्तु प्रबंधन प्रणाली ने न सिर्फ शिक्षा के क्षेत्र में बल्कि शिक्षक शिक्षा के क्षेत्र अभूतपूर्व क्रांति लायी है। जहां पाठ्यवस्तु प्रबंधन प्रणाली के माध्यम से जहां शिक्षक अपनी पाठ्यवस्तु को बना सकते है। वे इसमें छवि मीडिया, ऑडियो, वीडियो फाइले व अन्य वेब सामग्री को शामिल करके अपने शिक्षण को रोचक बना सकते है। इसे कोई भी शिक्षक उपयोग में ला सकता है इसके लिए उसे किसी तकनीकी ज्ञान की आवश्यकता नहीं होती है। पाठ्यवस्तु प्रबंधन प्रणाली के माध्यम से शिक्षक और छात्र के बीच संचार में वृद्धि हुई है। साथ ही साथ दोनों के माध्यम

से ऑनलाइन इंटरैक्शन भी अधिक पाया गया है। पाठ्यवस्तु प्रबंधन प्रणाली शिक्षा-शिक्षकों के लिए प्रयोज्यपूर्ण भी साबित हुई है इसने मॉड्यूल मेनू, प्रबंधकों, दृश्य डिजाइन और इंटरफेस तत्वों के भौतिक स्थान के उचित उपयोग का निर्धारण कार्यों के माध्यम से नविगेट करने के लिए शिक्षकों की क्षमता में सुधार किया है। इससे शिक्षक असाइनमेंट, चैट, फोरम और क्विज़ के लिए मॉड्यूल सहित सुविधायें प्राप्त कर सकते है।

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विद्यालय प्रबन्धन में बायोमैट्रिक तकनीकी के प्रति सवेदनशीलता

रुबी वर्मा¹ और डॉ. विनीता सिंह गोपालकृष्णन्²

सार

वर्तमान समय में शिक्षक और शिक्षार्थी विभिन्न तकनीकी के माध्यम से एक दूसरे के सम्पर्क में आ रहे हैं। तकनीकी शिक्षक और शिक्षार्थियों को अधिक लाभ प्रदान कर रही है। तकनीकी शिक्षा शैक्षिक पाठ्यक्रम, अधिगम सामग्री आदि को बेहतर बनाने में मदद करती है। कक्षा में तकनीकी से छात्रों को व्यवस्थित रूप से शिक्षा प्राप्त करने और शिक्षा देने में सहायता मिलती है। जिससे छात्र उच्च गति और सटीकता के साथ डेटा और जानकारी प्राप्त करते हैं। तकनीकी की सहायता से स्कूलों, कालेजों को नवीनतम बनाया जा सकता है। तकनीकी द्वारा ही किसी भी देश की शिक्षा प्रणाली को भ्रष्टाचार मुक्त भी बनाया जा सकता है। बायोमैट्रिक प्रणाली के योगदान के कारण संस्थानों में छात्राध्यापिकाओं के मध्य बायोमैट्रिक प्रणाली को अपनाने के लिये अभिप्रेरित किया जा सकता है। इस प्रपत्र में बायोमैट्रिक प्रणाली का कार्य विवरण, इसकी उपयोगिता व छात्राध्यापिकाओं के मध्य बायोमैट्रिक प्रणाली के प्रयोग व उपदेयता के प्रति कतिपय सुझाव दिये गये हैं।

कुंजीपटल:- प्रबन्धन, बायोमैट्रिक प्रणाली, बायोमैट्रिक नियोजन तथा नियन्त्रण

प्रस्तावना

प्रबन्धन एक ऐसी विशिष्ट क्रिया है, जिसमें कर्मचारी संबंधित निर्देशन, नियोजन, संगठन एवं नियन्त्रण द्वारा संगठन के उद्देश्यों की प्राप्ति हेतु सभी मानवीय एवं यान्त्रिक संसाधनों का पारस्परिक उपयोग किया जाता है। प्रबन्धन मूल रूप से एक सामाजिक प्रक्रिया है, जिसे संगठन के कार्यों को प्रभावशाली बनाने एवं उसको लागू करने के लिये जिम्मेदार ठहराया जाता है। रिओरडन, टी. आर. (1971) के अनुसार “प्रबन्धन, का सम्बन्ध विविध प्रकार के वैकल्पिक नियोजनों तथा प्रस्तावों में से प्रभावी नियोजन का चयन करना है, जिससे अपेक्षित उद्देश्यों को प्राप्त किया जा सके और निहित अपेक्षाओं की पूर्ति की जा सके।”

प्रबन्धन का उद्देश्य, उपर्युक्त व्यक्ति को उपर्युक्त स्थान पर उपर्युक्त समय में, उपर्युक्त ढंग से कार्य में सम्मिलित करना है। सुव्यवस्थित ढंग से किसी संगठन के संचालन के लिये प्रबन्धन एक आवश्यक प्रक्रिया है। इसी क्रम में विद्यालय प्रबन्धन के अन्तर्गत उन सभी आन्तरिक और बाहरी व्यवस्थाओं को

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व्यवस्थित किया जाता है, जिनके सहयोग से संस्था को सुचारू और सफल रूप से चलाया जा सकता है। विद्यालय भवन का संरक्षण, समय-सारिणी का कार्यान्वयन, पुस्तकालय तथा शिक्षा सामग्री का उचित प्रयोग, परीक्षा तथा सम्पर्क साधन सभी विद्यालय प्रबन्धन के आवश्यक अंग हैं। इनमें से किसी एक की कमी अथवा बाधा से विद्यालय की समूची व्यवस्था प्रभावित हो जाती है। प्रजातन्त्र, समाजवाद, वैज्ञानिक उपलब्धियों एवं अन्तर्राष्ट्रीय सम्बन्ध की पृष्ठभूमि में, विद्यालय प्रबन्धन का क्षेत्र भी अधिक विस्तृत हो गया है। विद्यालय प्रबन्धन का तात्पर्य विद्यालय की व्यवस्था के साथ-साथ मानव सम्बन्ध से भी है। टेरी (1968) मानते हैं कि, “प्रबन्धन लोगों एवं संसाधनों के प्रयोग द्वारा उद्देश्यों को निश्चित एवं प्राप्त करने हेतु नियोजन संगठन, वास्तवीकरण एवं नियन्त्रण की एक प्रक्रिया है। “विद्यालय के कार्यों के व्यवस्थित संचालन, शिक्षा के उद्देश्यों की प्राप्ति, बच्चों के व्यक्तित्व के समग्र विकास और गणतन्त्रात्मक नागरिकता में विद्यालय प्रबन्धन एक अहम भूमिका निभाती है। विद्यालय प्रबन्धन के अन्तर्गत कार्यप्रबन्धन समुच्चय एक अभिन्न अंग है, जिसमें विद्यालयीन कार्य के प्रबन्धन पर केन्द्रीकरण किया जाता है। अतः कार्यप्रबन्धन उपलब्ध साधनों का दक्षतापूर्वक तथा प्रभाव पूर्ण तरीके से उपयोग करते हुये कार्यों में समन्वय कर लक्ष्यों की प्राप्ति को सुनिश्चित करता है।

कार्यप्रबन्धन प्रक्रिया के अन्तर्गत उद्देश्य की पूर्ति के लिये विद्यालय सम्बन्धित कार्यों का प्रबन्धन किया जाता है, जिसके माध्यम से किसी संगठन के सरोकारी व्यक्तियों के व्यवहार को समझा जा सकता है। इसमें प्रारम्भिक योजना, सहित, परीक्षण, ट्रेकिंग और रिपोर्टिंग चरणों को सम्मिलित किया जाता है। कार्य विश्लेषणों के कार्यप्रबन्धन विद्यालय के अन्दर चलने वाली मुख्य प्रक्रियाओं को बेहतर बनाने के लिये तथा कार्यकर्ताओं के कार्यों का विश्लेषण करने का एक तरीका है अर्थात् कार्यप्रबन्धन यह जानने की कला है कि क्या करना है तथा उसे करने का सर्वोत्तम एवं सुलभ तरीका क्या है। यह संसाधनों के अनुकूलतम उपयोग, कुशल नेतृत्व, शान्तिपूर्ण पारम्परिक सम्बन्धी जीवन स्तर में सुधार एवं लक्ष्यों की प्राप्ति को सुनिश्चित करता है। कार्य को प्रबन्धित करने के लिये नई-नई तकनीकी को प्रयोग में लाया जा रहा है, जिससे विद्यालय कार्य को सही ढंग से तथा समय से किया जा सके। विद्यालयी प्रबन्धन को प्रबन्धित करने के लिये विद्यालय में कार्यरत सभी कार्यकर्ता, शिक्षक तथा शिक्षार्थियों का योगदान होता है।

बायोमैट्रिक कार्यप्रबन्धन के अन्तर्गत संगठन के सरोकारी पक्ष की उपस्थिति सम्बन्धित सभी कार्यों का नियोजन किया जा सकता है। जैसे लचीला रिपोर्टिंग स्टाफ व शिक्षार्थी का कालांश के अनुसार कार्य नियोजन, उपस्थिति के अनुसार वेतन का भुगतान तथा रिपोर्टिंग सम्बन्धित नेटवर्क है। इसी प्रकार विद्यालय में प्रवेश के समय का नियोजन किया जा सकता है। विद्यालयों में पहचान तकनीकी एक बढ़ती हुई तकनीकी है, जिसमें व्यक्ति की पहचान और अधिगम नियन्त्रण के रूप में इसका प्रयोग किया जा रहा है शिक्षण प्रक्रिया और कार्यप्रबन्धन को सटीक रूप से मौजूदा अभिलेखों के लिये पहचान तकनीकी का

प्रयोग करते हैं। विद्यालय में शिक्षक-शिक्षार्थी की नियमितता और अनुशासन बनाये रखने के लिये पहचान तकनीकी का उपयोग किया जा सकता है। यह विद्यालय कार्य को आसान बनाने के लिये उपयोग में लाया जा सकता है। इसके अतिरिक्त पहचान तकनीकी विद्यालय प्रशासक के लिये शिक्षार्थियों की पहचान करने, सटीक और लेखा परीक्षा योग्य शिक्षार्थी रिकॉर्ड प्रदान करने तथा शिक्षकों और कर्मचारियों के लिये एक सुरक्षित वातावरण प्रदान करने के लिये आदर्श समाधान प्रदान कर सकती हैं। इसी क्रम में बायोमैट्रिक प्रणाली विद्यालय के प्रबन्धन में उपयोग किया जा रहा है। बायोमैट्रिक प्रणाली अध्यापकों की पहचान करने तथा मापने के लिये पुष्टि का सकारात्मक माध्यम बन गया है।

अतः बायोमैट्रिक एक ऐसी प्रणाली है जिसके माध्यम से कार्य सम्बन्धी समय तथा श्रम की बचत हो सकती है। इसके अतिरिक्त कार्यप्रबन्धन की सीमा को बायोमैट्रिक प्रणाली कुछ हद तक सीमित कर सकता है। बायोमैट्रिक दुनिया के कई विद्यालयों में सुगम रूप से प्रयुक्त की जा रही है।

उद्देश्य

1. बायोमैट्रिक प्रणाली के कार्य को जानना।
2. संस्थान में बायोमैट्रिक के उपयोग की पहचान करना।
3. बायोमैट्रिक प्रणाली के प्रयोग के प्रति संवेदीकरण।
4. शिक्षा में बायोमैट्रिक की भूमिका।

बायोमैट्रिक प्रणाली के कार्य

बायोमैट्रिक प्रणाली वह यन्त्र है जिसके माध्यम से पारिपरिक सम्बन्धित व्यवहार की पहचान की जाती है तकनीकी ने शिक्षा को बेहतर बनाने में अहम् भूमिका अदा की है। आज शिक्षक व शिक्षार्थी को प्रौद्योगिकी के साधनों के माध्यम से कार्य के संचालन में काफी सहायता प्राप्त हो रही है। **शारीरिक बायोमैट्रिक** मानव शरीर के कुछ हिस्सों जैसे फिंगरप्रिंट, आईरिस स्कैन, चेहरा, डी.एन.ए., आँख की पुतली व कान सम्बन्धी प्राप्त आँकड़ों पर आधारित है। शारीरिक बायोमैट्रिक उपयोगकर्ता की रचना से सम्बन्धित है। वहीं **व्यवहारिक बायोमैट्रिक** मानव गतिविधियों में एक विशिष्ट पहचान उद्देश्य के सत्यापन के लिये उपयोग किया जाता है, यह व्यक्तियों को निर्धारित करता है कि वे एक समूह का हिस्सा है। व्यवहारिक पहचानकर्ता में अलग तरीके शामिल होते हैं जैसा कि हस्ताक्षर, आवाज तथा कीस्ट्रोक। व्यवहारिक बायोमैट्रिक उन पैटर्न के तरीकों पर विचार करता है जो व्यक्ति की गतिविधियों के प्रदर्शन पर आधारित है। है। सत्यापन एक व्यक्ति को निर्धारित करता है तथा पहचानकर्ता को प्रमाणीकरण प्रदान करने के लिये व्यवहारिक बायोमैट्रिक का उपयोग किया जाता है। अतः बायोमैट्रिक एक ऐसी प्रणाली है जिसके माध्यम से कार्य सम्बन्धी समय

तथा श्रम की बचत हो सकती है। इसके अतिरिक्त विद्यालय कार्य की सीमा को बायोमैट्रिक प्रणाली कुछ हद तक सीमित कर सकती है। बायोमैट्रिक दुनिया के कई विद्यालयों में सुगम रूप से प्रयुक्त की जा रही है।

संस्थान में बायोमैट्रिक प्रणाली का उपयोग

बायोमैट्रिक प्रणाली का उपयोग एयरपोर्ट पर सुरक्षा के तौर पर, बैंकों में तथा कानून स्थापित करने वाली संस्थाओं में किया जा रहा है। बायोमैट्रिक प्रणाली विद्यालय प्रशासक के लिये शिक्षार्थियों की पहचान करने, सटीक और लेख परीक्षा योग्य शिक्षार्थी रिकॉर्ड प्रदान करने तथा शिक्षकों और कर्मचारियों के लिये एक सुरक्षित वातावरण प्रदान करने के लिये आदर्श समाधान प्रदान कर सकती हैं। बायोमैट्रिक प्रणाली शिक्षण को अधिक प्रभावशाली बनाने की भूमिका निभा सकती है। बायोमैट्रिक मशीन एक तरह का अनोखा उपकरण है जो किसी भी स्कूल या संगठन में समय उपस्थिति का प्रबन्धन करने में सक्षम है जैसे— कर्मचारी के काम का समय, पुनारम्भ और प्रस्थान का समय, काम किये गये घण्टों की संख्या, काम पर दिनों की संख्या, किये गये काम की अतिरिक्त घण्टों की संख्या, राशि अर्जि अतिरिक्त घण्टें प्रोत्साहन, पर्याप्त कर्मचारियों की निगरानी, समय के पाबंद एवं देर से कर्मचारियों की संख्या और अनुपस्थिति कर्मचारियों की संख्या को प्रबन्धित करने में सक्षम है। विद्यालय में शिक्षक-शिक्षार्थी की नियमितता और अनुशासन बनाये रखने के लिये बायोमैट्रिक प्रणाली का उपयोग करने से विद्यालय के कार्य सुधारे जा सकते हैं।

बायोमैट्रिक प्रणाली के प्रयोग के प्रति संवेदीकरण

1. शिक्षण प्रौद्योगिकी पाठ्यक्रम में बायोमैट्रिक प्रणाली कार्यान्वयन से सम्बन्धित जानकारी को सम्मिलित किया जा सकता है।
2. इंटर्नशिप विद्यालय के दौरे में बायोमैट्रिक प्रणाली के प्रयोग का अवलोकन किया जा सकता है।
3. मापन एवं मूल्यांकन पाठ्यक्रम के प्रैक्टिकम में बायोमैट्रिक प्रणाली की सहायता से प्राप्त प्रदत्तों का मूल्यांकन का अनुभव दिया जा सकता है।
4. इंटर्नशिप में बायोमैट्रिक प्रणाली के विषय से छात्राध्यापिकाओं को अवगत कराया जा सकता है।

शिक्षा में बायोमैट्रिक की भूमिका

शिक्षा के क्षेत्र में बायोमैट्रिक प्रणाली की उपयोगिता के कारण स्कूल में नियमितता और अनुशासन बनाये रखने के लिये बायोमैट्रिक प्रणाली का प्रयोग करने से विद्यालय कार्यप्रबन्धन सुधारा जा सकता है।

यह विद्यालय कार्य को आसान बनाने के लिये उपयोग में लाया जा सकता है। वर्तमान में पहचान के लिये, आम प्रकार की तस्वीर, पहचान पत्र, पिन और पैनकार्ड को इस्तेमाल किया जाता है। परन्तु बायोमैट्रिक, पहचान की एक स्वीकार्य विधि बन गई है। विशेष रूप से उँगलियों की स्कैनिंग तथा बायोमैट्रिक पहचान के लिये अन्य तरीकों जैसे कि स्वाइप कार्ड और पिन को सुरक्षित तथा प्रभावी समाधान माना जाता है। बायोमैट्रिक तन्त्र विद्यालय के सरोकारी व्यक्तियों की पहचान करने, सटीक और लेखा परीक्षा योग्य शिक्षार्थी रिकॉर्ड प्रदान करने तथा शिक्षकों और कर्मचारियों के लिये एक सुरक्षित वातावरण प्रदान करने के लिये आदर्श समाधान प्रदान कर सकती हैं। माना जाता है कि बायोमैट्रिक शिक्षण को अधिक प्रभावशाली बनाने की भूमिका निभा सकती है। इस कारण विद्यालय समिति भी बायोमैट्रिक प्रणाली को बोर्ड परीक्षा में प्रयोग करने पर विचार कर रही है। बायोमैट्रिक, विद्यालय प्रशासकों तथा शिक्षार्थियों की पहचान करने का सटीक कार्य तथा विद्यालय के सभी सरोकारी व्यक्तियों की उपस्थिति का रिकॉर्ड प्रदान करने के लिये उपयोगी है। इसके साथ ही शिक्षक-शिक्षार्थी एवं अन्य कार्य-कर्ताओं के लिये यह एक सुरक्षित वातावरण प्रदान करती है।

निष्कर्ष

तकनीकी शिक्षक और शिक्षार्थियों को अधिक लाभ प्रदान कर रही है। तकनीकी शिक्षा को शैक्षिक पाठ्यक्रम, अधिगम सामग्री आदि को बेहतर बनाने में मदद करती है। कक्षा में तकनीकी छात्रों को व्यवस्थित रूप से शिक्षा प्राप्त करने और शिक्षा देने में सहायता मिलती है। जिससे छात्र उच्च गति और सटीकता के साथ डेटा और जानकारी प्राप्त करते हैं। तकनीकी की सहायता से स्कूलों, कालेजों को नवीनतम बनाया जा सकता है। तकनीकी द्वारा ही किसी भी देश की शिक्षा प्रणाली को भ्रष्टाचार मुक्त बनाया जा सकता है। बायोमैट्रिक प्रणाली के योगदान के कारण संस्थानों में छात्राध्यापिकाओं के मध्य बायोमैट्रिक प्रणाली को अपनाने के लिये अभिप्रेरित किया जा रहा है। मनुष्य ने तकनीकी में बहुत विकास कर लिया है। तकनीकी का इस्तेमाल अब शिक्षा के क्षेत्र में होने लगा है। बायोमैट्रिक तकनीकी का प्रयोग अधिगम प्रक्रिया को सहज, सरल, रुचिकर सक्षम तथा प्रभावशाली बनाने के लिये किया जा सकता है।

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EAL-009

A STUDY OF DIGITAL COMPETENCE OF FEMALE TEACHERS WORKING IN SECONDARY SCHOOLS

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INTRODUCTION

At the beginning of the 21st century, there was a discussion about 'essential competencies for lifelong learning' in which the concept of 'digital competence' was first reflected, but in the recommendation 'Key competencies for lifelong learning' presented by the European Commission and Council in 2006, the concept of digital competence was not included. The concept came into existence. The European Commission and Council in 2006 identified eight competencies for lifelong learning and human development (1. Ability to communicate in mother tongue, 2. Ability to communicate in a foreign language, 3. Mathematical ability and initial ability in science and technology, 4. Digital ability. , 5. Learning to learn, 6. Social and citizenship capabilities, 7. Initiative and entrepreneurial spirit and 8. Cultural awareness and expression) were described in which digital capabilities also got a place. Digital capabilities are essential capabilities for human life. It is one of those which is directly related to using digital technologies for information, communication and problem-solving in our everyday life. Being digitally competent means a combination of abilities such as understanding various digital media, searching for information in digital media, evaluating the information available, and using various digital tools.

Digital competence is a multi-dimensional concept that includes the skill of using new digital technologies, the ability to use digital technology meaningfully in various tasks and activities of daily life, the ability to evaluate digital technologies and enthusiastically participate in the digital environment. There are many abilities related to computers and technology etc. The European Parliament and Council (2006) defines digital competence as “the confident and critical use of information society technologies for purposeful work, leisure and communication”. It is based on the basic skills of ICT - the use of computers to acquire, retrieve, evaluate, store, present, share

and produce information and communication and participation in collaborative networks through the Internet." A. Ferrari defined digital competence as After reviewing various definitions, 'Digital Competencies in Practice: An Analysis of Framework' published in 2012 gave a detailed and comprehensive definition which is as follows, "Digital competence is a set of knowledge, skills, attitudes, strategies and awareness that The use of ICT and the digital medium for work, leisure, participation, learning, socialization, consumption and empowerment requires efficiency, effectiveness, appropriateness, precision, autonomy, flexibility, ethics and responsivity to perform tasks, solve problems, communicate, access information. It is necessary for managing, collaborating, creating and sharing content, and building knowledge.

The digital capabilities of teachers are different from the capabilities of people associated with other professions because it is necessary to establish a model of appropriate use of digital resources and tools by promoting knowledge and skills through practice in teaching and in accordance with theoretical and educational bases. In relation to teachers' digital competence, Krumsvik (2012) argues that teachers' digital competence is teachers' awareness of the use and impact of digital technologies on learning strategies and students' digital formation in the educational environment. C. Manvel et al (2020) have said in the context of teacher digital competence that "the ability of teachers to know how to use rapidly changing technology to educate and guide students so that education and future." Viortega-Sanchez defines teacher digital competence as the set of knowledge, skills and attitudes required to be functional in a digital learning environment and teaching-learning process.

RESEARCH OBJECTIVES

- To study the digital capabilities of female teachers working in secondary schools.
- To conduct a comparative study of digital competence of female teachers working in secondary schools on the basis of teaching faculty.
- To conduct a comparative study of digital capabilities based on the teaching experience of female teachers working in secondary schools.
- To conduct a comparative study of the digital capabilities of female teachers working in secondary schools on the basis of school administration.

RESEARCH HYPOTHESIS

- There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of teaching faculty.
- There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of work experience.
- There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of school administration.

RESEARCH METHOD

In the presented research, survey research method has been used under descriptive research. The population of the presented research is female teachers working in government and non-government secondary schools of Lucknow district. For the sample, 157 teachers have been selected by random method. To measure digital competence, the ‘Teacher Digital Competence Scale’ created by the researcher was used. This scale is based on the use of computers and Internet for teaching-learning, evaluation, content creation and professional development.

DATA ANALYSIS AND INTERPRETATION

Objective 1:- To study the digital capabilities of female teachers working in secondary schools.

Table 1:- Demonstration of the level of digital competence of female teachers working in secondary schools.

Female teachers working in secondary schools	Level of Digital Competence			Total
	High	Average	Low	
Frequency	46	76	34	157
Percent	29.29	48.40	21.65	100

From Table 1, it is known that the level of digital competence of 29.29 percent female teachers working in secondary schools is high, the level of digital competence of 48.25 percent female

teachers working in secondary schools is average and the level of digital competence of 21.25 percent female teachers working in secondary schools is low.

Objective 2:- To conduct a comparative study of digital competence of female teachers working in secondary schools on the basis of teaching faculty.

Hypothesis 1:- There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of teaching faculty.

Table 2: Comparative study of digital competence of female teachers working in secondary schools on the basis of teaching faculty.

S.No.	Faculty of Teaching	Sample	mean	S.D.	Std. error	T Value	significance
1	Science Faculty	61	143.77	40.54	3.73	1.41	Not significance
2	Art Faculty	96	138.50	33.89			

Table number-2, it is clear from the above that on testing the digital competence of female teachers working in secondary schools on the basis of teaching faculty, the mean score was found to be 143.77 and 138.50 respectively and the standard deviation was found to be 40.54 and 33.89 respectively. A difference was found in the values of both, whether this difference is significant or not, after calculating the critical ratio value, this value was found to be 1.41, which is seen from the significance table that this value was found to be less than 1.96 and 2.56. Therefore, it can be said that no significant difference was found in the digital competence of female teachers working in secondary schools on the basis of teaching faculty.

Therefore, hypothesis number 01 “**There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of teaching faculty**” is accepted.

Objective 3:- To study digital competence on the basis of teaching experience of female teachers working in secondary schools.

Hypothesis 2:- There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of work experience.

Table 3: Comparative study of digital competence on the basis of teaching experience of female teachers working in secondary schools.

S.No.	Teaching experience	Sample	mean	S.D.	Std. error	T Value	significance
1	Less the 10 years	72	131.02	34.17	3.65	2.70	significant
2	More then 10 years	85	141.89	36.09			

It is clear from Table No. 3 that on the basis of teaching experience of female teachers working in secondary schools (less than 10 years of experience and more than 10 years of experience), the mean score of the digital competency test was 131.02 and 141.89 respectively and the standard The deviation was found to be 34.17 and 36.09 respectively. A difference was found in the values of both, whether this difference is significant or not. On calculating the critical ratio value, this value was found to be 2.70, which is seen from the significance table that this value was found to be more than 1.96 and 2.56. Therefore, it can be said that on the basis of teaching experience of female teachers working in secondary schools (less than 10 years of experience and more than 10 years of experience), a significant difference was found at 0.01 level in digital competence.

Therefore, hypothesis no. 02 “**There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of work experience**” – is rejected.

Objective 4:- To study the digital capabilities of female teachers working in secondary schools on the basis of school administration.

Hypothesis 3: There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of school administration.

Table 4: Comparative study of digital competence of female teachers working in secondary schools on the basis of school administration.

S.No.	school administration.	Sample	mean	S.D.	Std. error	T Value	significance
1	Government	59	140.22	36.70	3.58	0.20	Not significant
2	Non- Government	96	139.07	35.07			

It is clear from table no. 4 that on the basis of school administration, when the digital competence of female teachers working in secondary schools was tested, the mean score was found to be 140.22 and 139.47 respectively and the standard deviation was found to be 36.70 and 35.07 respectively. A difference was found in the values of both, to determine whether this difference is significant or not, after calculating the critical ratio value, this value was found to be 0.20, which is seen from the significance table that this value was found to be less than 1.96 and 2.56. Therefore, it can be said that no significant difference was found at any level in the digital capabilities of female teachers working in secondary schools on the basis of school administration.

Therefore, hypothesis no. -03 **“There is no significant difference in the digital competence of female teachers working in secondary schools on the basis of school administration”** – is accepted.

RESULT

The following findings were found in the study-

- The level of digital competence of 29.29 percent female teachers working in secondary schools was found to be high, the level of digital competence of 48.25 percent female teachers working in secondary schools was found to be average and the level of digital competence of 21.25 percent female teachers working in secondary schools was found to be low.

- No significant difference has been found in the digital competence of female teachers working in secondary schools on the basis of teaching faculty.
- On the basis of teaching experience of female teachers working in secondary schools, no significant difference has been found in digital competence.
- No significant difference has been found in the digital competence of female teachers working in secondary schools on the basis of school administration.

CONCLUSION

An effective teaching involves different teaching abilities. Due to the ubiquity of digital devices and applications, there is a need for everyone, especially teachers, to develop their digital competence. For the development of teaching-learning system and all-round development of students, it is necessary that the teacher should be expert in his subject, he should be familiar with the philosophical, psychological, social perspective of education, and he should be competent in teaching methods and procedures. Due to digital technology, society is constantly changing and its direct impact is also being reflected in the education system. Today, the learning habits of students are changing, their needs and circumstances are changing. In such a situation, it is the responsibility of the school to provide an educational, didactic and safe environment according to the needs and circumstances of the students. In this changing environment, the teaching profession also requires new, broader and more sophisticated capabilities than before. Today, in the era of technology and internet, it is necessary for teachers to be digitally competent because in the digital time, due to lack of digital competence, teachers are unable to do their work effectively. In the present times, if the teacher has to achieve status as a functional unit, then it is necessary for him to be familiar with the rapidly developing digital technologies. If a person does not develop skills, competencies and abilities as per the current digital requirements, then he cannot do his work effectively. In today's changing environment, the teaching-learning system is changing. There is a need for an updated digitally competent teacher to fulfill the objectives of education, initiate the teaching-learning process of students and promote the acquisition of key competencies among students. Therefore, teachers should keep their skills up to date and upgrade their skills to use digital technology in their classroom so that they can assist in the learning process and motivate students to learn with interest.

SUGGESTION

- Formal and informal training programs should be organized for the development of digital capability of teachers and to improve the level of digital capability of teachers.
- There should be provision of ICT devices and internet for teachers and students in schools.

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EAL-0010

THE ROLE OF COMPUTER-MEDIATED INSTRUCTION ON THE DEVELOPMENT OF 21ST-CENTURY SKILLS

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ABSTRACT:

The integration of technology in education has transformed traditional instructional methods. This paper explores the role of Computer-Mediated Instruction (CMI) in cultivating 21st-century skills among learners. By examining the effectiveness of CMI in fostering digital literacy, collaboration, and team work, this study contributes to the ongoing discourse on technology-enhanced learning. The research employs a qualitative approach, to provide a comprehensive understanding of the impact of CMI on skill development. The findings aim to inform educators, policymakers, and researchers about the impact of computer mediated instruction in develop the above mentioned skills.

Keywords: Computer-Mediated Instruction, 21st-Century Skills, Educational Technology, Skill Development

1. Introduction:

The education systems of the world have for long moved in a linear path and although there has been progress there have been few significant technological advancements in the methods of imparting education, theoretical or practical. Education in its traditional sense has always been a process of transfer of knowledge in a formal setting. But with the advancements in technology that the world saw in the late 20th century and the early 21st century drastically changed the nature of education itself and opened opportunities to modernize the education system.

The process of it all started with the advancements in computer technology. With the advent of personal computers, the computer no longer became an advanced tool for calculation. Limited use for research and data storage facilities, rather became a tool of academic convenience. Moreover, the advent of the Internet has changed communication with instantaneous data transmission around the world leading to practically unlimited educational resources at the disposal of learners. However, the advent of this technology has led to a change in the skill set required of the professionals of the 21st century. With access to information becoming easier the emphasis on textbook knowledge has taken a backseat to other skills which determine the ethics and approach of the professional to a task at hand. These could be considered as the skills to be taught in the 21st century. The 21st-century skills are the skills that prove essential for a successful and fulfilling professional and personal life in the modern world.

2.0.0 Review of Related Literature

The previous studies related to computer mediated instruction includes **Carroll, Noel. (2011)** whose research topic “Evaluating online Asynchronous support in the institutes of technology Ireland.” aimed to find about the perception of the students using asynchronous way of learning in an e-learning course. Survey method has been used in this research study, the data was collected using online questionnaire. The research got right response from 448 pupils across the Irish IoTs. The result of the study showed that synchronous assisted tools are considerably underused in the IoTs and are not that useful in meeting the learning needs of the students. Email proved to be an important means of communication.

Karal, H., et al. (2011) studied the “perceptions of Students who take Synchronous Course through Video Conferencing about Distance Education.” The objective of the study is to know the perception about distance learning course from the students taking synchronous distance education classes through video conferencing. The study used a qualitative research approach. Total 9 students from two different undergraduate levels at Karadeniz Technical University were selected as sample of the research through focused sampling. The data collection tools used to collect data from the sample was Semi-structured interviews and observations. Descriptive data analysis technique was taken up to analyze the data. The findings of the study suggest that the process of communication between students and teacher in the synchronous teaching was weak

in the first week that gradually improved from the next week. Students felt satisfied by the technical equipments that were being used in the synchronous class. Some students also asserted that they felt more comfortable and could concentrate in a better way in the synchronous class through video conferencing.

Jacob, S.M. (2012) conducted a research study on “Mathematical achievement and Critical thinking skills in asynchronous discussion forums.” A relation between critical thinking and maths marks of engineering students had been checked among two groups of students. 43 students in group A and 60 students in group B were sample of the study. Data was collected using different ways being ODF postings, internal Maths scores and final exam scores. The result suggested that improved Critical thinking skill would help in achieving great results in Maths.

LeShea, A. V. (2013) carried out a research on the topic “The Effects of Synchronous Class Sessions on Students’ Academic Achievement and Levels of Satisfaction in an online Introduction to Computer Course.” The purpose of the study was to test the effect of live, synchronous class in online computer class. The size of the sample was 61. Quasi-experimental research design has been used to carry out the research. T-test was used to analyse the data. Data was presented using Histograms. The findings of the study showed that students who studied non-synchronously scored higher in their exam than the synchronous group students.

Woodcock, Stuart et al. (2015) studied “The Learning Experience: Training Teachers Using Online Synchronous Environments.” The research studied the efficacy of synchronous platform being used to train pre service teachers. A blended learning approach was executed. Total number of participants in the course were 53. Both qualitative and quantitative approach have been used in the study. Data was collected through interview and survey. Statistical and thematic content analysis were used to analyze the data. The result of the study proved synchronous way to be an effective tool in training pre service teachers.

Kannan, Kalpana., & K, Narayanan. (2015) studied “Synchronous Teacher Training in India : A study of perception and satisfaction of the participants.” The study showed the results of survey of 14 workshops carried out through distance synchronous mode from 2009 to 2013. The objective of the study was to know whether the training program was accessible to the target

group and to get the perception and level of satisfaction of the participants. Size of the sample was 450 initially and later exceeded by 3700. Online survey was used to collect data. Questionnaire was the tool to collect the data. The result showed that the workshop could not reach the target group. The female teachers and the teachers in colleges based in rural areas had less opportunity.

3.0.0 Objectives:

1. To mention the impact of Computer-Mediated Instruction (CMI) on the development of digital literacy skills among learners in educational settings.
2. To investigate the influence of Computer-Mediated Instruction (CMI) on fostering collaborative skills and teamwork in the context of 21st-century learning.

4.0.0 Methodology

The study employs a qualitative approach, to measure 21st-century skill development through Computer-Mediated Instruction (CMI) based on several studies conducted before.

5.0.0 Discussion:

5.1.0 The impact of Computer-Mediated Instruction (CMI) on the development of digital literacy skills among learners:

The impact of Computer-Mediated Instruction (CMI) on the development of digital literacy skills among learners in educational settings is a multifaceted and dynamic area of study. Digital literacy encompasses a range of abilities that enable individuals to navigate, evaluate, and utilize digital technologies effectively. Here are several ways in which CMI influences the development of digital literacy skills:

- **Access to Information:**
 - CMI provides learners with immediate access to a vast amount of information available on the internet. This exposure allows them to practice searching, evaluating, and selecting relevant and credible digital resources.

- **Critical Evaluation:**
 - Learners engaged in CMI are often required to critically assess the quality and reliability of online information. This process contributes to the development of critical thinking skills and the ability to distinguish between trustworthy and unreliable sources.
- **Digital Communication Skills:**
 - Through online discussions, forums, and collaborative projects facilitated by CMI, learners enhance their digital communication skills. This includes the ability to express ideas clearly, engage in constructive online dialogues, and understand the nuances of digital communication.
- **Technical Proficiency:**
 - CMI involves using various digital tools, platforms, and software. As learners navigate these technologies, they develop technical proficiency, gaining competence in using word processing software, presentation tools, online collaboration platforms, and other digital applications.
- **Media Literacy:**
 - CMI often involves the consumption and creation of digital media. Learners develop media literacy skills, understanding how to analyse, create, and interpret different forms of digital content, including text, images, audio, and video.
- **Adaptability to Technological Changes:**
 - Engaging with CMI exposes learners to evolving technologies. This experience fosters adaptability and a proactive approach to staying informed about and utilizing emerging digital tools and platforms.
- **Online Safety and Digital Citizenship:**
 - CMI provides opportunities to educate learners about online safety, responsible digital behavior, and ethical considerations in the digital realm. This contributes to the development of good digital citizenship practices.
- **Problem-solving in Digital Environments:**

- CMI often involves problem-solving activities within digital environments. Learners develop problem-solving skills specific to digital challenges, which can be applied in various contexts.
- **Digital Creation and Innovation:**
 - CMI platforms often support creative projects, fostering digital creation and innovation. Learners can develop skills in creating digital content, such as blogs, podcasts, videos, and interactive presentations.
- **Self-Directed Learning:**
 - CMI often provides opportunities for self-directed learning, where learners take control of their learning path, set goals, and explore topics of personal interest. This autonomy contributes to lifelong learning skills.
- **Time Management in Digital Spaces:**
 - Engaging with CMI requires effective time management skills, as learners navigate various digital tasks, assignments, and collaborative activities. This skill is transferable to other aspects of their academic and professional lives.

5.2.0 The influence of Computer-Mediated Instruction (CMI) on fostering collaborative skills and teamwork in the context of 21st-century learning.

Computer-Mediated Instruction (CMI) refers to the use of computers and digital technologies to facilitate and enhance the learning experience. In the context of 21st-century learning, CMI plays a crucial role in fostering collaborative skills and teamwork.

- **Access to Resources:** CMI allows students to access a vast array of resources and information from around the world. This global connectivity exposes students to diverse perspectives and encourages collaborative problem-solving with peers from different cultural backgrounds.
- **Communication Platforms:** CMI platforms often include communication tools like forums, chat, and video conferencing. These tools enable real-time collaboration,

allowing students to work together on projects, share ideas, and engage in discussions regardless of geographical locations.

- **Document Sharing and Editing:** Platforms like Google Workspace and Microsoft 365 provide collaborative document editing features. Students can simultaneously work on the same document, fostering teamwork and teaching them how to coordinate efforts in a digital environment.
- **Digital Project Platforms:** CMI supports project-based learning by offering digital platforms where students can collaborate on projects. This not only enhances their subject knowledge but also develops crucial collaborative skills such as communication, task allocation, and conflict resolution.
- **Real-World Application:** CMI allows students to engage in authentic, real-world projects. This mirrors the collaborative nature of many professional settings, preparing students for the demands of the modern workplace.
- **Asynchronous Collaboration:** CMI facilitates both synchronous and asynchronous collaboration. Asynchronous collaboration accommodates different schedules and time zones, promoting flexibility in teamwork. Students learn to manage their time effectively and communicate asynchronously.
- **Blended Learning:** CMI is often integrated into blended learning models, combining traditional face-to-face instruction with online components. This approach encourages students to work together in physical and virtual spaces, promoting a well-rounded collaborative experience.
- **Soft Skills Enhancement:** Collaboration through CMI emphasizes the development of soft skills such as communication, teamwork, adaptability, and problem-solving. These skills are highly valued in the modern workforce and are crucial for successful collaboration.
- **Immediate Feedback:** CMI allows for immediate feedback through online assessments and collaborative activities. This timely feedback enables students to learn from their mistakes, make improvements, and collaboratively reflect on their work.

- **Peer Assessment:** CMI often incorporates peer assessment features, encouraging students to evaluate their peers' work. This process enhances teamwork as students learn to provide constructive feedback and appreciate diverse perspectives.
- **Interdisciplinary Projects:** CMI encourages cross-disciplinary collaboration by facilitating projects that require expertise from various fields. Students engage in collaborative efforts that mirror the interconnected nature of real-world problem-solving, preparing them for careers that demand collaboration across different domains.
- **Holistic Understanding:** Collaborating on cross-disciplinary projects exposes students to diverse perspectives and methodologies. This fosters a holistic understanding of complex issues and encourages them to approach problem-solving with a well-rounded, collaborative mindset.
- **Simulated Environments:** CMI often incorporates virtual simulations and role-playing scenarios. These activities require students to work together to navigate and solve problems in simulated real-world environments. This hands-on collaboration enhances their ability to apply theoretical knowledge in practical situations.
- **Decision-Making Skills:** Virtual simulations and role-playing exercises promote critical thinking and decision-making skills. Collaborating in these dynamic scenarios teaches students how to make collective decisions, manage resources, and adapt to unexpected challenges – skills essential for effective teamwork.
- **Virtual Internships and Networking Events:** CMI provides opportunities for virtual internships and networking events. Students can collaborate with professionals in their field of study, fostering connections that extend beyond the classroom. This exposure to real-world professionals enhances their collaborative skills and provides insights into industry expectations.
- **Industry-Relevant Collaboration:** Collaborating with professionals through CMI allows students to work on projects relevant to their future careers. This industry-specific collaboration ensures that students are well-prepared for the collaborative demands of their chosen professions.
- **Accommodating Diverse Learning Styles:** CMI platforms can be designed to accommodate various learning styles. This inclusivity ensures that all students, regardless

of their preferred learning methods, can actively participate in collaborative activities. It promotes teamwork by recognizing and valuing diverse strengths within a group.

- **Accessibility Features:** CMI often incorporates accessibility features, making collaborative learning accessible to students with diverse abilities. This inclusive design fosters an environment where everyone can contribute, emphasizing the importance of teamwork that values the unique strengths everyone brings to the collaborative process.
- **Analytics and Progress Tracking:** CMI platforms often include analytics and progress tracking features. These tools enable educators and students to monitor individual and group performance. Data-driven insights help identify areas of improvement, allowing for targeted interventions and collaborative efforts to address challenges.
- **Reflection and Continuous Improvement:** Data-driven collaboration encourages students to reflect on their collaborative processes. Analyzing performance data allows teams to identify successful strategies and areas for improvement, fostering a culture of continuous learning and collaboration refinement.

Conclusion

The integration of Computer-Mediated Instruction (CMI) has profoundly impacted the development of 21st-century skills among learners. The findings of this research underscore the multifaceted role of CMI in cultivating digital literacy, critical thinking, collaboration, and adaptability. In terms of digital literacy, CMI offers immediate access to vast information, fostering critical evaluation and communication skills. Learners engage with various digital tools, enhancing technical proficiency, media literacy, and the ability to adapt to technological changes. The platform also serves as a conduit for instilling online safety and digital citizenship, promoting responsible digital behavior. Furthermore, CMI significantly contributes to fostering collaborative skills and teamwork. Through global connectivity, diverse communication platforms, and collaborative document editing features, students learn to work seamlessly across geographical boundaries. The integration of real-world projects, asynchronous collaboration, and blended learning models instills soft skills crucial for success in the contemporary workforce. Immediate feedback, peer assessment, and interdisciplinary projects further enhance holistic understanding and decision-making skills. CMI provides simulated environments, virtual internships, and industry-relevant collaboration, preparing students for the collaborative demands

of their chosen professions. The platform accommodates diverse learning styles and incorporates accessibility features, ensuring inclusivity in collaborative learning.

This research illuminates the transformative potential of CMI, offering valuable insights for educators, policymakers, and researchers. As education continues to evolve in the digital age, understanding and harnessing the capabilities of CMI are imperative for equipping learners with the essential skills for success in the 21st century.

7.0.0 Delimitation:

- **Educational Level:** The research might be delimited by a specific educational level, such as primary, secondary, or tertiary education. Focusing on a particular academic level could limit the transferability of findings to other educational stages, as the effectiveness of CMI and its impact on 21st-century skills may vary across different age groups and academic settings.
- **Educational Disciplines:** Another delimitation could involve a specific focus on certain academic disciplines or subject areas. The study may concentrate on a particular field of study, potentially neglecting the diverse ways in which CMI influences skill development across various disciplines.

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EAL-0011

THE ROLE OF CRITICAL THINKING IN EDUCATION

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ABSTRACT

The role of critical thinking in education has garnered significant attention as societies strive to equip individuals with skills that transcend rote memorization and passive learning. This paper delves into the multifaceted realm of critical thinking within the educational context, exploring its significance, methodologies, and impact. Through an examination of various educational levels, subjects, and learning environments, this study elucidates how critical thinking nurtures analytical skills, problem-solving abilities, and intellectual independence. By analyzing the theoretical foundations, pedagogical approaches, and assessment methods related to critical thinking, the research unveils the diverse strategies employed to foster this skill. Furthermore, the study investigates the correlation between critical thinking and academic achievement, highlighting its role in preparing students for the complexities of an evolving world. As technology reshapes information consumption, the discussion extends to the digital age, underscoring how critical thinking serves as a shield against misinformation and promotes responsible digital citizenship. Through a synthesis of findings, the research underscores critical thinking's transformative potential to cultivate informed, discerning, and empowered individuals who contribute meaningfully to society. This research underscores the urgency of integrating critical thinking across educational curricula, fostering an environment that not only imparts knowledge but also hones the capacity to question, evaluate, and innovate. This paper explores the pivotal role of critical thinking in education, examining its significance, methodologies, and impact across various educational levels and subjects. It emphasizes how critical thinking fosters analytical skills, problem-solving abilities, and intellectual independence. The research analyzes theoretical foundations, pedagogical approaches, and assessment methods associated with critical thinking, revealing diverse strategies for its cultivation. The study also investigates the link between critical thinking and academic achievement, emphasizing its role in preparing students

for the complexities of the evolving world. In the digital age, the paper discusses how critical thinking acts as a defense against misinformation and promotes responsible digital citizenship. Overall, the research underscores critical thinking's transformative potential to shape informed, discerning individuals who contribute meaningfully to society. It highlights the importance of integrating critical thinking into educational curricula, creating an environment that not only imparts knowledge but also cultivates the ability to question, evaluate, and innovate.

This paper provides a comprehensive exploration of critical thinking in education, investigating its role, methods, and impact across diverse educational levels and subjects. Emphasizing the development of analytical skills, problem-solving, and intellectual independence, the research scrutinizes theoretical foundations, pedagogical approaches, and assessment methods. The study delves into the correlation between critical thinking and academic achievement, stressing its importance in preparing students for the complexities of the evolving world. In the digital age, the paper highlights how critical thinking serves as a defense against misinformation and promotes responsible digital citizenship. Ultimately, the research underscores critical thinking's transformative potential in shaping informed individuals who contribute meaningfully to society, emphasizing the need to integrate it into educational curricula for fostering a culture of questioning, evaluation, and innovation.

Key Words: Critical thinking, education, cognitive skills, problem-solving, analytical thinking, higher-order thinking, curriculum design, teaching strategies, inquiry-based learning, reasoning abilities, decision-making.

Author's Bio

Dr. Sandhya Sharma is an esteemed Associate Professor with a rich academic background and extensive experience in the field of education. Holding a Ph.D. and M.Ed., as well as an M.A. in Hindi and Sanskrit, her educational journey reflects a deep commitment to both pedagogy and language studies.

Dr. Sandhya Sharma's illustrious career spans over 24 years, during which she has consistently demonstrated excellence and dedication in the field of education. Her academic journey is

marked by significant achievements, including a Ph.D. and M.Ed., as well as an M.A. in Hindi and Sanskrit. These credentials underscore her deep commitment to advancing both pedagogical methods and language studies.

Currently affiliated with Jayoti Vidhyapeeth Women's University in Jaipur, Dr. Sharma brings a wealth of knowledge and expertise to her role. With an impressive 24-year career in various universities and colleges, she has contributed significantly to the academic landscape.

Dr. Sharma's academic pursuits have not only culminated in her advanced degrees but also reflect her dedication to the disciplines of Hindi and Sanskrit. Her multifaceted background positions her as a versatile scholar with a holistic understanding of language, education, and cultural studies.

As an Associate Professor, Dr. Sandhya Sharma plays a vital role in shaping the academic landscape at Jayoti Vidhyapeeth Women's University. Her extensive experience and academic achievements underscore her commitment to fostering a vibrant and enriching educational environment.

EAL-0012

IMPACT OF NEP IN CHILD EDUCATION**SAURABH MAHICH**

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ABSTRACT

Education is a fundamental need and right of everyone now. Education plays a great role in the national development of a nation. As we are facing a change in terms of knowledge globally. The government of India approved the national education policy 2020. This new policy has replaced the national education policy 1986 that is 34 year old. This new policy has the aim of universalizing education from pre school to secondary level. It plans to do that with a 100 pp% GRE (Gross enrollment ratio) schooling. The plan is to achieve it by 2030. Firstly the policy proposes to open Indian higher education in foreign universities. It aim to make all universities and colleges multidisciplinary by the year 2040. Final the policy aim to grow employment in India and also bring fundamental changes to present education system. Advantages of NEP Student of class 10th & 12th by making the board exam easier. It will allow all the students to take the exam twice further it proposes that an independent both public and private school. There will be no rigid division between extra curriculam vocational education will begin at class sixth an internship. As a disadvantages firstly it can make education system expansive meaning to say admission to foreign university will probably result in this, further it will create a lakh of huaman resources. It also the drawback of the exodus of teacher, may skilled teacher migrating to those universities.



INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE

ELS-001

Gene therapy: As a medical condition Mechanisms of Patho- Mechanisms

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ABSTRACT

The ability to manipulate specific sections of the human genome has been a desire in medicine ever since the gene became known to be the core component of heredity. This review highlights current advances in biotechnology as well as CRISPR/Cas9 genome modification. In clinical investigations implementing approved procedures, in in vivo studies in somatic cells stated favorable results. Such advances generate huge confidence in the treatment of catastrophic unusual, ancestral, and incurable conditions. Gene therapy is beginning to demonstrate economic viability with the recent introduction of several different gene and cell-based medicines to the market and clinic . Gene therapy is therefore the process of changing a person's genetic state by repairing altered (mutated) genes or creating site-specific modifications intended for use in medical treatments. Innovations in genetics and biotechnology have made it easy to modify vectors that transported extrachromosomal DNA to target cells, which in turn made this form of therapy achievable. The worldwide market is shifting as a consequence of enhanced understanding of disease Patho-mechanisms and the invention of reliable and effective gene targeting as well as distribution methodologies. This process's main objective is on enhancing targeted delivery (vectors), that contain mostly plasmids, infectious agents, or nanostructured elements. Major concerns, still, involve rising immune system reactions and changes in genes, particularly within germ line cells.

Key words- Gene therapy, clinical trials , CRISPER/Cas9 , germ line gene therapy and somatic gene therapy

ELS-002

**BIODIESEL PRODUCTION FROM THE MICROALGA *CHLORELLA PYRENOIDOSA*
TO USE IT AS GREEN FUEL.**

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ABSTRACT

Development in industrialization and urbanization has increased demand for energy. In order to meet these energy demands, dependency on conventional energy sources like- coal, petroleum and natural gas led to energy sources as well as environmental sustainability in danger. In present scenario, microalgae have been used as the third generation promising source for production of biofuel. Some microalgae species are “oil rich” energy packets that provide 10-100 times more biomass energy than other traditional crops. The microalga *Chlorella pyrenoidosa* is a potential source for biodiesel. The present study investigated the quality of biodiesel prepared from *C.pyrenoidosa* by cultivating in Fogg’s media and to check the potential of studied alga to use it as biofuel source. The biodiesel was tested to assess the suitability to use as biofuel by values of its different physical properties and spectroscopic analysis also. As our results indicates that all parameters studied are within ASTM standards and moreover comparable with well known biofuel plant *Jatropha curcas*. So *C.pyrenoidosa* can be used as source of biodiesel.

KeyWords: Biofuel, Biodiesel, environmental sustainability, Microalgae, *Chlorella pyrenoidosa*

ELS-003

STUDY OF SOCIAL BEHAVIOUR OF HOUSE SPARROW (PASSER DOMESTICUS)**MRS.PUSHPA MOURYA**

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ABSTRACT

Biodiversity is a key component of a sustainable environment. But the pressure on the environment caused by economic development and other human activities makes it difficult to protect the natural areas that are large enough to accommodate the entire ecosystem. Birds are considered an icon for conservation, for environmental and evolutionary reasons, and they dwell in a significant place in people's perception of nature. They are highly sensitive as well as mobile, and thus eminently suitable to study the impact of anthropogenic disturbance on biodiversity. Birds are susceptible to environmental changes and hence can act as an indicator of the ecological balance of a particular habitat. The House sparrow or the House sparrow is a little, stocky song bird with thick bill, short leg, measuring about 14-16 cm, weight 26-32 gram and having a wing span of 19-25cm. The sexes are dimorphic, that is, the males and females look different. The male is warm brown above, with a grey crown and nape. It has grey cheek and grey under parts with black round eyes.

The female is somewhat feather less with a grey brown crown, a pale, buff supercilium, and an unmarked throat and breast. Juveniles are similar to the adult female. House sparrows have a life span of 3 to 13 years. Preferred houses, bungalows and concrete structures to build their nests. In suitable areas, often form loose colonies, typically of 15-20 pairs. House sparrow mostly feeds on the seeds of grains and weeds on the ground but it eats whatever foods are available. In urban area it feeds largely on food provided by humans, like that bread, seeds, chapatti etc. Although it forages mostly on the ground in open areas and also feeds on cultivated grains, fruits and vegetables. Mostly in summer, House sparrow eats insects (Beetles, caterpillars, dipteran flies, and aphids) and feed them to their young. It feeds in flocks but some time one or two birds are feeds on open fields. Breeding season of House sparrow is rainy season (July-August). It is monogamous, and typically mates for life. House sparrow prefer of

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sites for nesting are as building holes, crevices of houses, eaves of building, branches of leafy or evergreen trees, thick bushes etc. The nests are made of thin dried vegetation, finer material including feathers and string. Male and female both are seen to build the nest.

KEY WORDS:- Biodiversity,ecosystem,ecological balance,monogamous,House sparrows.

ELS-004

**ASSESSMENT OF FAUNAL DIVERSITY OF UDAIPURWATI REGION, IN
REFERENCE TO THEIR CONSERVATION PERSPECTIVE**

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ABSTRACT

Since natural resources are essential to human development, it is imperative that they be preserved and used sustainably. However, as industrialization, urbanization, and globalization progress, all natural resources, including forest and faunal diversity, are being negatively impacted. A tahsil in Rajasthan's Neem ka Thana district is called Udaipurwati. It is located in a semi-arid climate with extremes of heat in the summer and cold in the winter. Summer temperatures can reach as high as 49 degrees Celsius, while winter temperatures can drop below freezing. The variety of creatures that are indigenous or local to that specific area is referred to as faunal diversity. Predators, fish, mammals, avifauna, hymenopterans, coleopteron, and butterflies are among them. The study aimed to catalog and identify the many animal groups, genera, and species present in the region, along with their habitats and distribution patterns. In addition to some larval forms, there are 23 species in the orders Coleoptera (12), Hemiptera (7), Odanta (1), and Dipteral (3). Since many of the fish in Kot Dam depend on insects for nourishment, the number of fish, including Catla, Rohu, Mrigal, and Cat fish, is determined by their existence. Twenty mammal species from 12 groups and 17 genera comprise the mammalian diversity of the Udaipurwati region.

Keywords: Udaipurwati region, faunal variety, conservation

ELS-005

ECONOMIC IMPORTANCE OF BLUE GREEN ALGAE AND ROLE OF ALGAE IN AGRICULTURE**¹LOKESH SAINI, SANDEEP KUMAWAT, ANISHA SAINI, MONIKA, SUMAN SAINI² AND ANKIT KUMAR JANGID³**¹M.Sc. Students, ²Head of Department, ³Assistant professor

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ABSTRACT

Blue green algae (BGA) possess immense morphological and metabolic diversity and can be used in economic development and environment management like wastewater treatment, land reclamation, production of fine nutrients, atmospheric fixation of nitrogen, production of methane fuel, conversion of solar energy, therapeutic functions and so on. Cyanobacteria (CB), known as blue-green algae (BGA), are a group of gram negative photosynthetic bacteria that have colonized earth surface for nearly 3.5 billion years and are considered as the predecessors of modern day chloroplast. BGA possess a great deal of morphological and metabolic diversity, which makes CB an extraordinary repertoire of a vast array of chemical products with applications in the feed, food, nutritional, cosmetic, pharmaceutical and even fuel industry. BGA utilization is centuries old (*Nostoc* in Asia and *Spirulina* in Africa and Mexico), purposeful cultivation of BGA started only a few decades ago. During 20th century, several cultivation technologies have been developed and are in use to produce CB biomass as a source of valuable products. This review presents applications of BGA in agriculture, food and industry.

Keywords: Agriculture, Blue green algae (BGA), Cyanobacteria, Industry

ELS-006

STUDY ON TINOSPORA CORDIFOLIA ETHANOMEDICINAL PLANTS OF SHEKHAWATI REGION AND THEIR BIOCHEMICAL ANALYSIS**SHYAMA DIDWANIA**

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E.mailid:- shyamadidwania1991@gmail.com**ABSTRACT**

Tinospora cordifolia is a well-known medicinal herb that has been used traditionally to treat a wide range of ailments. The Menispermaceae family includes the popular names Amrita and Guduchi. Numerous ailments, such as fever, diarrhea, leprosy, skin disorders, and diabetes, have been treated with it. In the Indian system of medicine (ISM), it is considered an indispensable medicinal plant. Tinospora cordifolia is known to contain a variety of chemical components, including lignans, alkaloids, terpenoids, steroids, and others, which contribute to its phytochemistry and pharmacological activity. The World Health Organization estimates that 80% of people on the planet primarily depend on conventional therapies, some of which involve the use of pharmaceutical chemicals, such as phytochemical compounds. The vastness of India combined with knowledge of rich historical traditional medical systems (Ayurveda, Siddha, Unani, Amchi, and local health customs) provide a solid foundation for the use of a wide range of plants in healthcare and the treatment of common clinical ailments. The shrub Tinospora Cordifolia is also widely used in Ayurvedic medicine. Native to India, the plant is a woody, glabrous climbing shrub. Anti-diabetic, anti-periodic, anti-spasmodic, anti-inflammatory, anti-arthritic, anti-oxidant, anti-allergic, anti-stress, anti-leprotic, anti-malarial, hepatoprotective, immunomodulatory, and anti-neoplastic activities are among the noteworthy medicinal properties that have been reported.

Keywords- Tinospora cordifolia, Phytochemical, Medicine

ELS-007

**COMPARATIVE ANALYSIS OF BIO-CULTURING OF FRESH WATER ALGAE
SPIROGYRA COMMUNIS, *CHLORELLA VULGARIS* AND *SPIRULINA PLATENSIS*****ANKIT KUMAR JANGID¹ PRATIMA SHRIVASTAVA² AND SUMAN SAINI³**

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ABSTRACT

For optimization of cultural conditions for algal biomass production of three local filamentous freshwater algae, namely *Spirogyra communis*, *chlorella vulgaris* and *Spirulina platensis* were cultured. Among all these tested in media, *Spirulina platensis* gave maximum biomass (16.3 g/l) in Culture medium whereas, *chlorella vulgaris* gave the biomass of 10.5 g/l in Culture media and *Spirogyra communis* gave the biomass of 8.5 g/l in Culture medium. Then the effect of different carbon sources (lactose, glucose, cellulose and starch) supplement in Culture media was evaluated for biomass production. Among all the sources cellulose at 1 g/l was found to be significant for optimal mass production of (15.81 g/l) and (18.6 g/l) of *Spirogyra* and *Spirulina*, respectively. Both the algal species gave insignificant results in all other carbon sources. The effect of different nitrogen sources (ammonium sulphate, ammonium nitrate, potassium nitrate, ammonium chloride and urea) was tested for biomass production. Urea at 0.1 g/l was found to be best (20.7 g/1000 ml) for optimal growth of *Spirulina platensis* as compared to (16.86 g/1000 ml) of *Spirogyra communis*. However, cellulose as carbon source and urea as nitrogen source were optimized for significant growth of both the algal species. The comparison between the growth rates of both specimens was evaluated. Both the species gave maximum growth up to 15 days of incubation and then the growth started decreasing gradually. It is indicated that the volumetric growth of *Spirulina platensis* is significant in the selected media as compared to *Spirogyra communis*.

Keywords: Comparative analysis, Bio-culturing, Freshwater algae

ELS-008

**EVOLUTION OF WILDLIFE LAWS IN INDIA: PAST, PRESENT, AND FUTURE
PERSPECTIVES****ANANDITA KULHAR****1st Year, B.A.LL.B (Hons. In Adjudication and Justicing)****Maharashtra National Law University, Nagpur****Email- ananditakulhar@gmail.com****ABSTRACT**

India, with its rich diversity, has witnessed significant developments in wildlife conservation, especially following the reintroduction of cheetahs. The nation boasts a plethora of fauna, comprising over 102,718 species thriving across various regions. However, the colonial past, marked by the proclivities of kings for hunting, has left an enduring impact on the nation's wildlife. Acknowledging the historical exploitation, the Indian Government has enacted crucial acts, laws, and policies to safeguard and preserve its diverse fauna. This paper aims to provide a comprehensive overview of the past, present, and future of wildlife laws in India. The historical context will delve into the colonial era, outlining the detrimental effects of hunting during that period. In the present scenario, the focus will shift to key legislative frameworks such as The Wildlife (Protection) Act, 1972, the Indian Forest Act (1927), the Forest Conservation Act (1980), the Environment (Protection) Act (1986), and the National Forest Policy (1998). An analysis of the evolution of these laws will be presented, highlighting their role in shaping wildlife conservation efforts. Furthermore, the paper will examine the evolution of wildlife laws under different prime ministers, particularly during the early years of independent India, featuring leaders such as Jawaharlal Nehru, Lal Bahadur Shastri, and Indira Gandhi. As we usher in the era of Artificial Intelligence (AI), the paper will explore how national parks and sanctuaries can leverage AI to enhance fauna management, prevent poaching and hunting, and bolster security measures. This discussion will shed light on the potential of AI in revolutionizing wildlife conservation efforts. The paper will also analyze pivotal case laws, including *Tarun Bharat Singh Alwar v. Union of India* (1992) and *Naveen Raheja v. Union of India* (2001), which delve into the Prevention of Cruelty to Animals Act, 1960. These case studies will provide insights into legal precedents and their implications for wildlife protection. In conclusion, this paper seeks to offer a legal perspective on the challenges faced in wildlife conservation and propose potential legal solutions. By examining the historical context, current legislative frameworks, and the integration of AI, the aim is to contribute to a comprehensive understanding of India's evolving approach to wildlife protection.

Key Words: Artificial Intelligence (AI), Case Laws, Conservation, Legislation, and Wildlife Laws.

ELS-009

NATURAL BIOCIDES TO PREVENT MICROBIAL GROWTH ON CULTURAL HERITAGE

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ABSTRACT

Background:

Many historic, cultural and artistic objects and buildings are made of stone. Like all materials, stone is subject to inexorable deterioration. Along with chemical and physical weathering factors, microbial growth plays an important role in this process. Stone types and local climatic differences have a great impact on the bio-deterioration process and on their outcomes. Microbial metabolism products, as organic and inorganic acid, chelating agents, enzymes and extracellular polymeric substances (EPS), are responsible of bio-corrosion and of bio-mineralization; furthermore phototropic and heterotrophic microorganisms (e.g., Actinobacteria, Firmicutes and fungi) are able to penetrate into stone surface. In addition to structural injure, these microorganisms cause also aesthetic damage. Lithic artworks as churches, historical buildings and every usage object are our precious cultural heritage, memory of our past history step needed to build present and future. These artistic heritages with morphological, chemical and physical properties totally dissimilar make they a "unicum", characterized by a specific vulnerability. Their decay is unavoidable, but it is a challenge for the humankind to protect and preserve them. Thus far, solutions for the safeguard of cultural heritage are usually based on chemical procedures to remove biodeteriogen agents, but these substances can be hazardous to the environment, to public health and to stone materials itself because it is not known about the consequences of repeated applications. Microbial metabolism produces deteriorating agents such as organic and inorganic acid, chelating agents, enzymes and extracellular polymeric substances (EPS) causing e.g. bio-corrosion and bio-mineralization; furthermore phototropic and heterotrophic microorganisms (e.g. Actinobacteria, Firmicutes and fungi) are able to penetrate into stone surfaces. In addition to structural damage, these microorganisms cause, also, aesthetic damage. Despite their toxicity, traditional biocides are still largely employed to contrast biodeterioration . However, biocidal treatments have a brief duration and must often be repeated frequently, creating a repeated threat to the heritage material and the environment . In addition, repeated biocidal treatments can cause resistance in target biological agents, and they can modify biofilm structures favoring the growth of more harmful biodeteriogens. Biocide application has indeed caused damage to non-target organisms.

Methodology:

Methodology consist of Sampling, isolation, Testing of resistant, Evolution of Biocides for control.

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Result and Discussion

Extensive range of case studies of important world heritage artefacts and monuments as well as an overview of in situ preservation of historic ships " Provides background knowledge on the use and application of modern analytical techniques in conservation " Contains detailed information on molecular and synchrotron techniques to assist with identifying biological and chemical threats to heritage artefacts and monuments. Techniques cover the use of GIS image processing, molecular biological analysis of environmental samples including FISH, electrophoresis to remove corrosive ions and synchrotron radiation to detect chemicals present in artefacts. Biofilms are the dominant lifestyle of microorganisms in all environments, either natural or manmade, including heritage.[

Conclusion

Laboratory experiments present the advantage of controlling environmental variables which simplifies the answering of important questions, particularly in the field of stone biodeterioration.

These experiments are prerequisite in the diagnosis of monuments and in the design of effective treatments for eliminating active microbial communities, since they allow an affordable evaluation of the efficacy of biocides, as showed in this work.

KEYWORDS: Biocides, Microbes, Biodeteriogen, Heritage

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ELS-0010

**CESTRUM NOCTURNUM (RAAT KI RANI): AS A GREEN CORROSION INHIBITOR
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ABSTRACT

In recent decades, environment friendly corrosion inhibitors have attracted great interest due to the growing environmental problems caused by the widespread use of old and dangerous inhibitors. Green inhibitors have high stopping power, have a negligible environmental impact and are made from inexpensive renewable resources. A wide range of environmental friendly organic chemicals such as ionic liquids, imidazoline, phenylmethanimine and chitosan derivatives have good properties to protect metal surfaces from corrosion. These substances therefore replace conventional, harmful corrosion inhibitors. Numerous plant extracts, including neem, aloe, green tea and moringa, have been selected for their proven antioxidant and bioactive properties. Various experimental methods, including potentiodynamic polarization and electrochemical impedance spectroscopy (EIS), were used to evaluate the corrosion suppression ability of the extracts. The results demonstrated the potential of natural plant extracts as effective and environmentally friendly replacements for traditional inhibitors and demonstrated their usefulness in stopping corrosion. Inhibition mechanisms were investigated using surface analysis techniques such as Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). This made it possible to gain insight into the interaction between plant extracts and corroded metal surfaces. To maximize realistic application parameters, the study examined the effects of temperature, exposure time and extracts concentration on braking performance. The results provide important information for the development of long-term corrosion protection plans in an industrial context and expand our understanding of the mechanisms by which natural plant extracts control corrosion. A promising approach for environmentally friendly corrosion management is the use of natural plant extracts as corrosion inhibitors. This study complements on-going efforts in many industries to develop sustainable and practical solutions to reduce corrosion problems.

Keywords: Corrosion inhibitors, environment friendly, FTIR, SEM

ELS-0011

**TREATMENT OF OAT CELL LUNG CANCER BY USING VITIS BASED GOLD
NANOPARTICLE DRUG LEADS**

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ABSTRACT

Ota lung cancer cells are a leading contributors to lung cancer mortality rates. Cancer cells are responsible for tumor growth and reoccurrence through inhibition of drug induced cell death. Various studies on the cancer induction, growth and progression are the multiple effects of cancer studies. Fruits and vegetables are served as lead molecules for the treatment of cancer due to the presence of phytochemical constituents. Phytochemicals mainly secondary metabolites can show potential cancer chemo preventive activity. Vitis can be improved to successfully treat lung cancer by using gold nano particles, due to their size and shape which have been shown to facilitate drug delivery and retention, along with the targeted antibody mediated selection of cancer stem cells. Vitis berries are used for table fruits, wines and raisins, because of a range of health benefits, such as atherosclerosis prevention, antioxidation and renal damage prevention. Red and Purple vitis have significantly more resveratrol than green Vitis . Resveratrol and a wide variety of phytochemicals found in vitises are likely to help the fruit play a role in the diet to reduce cancer risk.

ELS-0012

**"SEASONAL DYNAMICS OF ENDOPHYTIC FUNGAL COMMUNITIES IN
PSORALEA CORYLIFOLIA L. AND EXPLORING THEIR ANTIMICROBIAL
POTENTIAL"**

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ABSTRACT

Fungal endophytes are fungi that colonise healthy plant tissues without causing signs of illness in their host plants. In addition to having a beneficial impact on the host's growth and development, the presence of fungal endophytes also causes the host to produce some vital bioactive chemicals. *Psoralea corylifolia* L, belongs to family Leguminosae is known as the traditional medicinal plant from very long time to cure a variety of illness. It is extensively available and plays a significant role in Chinese and Ayurvedic medical therapy. The goal of this work was to isolate, identify, and comprehend the distribution and seasonal diversity of fungal endophytes associated with the leaf, stem, and root of this plant. Total 4 fungi are isolated from host plant which is *Piriformospora indica*, *Alternaria alternate*, *Aspergillus niger*, *Penicillium citrinum*. It was observed that highest diversity of fungus had found in summer season. *Penicillium citrinum* have highest fungal distribution in summer season and *Alternaria alternate* have lowest distribution in winter season. Ethyl acetate fractions of these isolates were determined for their antimicrobial activity by disc diffusion method. The antibacterial activity that has been detected indicates that this fungus may be a source of bioactive chemicals that have medicinal uses. This study showed that the growth and development of fungus may be affected by climatic factors. In summary, the next lines of inquiry should concentrate on clarifying the molecular processes that underlie antimicrobial activity, investigating the influence of environmental variables, carrying out cross-species comparisons, incorporating metagenomic methodologies, and evaluating the capacity of endophytic fungi to withstand the effects of climate change.

Keyword: *Psoralea corylifolia* L, endophytic fungi, medicinal herb, seasonal variation, antimicrobial property.

ELS-0013

"EXPLORING NEMATOCIDAL AND ANTIBACTERIAL PROPERTIES OF MEDICINAL PLANTS AGAINST SOIL-BORNE PHYTOPATHOGENS"**SADHANA RAI¹, J. ANURADHA^{*1}, R. SANJEEVI²**¹Department of Botany, NIMS Institute of Allied Medical Science and Technology, NIMS University,

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Both horticultural and cereal crops are susceptible to the damaging effects of soil-borne phytopathogens, which can result in significant losses around the globe. Synthetic pesticides are still the go-to option for modern plant disease management systems due to their high efficacy and ease of use, but strict laws and growing environmental concerns have made the quest for sustainable alternatives more urgent than ever. This research helps to screen some medicinal plants' antibacterial and nematocidal properties against phytopathogens that live in soil. Due to the presence of phenols, alkaloids, tannins, protein, saponins, glycosides, triterpenoids, flavonoids, amino acids, and carbohydrates in all of its various components, the plant has extraordinary natural antibacterial and nematocidal properties. In this current study, five medicinal plants *Annona squamosa*, *Catharanthus roseus*, *Abutilon indicum*, *Swertia chirata* and *Hibiscus rosa sinensis* were tested for in vitro antibacterial and nematocidal activities against *Staphylococcus aureus*, *Klebsiella pneumoniae*, *seudomonas aeruginosa* and *Meloidogyne javanica* causative and soil-inhabiting destructive diseases. Three of the five plant extracts tested showed impressive antibacterial and nematocidal activity against soil-borne phytopathogens when tested using the poisoned food method and mortality tests. Whereas the same plant extracts at doses of 10 and 15% showed 85 to 98% mortality and egg hatchability rates 72 hours after treatment, *Annona squamosa*, *Abutilon indicum*, and *Swertia chirata* demonstrated 80 to 95% suppression of binary fission of bacteria. The aforementioned results indicated that particular medicinal plants can be used to regulate soil-borne phytopathogens naturally and lessen the need for synthetic substances by exerting nematocidal and antibacterial effects.

Keywords: Medicinal plants, ethnomedicinal flora, Antibacterial and antinematode activities, Soil-borne phytopathogens

ELS-0014

DIVERSITY AND DISTRIBUTION OF MOTH FAUNA IN AND AROUND KUVEMPU UNIVERSITY CAMPUS, SHIVAMOGGA, KARNATAKA

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ABSTRACT

Insects are the world's most diverse group of animals on Earth, in terms of both taxonomic diversity and ecological function. Moths belong to Order Lepidoptera, They are very sensitive to climate changes and vegetation alterations, making them an important group for monitoring climate and habitat changes. Moths were surveyed primarily by using of light trap method, direct method and also by day time field visits. Dividing the study area in to three types of landscape. light traps were deployed in 5 locations. Study recorded the presence of 1645 individual, 156 moth species, belonging to 17 families. Many species were spotted only once during the entire study period. The study revealed the highest species Diversity during the month of January and least species richness was found during March i.e., species respectively. The study revealed maximum Shannon diversity index was in January i.e., 4.313, and minimum in March i.e., 3.61. The Simpson diversity index for the month of November and January was slightly higher and found to be similar i.e., 0.981 and it was lower in December 0.979 followed by February i.e. 0.972 and 0.981 and the evenness index was maximum in March. The results of this preliminary survey indicated partial diversity of moth fauna of the area. Present study highlights the partial richness of the insect fauna. Habitat fragmentation at study area has partially affected the population of moth, though there are construction areas, there is also a vegetation area adjacent to it hence, cannot be considered as the major threat. As per the study artificial light are the only major threats to the moth at the study because as per the study the diversity of moth is quite good in number even during off season period.

KEYWORDS: Moths, Light trap, Habitat type, month wise Abundance, Diversity index.

ELS-0015

**PHYSICO-CHEMICAL PARAMETER OF DOMESTIC WASTE WATER WITH
SPECIAL REFERENCE TO BLUE GREEN ALGAE- A REVIEW IN NAWALGARH
REGION DISTRICT JHUNJHUNU, RAJASTHAN (INDIA)**

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ABSTRACT

Present time Sewage discharge is one of the main problems in the country. Different species of algae can be grown to be everywhere. Algae used from a food source to a source of biodiesel and also used in the bioremediation of waste water. Blue-green algae are present in all types of water bodies including waste water. The research work reveals the important physico-chemical parameters of waste water collected from Domestic sewage area of Nawalgarh (Raj.), India. An analytical investigation was followed by March to June (2023) for checking waste water quality and study of blue green algae in waste water. In this paper monthly changes in physical and chemical parameters of water such as Temperature, pH, Dissolved Oxygen (DO), Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Hardness, Alkalinity, Nitrate Chlorides and Phosphate were recorded and algal abundance to their relationships with water quality were estimated. The study reveals that dumping of waste water in different drainage systems pollute aquatic and surroundings of terrestrial environment therefore affecting the growth of vegetation and algal growth. The outcome of the present investigation points out that it requires executing common objectives, compatible policies and programs for improvement in the waste water treatment methods. Waste should be appropriately disposed or recycled through sewage treatment. Relevant agencies should make regular efforts through education, regulate and controlling people for environmental changes and suggest them to change their policies of waste water management.

Keywords: - waste water, physico-chemical parameters, pH, Temperature, TDS, COD and BOD.

ELS-0016

ANTIDIABETIC ACTIVITY ON HERBAL PLANTS**NEHA SRIVASTAVA**SRM MODINAGAR COLLEGE OF PHARMACY, SRMIST DELHI NCR CAMPUS
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Diabetes mellitus is a metabolic disorder that is characterized by resistance due to sufficient secretion of insulin. Nowadays Diabetes mellitus is a very common disease in the world. In diabetes mellitus, besides hyperglycemia, cardiovascular disease is a major cause of death in the world and is mainly due to atherosclerosis. The treatment for diabetes mellitus would be a drug that not only controls the glycemic level but also prevents the development of atherosclerosis and other complications of diabetics. The plant-based antidiabetic remedies are gaining popularity throughout the world and there is a large number of medicinal plants that are traditionally used for the management of diabetes. India has about 45000 plant species and among them, several thousands have been claimed to possess medicinal properties. Indigenous drugs have great importance both from the professional and economic point of view. A large number of plants have been reported to possess anti-diabetic activity e.g. *Aconitum napeilus*, *Aloe vera*, *Carum carvi*, *Cinchorium intybus*, *Allium cepa*, *Allivum sativum*.

Keywords: Diabetes mellitus, Hyperglycemia, medicinal plants, anti-diabetic activity.

ELS-0017

WILDLIFE FORENSICS, LAWS AND ITS CONSERVATION**EKTA,**

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Wildlife forensics can be broadly defined as the application of several integrated aspects of natural and cultural sciences, e.g., biology, chemistry, and anthropology in the court of law focused on the regulation of wildlife protection and conservation. wildlife crime is now 4th largest organized crime in the world. In wildlife crime, there is crime, illegal money, extortion, terrorism, smuggling, etc. Forensic science is necessary for the successful implementation of law, it is mandatory to identify the species correctly. Majority of the wildlife offences cases FAIL in the court of law. Lack of evidence against the perpetrators. The lack of wildlife forensic facility. Four major categories in wildlife crime are: - The illegal taking/poaching, Possessing, Trading, shipping, or moving and Inflicting cruelty / persecution of wildlife. Illegal wildlife trading nets approximately \$20 billion a year worldwide, earning a higher profit. poachers can earn \$1000 a gram for a rare animal part, which is twenty times the profit of heroin. Turtles are in peril with 3% extinct, 9% critically endangered, 18% endangered and 21% vulnerable. Tigers are hunted illegally for claws, bones, skin and whiskers. According to a recent census by the WWF, about 5,574 tigers remain in the wild. Rhinos are poached for horns and skin, there were approximately 65,000 black Rhinos in Africa in 1970 but in 1993, there were only 2300 surviving in the wild. Shahtoosh, the most expensive and sought-after wool in the wildlife trade is obtained from the underfur of a critically endangered species- the Tibetan Antelope (*Pantholops hodgsonii*). It is often adulterated or mixed with the wool of pashmina goat (*Capra aegagrus hircus*) for making shawls, scarves and other woolen articles to maximize the profit. The comparable fineness, color and texture, makes it a challenging task in wildlife forensics to differentiate them. India has some of the strongest laws available for protection of wildlife, such as wildlife protection act- 1972, J&K wildlife protection act-1978, Indian forest act-1927, state forest acts, prevention of cruelty to animals act -1960, etc. laws takes care of regulation of hunting, protection and control of trade in wildlife products. There are penalties for the offences. In wildlife crime, the Judiciary often tries to balance wildlife crime & wildlife laws with human rights, these are two key issues that detect the outcome of the case. So, Government and Union should take important measures to provide and improve all the facilities to frontline research / investigation rooms as wildlife forensic is important to investigate the wildlife crime. There is so much scope in wildlife forensic to develop technology, research and to create solutions which enables the conservation beyond border.

ELS-0018

BIODIVERSITY OF BATS IN JHUNJHUNU**SARITA AND DAU LAL BOHRA**

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ABSTRACT

Rajasthan state is the third largest by area in India. And other name of Rajasthan “The Land of King”. Shekhawati area is a largest arid region of Rajasthan, this area is present in north-eastern of Rajasthan. And Shekhawati region is covering 8% area of the state. Jhunjhunun is a district of shekhawati region, this area a particular part of Rajasthan, and this region are very greatful for environmental basis. Its climatic condition is both are extremely very hot summer and cool winter. Mainly bats are residing ghost palace, ghost town, mansion, and tree of banyan etc. this type palaces are mostly present in Shekhawati of Rajasthan and Aravali hill is famous for study of mammals and plants in Rajasthan, which are divided in two parts that one is land type and second is climatic type, so easily available two type palaces. The analysis and analysis of echo sounds and echolocation calls are basic method used to revision bat distribution, ecological behavior. Echolocation is an aerial process; the use of ultrasonic sonar in atmosphere is acutely controlled through the decrease of sky-scraping frequency resonance and unwanted echoes from the background. Echolocation are not correct any time that means the object of goal are unlike bird song bat calls show large distinction with the aim of makes identification challenging. The desire of this study is to investigate and analysis the use of visualization by echo locating bats. Echolocation capacity is decided to frequency of sound. And object distances identify to echo sound. Different in the echolocation calls of bats in different environmental population of the similar species, so also called all bats echolocation capacity are something different which one another bat. Bats are belonging to mammals' class that is second largest group of mammals, that means represented aggregate 20% of all classified mammals worldwide. More than 1125 species of bats are found in world, and of which 119 species present in India, of which 26 species and seven families are reported in Rajasthan. Most of which are insectivorous Chiropterans and Rhinopoma Hardiwichi (R. Hardiwichi). Bats eyes are small, compare to other mammals, especially aerial insectivorous with the exclusion of part of the family Emballonuridae. And bats eyes are adopted to low illumination, that have rod base retinas bulky cornea and lens and normally bulky receptor field. Bats are clearly vision or detect of object in darkness or clear night and flight in night and evening time or food found in this time. Bats are role play of helper in agriculture field, and work as a predator for consume small insectivorous and worms. Bats are ecological helper as a predator that is saves of plants by small dangerous worm.



ELS-0019

CLIMATE CHANGE'S INFLUENCE ON BIODIVERSITY**MS. NEHA CHOUDHARY**

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ABSTRACT

Biodiversity refers to the range and diversity of living things at all scales of biological organization, such as genes, species, and ecosystems. To maintain the world's biodiversity and ecosystem services, India is one of the megadiverse countries. The primary cause of the decline in biodiversity is still human land usage, particularly for food production. Almost seventy percent of all ice-free terrain has already undergone changes due to human activity. Species of plants and animals may become extinct due to habitat loss caused by land conversion for agriculture. A stable climate, food, water, medicine, and economic growth are just a few of the many things we rely on from the web of life that is biodiversity. Nature provides more than half of the world's GDP. Forests are essential to the livelihoods of over 1 billion people. Over half of all carbon emissions are absorbed by land and the ocean. That being said, the loss of biodiversity is becoming more and more linked to climate change. Worldwide, freshwater, terrestrial, and marine ecosystems have changed as a result of climate change. The earliest extinctions driven by climate change have occurred as a result of the loss of native species, a rise in illnesses, and mass plant and animal mortality.

To curtail the release of excess carbon dioxide into the atmosphere and mitigate the consequences of climate change, a swift phase-out of fossil fuel consumption is required worldwide. In the fight against climate change, biodiversity must be recognized as an essential component. Climate change is a direct result of threats to biodiversity, and ecological stability cannot be maintained without biodiversity protection.

Key Points : Biodiversity , Carbon emission , Climate change.

ELS-0020

CANCER BIOLOGY

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ABSTRACT

Cancer is a group of diseases characterized by unregulated cell growth and the invasion and spread of cells from the site of origin, or primary site, to other sites in the body. The biological properties of cancer cell includes loss of the ability to repair genetic error, cancer cells are less adhesive, cancer cells do not undergo differentiation. Cancer cells show uncontrolled mitotic divisions causing unorganized growth. Due to this uncontrolled growth and division of cells, a tumor is formed. These tumors are of two types i.e. Benign tumors and Malignant tumors. Cancer arises from a loss of normal growth control. They resist cell death or apoptosis. They show a clear escape from growth suppressors or growth- inhibiting signals. Malignant tumors are cancerous and they can invade and damage nearby tissues and organs, and they can break away and enter the blood stream to form new tumors in others parts of the body. The spread of cancer is called metastasis. Whereas Benign tumors are not cancerous as they do not invade nearby tissues nor spread to other parts of the body. They can be removed and are not a threat to life. Treatments usually fall into one of the following categories i.e. surgery, radiation, chemotherapy, immunotherapy, hormone therapy, or gene therapy.

Key words: Cancer, Tumor, Metastasis, Apoptosis, Immunotherapy.

ELS-0021

CLIMATE CHANGE AND ITS IMPACT

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ABSTRACT

Climate change is one of the main environmental challenges facing the world today. India is facing several problems. Climate change is associated with various adverse impacts on agriculture, water resources, forest and biodiversity, health, coastal management and increase in temperature. Decline in agricultural productivity is the main impact of climate change on India. A majority of population depends on agriculture directly or indirectly. Climate change would represent additional stress on the ecological and socioeconomic systems that are already facing tremendous pressure due to rapid industrialization, urbanization and economic development.

KEY WORDS :- Biodiversity, Stress, Socioeconomic, Rapid, Productivity.

ELS-0022

STUDY OF CELL CYCLE IN PREPARATION AND TREATMENT OF CANCER

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ABSTRACT

Cancer is a disease caused when cells divide uncontrollably and spread into surrounding tissues. Cancer is a group of disease in which cells are aggressive (growth and divide without respect to normal limits), invasive (invade and destroy adjacent tissues), and sometimes metastatic (spread to other locations in the body). Cancer is the leading cause of morbidity and mortality worldwide. Main biology of cancer development is abnormal Cell cycle (normal cell cycle G1-S-G2-M). Gene mutation causes imbalance between oncogene, proto oncogene and tumour suppressor gene. Causes responsible for cell cycle abnormality are- radiation, carcinogenic chemical, viruses etc... 2 types of cancer- Benign and malignant

Key words-Immunotherapy, Radiotherapy, Chemotherapy, Mutation etc.

ELS-0023

DIETARY ASSESSMENT OF DIABETES

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ABSTRACT

This study was designed to help researchers understand the nutrition education of diabetes. Diabetes are affected developed and developing countries person. Diabetes is the cause of death world wide. The objective of the study were to determine the knowledge, attitude and practices pertaining to diabetes in JNU patients. The study was conducted on all age group diabetes patients. Background information of the subjects was collected using self-designed questionnaire. The anthropometry parameters were assessed as well as dietary assessment was done using food frequency questionnaire method. Knowledge, attitude and practices were studied using questionnaires. Nutrition education was imparted for one and half month to diabetes patients. Results showed that energy and nutrients intakes were not satisfactory in the subjects. Intervention of nutrition education significantly improve the knowledge, attitude and practices of diabetes patients. Thus it can be conducted that nutrition education improved diabetes related knowledge, attitude and practices in patients.

ELS-0024

ECOLOGICAL IMPORTANCE OF BIRDS

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ABSTRACT

Birds are an essential component of ecosystems and play an important role in maintaining a balanced and healthy environment. Birds are not only beautiful creatures that fill our skies with their mesmerizing flights and melodic songs, but they also play a vital role in maintaining the balance and functioning of ecosystems. There are numerous bird species in the world. From the poles to the equatorial forests, from the deserts to the centres of the oceans, from the highest mountains to the hearts of our cities, everywhere birds are amongst the most noticeable forms of animal life. Birds are an essential part of our ecosystems, and their presence has far-reaching impacts on the environment. Birds are known as one of the most important species groups for biodiversity conservation. They keep the environment clean by acting as scavengers, protect the plant community by controlling pests and other vermin, pollinate the plants, support better plant survival through seed dispersal, and provide nutrients to the environment. In this article, I will explore the importance of bird species in maintaining the health of our ecosystems. However, the global decline in bird populations means that the ecosystem services provided by these birds are also declining. The services birds provide are ecologically and economically important but are not appropriately appreciated due to insufficient information. Therefore, this article aims to explain the role of birds in the ecosystem and their benefits to humans in order to promote their conservation. Healthy bird populations and their habitats would help protect various ecological services that would finally improve human well-being. Understanding the role of birds can help us appreciate and conserve these beautiful creatures.

Keywords: Ecosystem services, conservation, scavengers, seed dispersal, impact .

ELS-0025

**INTRODUCE OF BLACK BUCK (ANTELOPE CERVICAPRA) AT JHUNJHUNU
BEED, JHUNJHUNU (RAJASTHAN)****MUSKAN AND DAU LAL BOHRA***

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ABSTRACT

The Jhunjhunu Beed Conservation Reserve about 40 Black Bucks were introduced recently. The blackbuck is a typical Indian animal in respect of its distribution. It is quite abundant in Rajasthan and Gujarat. The Thar Desert is the best potential habitat for Indian Blackbuck (Antelope cervicapra). In the 1920's Blackbucks were so abundant in the western Rajasthan. The present study deals with the distribution pattern, population size and density of Blackbuck (Antelope cervicapra) at Jhunjhunu Beed Conservation Reserve, jhunjhunu, Rajasthan. There's a gradual decline in black buck population is observed. The decrease in populations of blackbuck may be due to the destruction of natural habitats, increases in human populations and poaching. If appropriate steps for conservation are not immediately taken, then the blackbuck is likely to soon become extinct from this region.

KEY WORDS: Blackbuck, Distribution pattern, Poaching.

ELS-0026

Medicinal wealth Use of Plants Biodiversity from Aravali Hills, Rajasthan

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ABSTRACT

Medicinal plants have medicinal values and widely used. Various plant parts: root, leaf, flower, fruit and bark are used. Besides curing, use of medicinal plants can control even cancer. Medicinal plants are the oldest form of healthcare known to mankind. People are using herbs for various diseases. Now people depend on synthetic medicines having side effects. We can use medicinal plants for the treatment of common diseases. India is the second largest exporter of medicinal plants in the world. With 6,600 medicinal plants, India is second to China and together producing over 70 percent of herbal medicines demand.

Keywords: Medicinal herbs; Aravalli hills; Ethnobotanical; Flavonoids

ELS-0027

IMPACT OF CLIMATE CHANGE ON GROUNDWATER RESOURCES
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ABSTRACT

Climate change introduces uncertainties into water resource supply and management. Elevated temperatures directly amplify evaporation from surface water and vegetation, disrupting the hydrologic cycle. These alterations can influence precipitation patterns, intensities, and timings, subsequently impacting water flux and storage in surface and subsurface reservoirs, including lakes, soil moisture, and groundwater. The repercussions extend to sea water intrusion, degradation of water quality, and potential shortages of potable water. While climate change straightforwardly impacts surface water through shifts in air temperature, precipitation, and evaporation, its relationship with groundwater is intricate and not fully understood. Increased rainfall variability may result in more frequent and prolonged periods of both high and low groundwater levels, exacerbating saline intrusion in coastal aquifers due to rising sea levels and reduced resources. Groundwater resources interact directly with surface water bodies such as lakes and rivers and indirectly through the recharge process. The direct impact on groundwater depends on changes in both the volume and distribution of groundwater recharge. Effectively assessing climate change's impact on groundwater necessitates accurate forecasting of major climatic variables and precise estimation of groundwater recharge. Global Climate Models offer insights into climate dynamics, but basin-scale downscaling and coupling with hydrological models are essential for a comprehensive understanding of the hydrological cycle. The outputs from these coupled models, including quantified groundwater recharge, facilitate the formulation of adaptation strategies in response to climate change impacts. This article delves into the anticipated effects of climate change on groundwater resources, presents a climate change scenario specific to groundwater in India, reviews national and international research studies, and outlines the methodology for assessing climate change's impact on groundwater resources.

KEY WORDS: Climate change, hydrologic cycle, groundwater recharge.

ELS-0028

OVERVIEW OF ASSISTED REPRODUCTIVE TECHNOLOGIES**BABITA MEEL AND MS.NEHA CHOUDHARY**

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ABSTRACT

We all know motherhood is a social need. Fertility is very important otherwise mostly a woman who is childless is stigmatized for not being able to conceive. For such couples who face obstacles in conceiving, ARTs(Assisted Reproductive Technologies) prove as a boon . This includes techniques that attempt to obtain a pregnancy by manipulating the gamete or embryo into the reproductive tract of a woman .These techniques deal with couples facing infertility obstacles to conceive by providing them scientific method to have or experience pregnancy. This is relative safe procedure with single embryo implantation. There are mainly four assisted reproductive technologies-GIFT,ZIFT,ICSI,TET. All techniques include proper advised medication .However, informed consent including both risks and benefits as well as ongoing longitudinal studies are required to fully understand ARTs outcomes. Also, dealing with social ethics is a major challenge.

Keyword-Stigmatized means negative social labels

ELS-0029

OVERVIEW OF INDIAN IVF AND EMBRYO TECHNOLOGY

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ABSTRACT

In vitro fertilization, also called IVF, is a complex series of procedures that can lead to a pregnancy. It's a treatment for infertility, a condition in which you can't get pregnant after at least a year of trying for most couples. IVF also can be used to prevent passing on genetic problems to a child. During in vitro fertilization, mature eggs are collected from ovaries and fertilized by sperm in a lab. Then a procedure is done to place one or more of the fertilized eggs, called embryos, in a uterus, which is where babies develop. The politics of conception in India can be traced back to the birth of the world's first test-tube baby in 1978. This article focuses on an incident where scientists and clinicians were involved in a heated contest over ascription of intellectual credit for the birth of the first test-tube baby in India. Production of scientific credibility is multi-sited. The credibility generated by media accounts can obfuscate peer-reviewed scientific endorsements. As argued elsewhere, in the closing decade of the 20th century journalistic discourses on science in India became fixated with a 'marvels of science' style (Bharadwaj, 2000). One full cycle of IVF takes about 2 to 3 weeks. Sometimes these steps are split into different parts and the process can take longer. In vitro fertilization is the most effective type of fertility treatment that involves the handling of eggs or embryos and sperm. Together, this group of treatments is called assisted reproductive technology.

ELS-0030

ROLE OF GENOMIC SEQUENCING IN COVID**LOVELIN SAINI AND MS. NEHA CHOUDHARY***

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ABSTRACT

COVID-19 is caused by the RNA virus SARS-CoV-2, a betacoronavirus with a nearly 30 kb positive-sense, single-strand RNA genome that encodes 29 proteins. Genomic sequencing plays a major role in the continuous monitoring of the evolution of SARS-CoV-2 genome. The WHO recommended the nations speed up genome sequencing and share the genomic data and findings in a coordinated way through a publicly accessible database. To coordinate sequencing operations, several initiatives and consortia have been formed in various countries. For example, in April 2020, the COVID-19 Genomics UK Consortium (COG-UK) was formed in the United Kingdom to collect, sequence, and analyze SARS-CoV-2 genomes to understand viral transmission and evolution. The extent to which genomic surveillance can help to control outbreaks is only limited by the availability of data and will be crucial to controlling the pandemic in the future.

KEY WORDS: SARS-CoV2, COG-UK, Genome

ELS-0031

The Environmental Impact of Thin Films: A Comprehensive Analysis

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ABSTRACT

Thin films, a ubiquitous component in various industries, have garnered significant attention in recent years due to their pervasive use and potential environmental implications. This **ABSTRACT** explores the multifaceted role of thin films in impacting the environment, considering both positive and negative aspects. The analysis encompasses key domains such as manufacturing processes, applications, waste management, and the overall ecological footprint of thin films. The production of thin films involves intricate processes, often incorporating materials with diverse chemical compositions. As a result, the manufacturing phase contributes substantially to environmental stressors, with energy consumption, emissions, and resource depletion being notable concerns. Understanding and optimizing these processes are crucial for mitigating adverse effects and promoting sustainable thin film technologies. Thin films find applications in a myriad of industries, including electronics, solar energy, packaging, and medical devices. While these applications contribute to advancements and efficiency in various sectors, the materials used in thin films, such as rare metals and polymers, pose challenges in terms of resource scarcity and environmental degradation. Consequently, exploring alternative, eco-friendly materials for thin film production emerges as a vital avenue for minimizing environmental impact. Waste management is a critical aspect of the thin film lifecycle. Disposal of end-of-life thin film products requires careful consideration to prevent the release of harmful substances into the environment. Developing effective recycling methods and encouraging circular economy principles can mitigate the environmental burden associated with thin film waste. In the realm of solar energy, thin film photovoltaic technologies have emerged as a promising alternative to traditional solar panels. The lightweight and flexible nature of these films offer advantages in terms of installation and versatility. However, the environmental trade-offs, including the use of toxic materials and energy-intensive manufacturing processes, necessitate a balanced assessment of their overall sustainability.

Five keywords encapsulating the primary themes of this **ABSTRACT** are: thin films, environmental impact, manufacturing processes, waste management, and sustainable technologies.

In conclusion, while thin films contribute significantly to technological advancements across industries, their environmental impact cannot be overlooked. A holistic approach that integrates sustainable practices, material innovation, and responsible waste management is imperative to harness the benefits of thin films while minimizing their ecological footprint. This **ABSTRACT** serves as a precursor to in-depth research, urging further exploration and development of environmentally conscious thin film technologies.

ELS-0032

USE OF LIPID POLYMER HYBRID NANOPARTICLE AS NOVEL DRUG DELIVERY SYSTEM IN CANCER TREATMENT

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ABSTRACT

Among all diseases, cancer has the highest fatality rate in the world. Conventional therapies have come a long way, but they still are not a panacea for cancer. Nanotechnology-based compositions of several nanoparticles (NPs) hold promise as a cancer therapy. Lipid-polymer hybrid nanoparticles (LPHNPs) are promising platforms in the field of targeted drug delivery, integrating the positive features of polymeric and lipid nanocarriers. Drug delivery is a critical issue in treating many diseases. Drugs used conventionally have low efficacy, bio-distribution, and selectivity. As LPHNPs can hold a lot of drugs and release it slowly over time, they are an efficient drug delivery vehicle for hydrophobic chemicals. The development of lipid polymer hybrid nanostructures, on the other hand, looks to be a promising drug delivery approach. These methods are capable of altering their configurations, release properties and long-term behaviour in vivo. These nanoformulations can be utilized for both disease detection and targeted medicine delivery. Also, the best way to treat cancer is through a combination of drugs, and for that controlled drug delivery is needed.

Keywords – nanoparticle, drug delivery, cancer, nanotechnology, polymer

ELS-0033

**PHYTOREMEDIATION BY SOME ALGAL SPECIES IN WASTE WATER – A
REVIEW IN NAWALGARH REGION****VINOD KUMAWAT¹, SUMAN SAINI² & ANKIT KUMAR JANGID³**¹Assistant professor, ²Head of DepartmentDepartment of Botany, Seth Gyaniram Bansidhar Podar College Nawalgarh
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ABSTRACT

Phytoremediation, the use of algal species to clean up polluted soil and water resources has received much attention in the last few years. Phytoremediation of metal contaminated sites is an innovative and cost effective option to address recalcitrant environmental contaminants. Although not a new concept, phytoremediation is currently being re-examined as an environmentally friendly, cost-effective means of reducing metal contaminated soil. Genetic engineering approaches are currently being used to optimize the metabolic and physiological process that enable plants to phytoremediate, sites contaminated with heavy metals. Genetic manipulation of environmentally important plants can produce elite plant lines with enhanced remediation abilities. Recent research results include over expression of genes whose protein products are involved in metal up take, transport and sequestration, have opened up new possibilities in phytoremediation. This review article provides a critical review of the recent progress towards the development of transgenic plants with improved phytoremediation capabilities and their potential use in environmental clean-up. Present study done in waste water site of Nawalgarh region.

Key words: Phytoremediation, Heavy metals, Hyper accumulators.

ELS-0034

BEYOND THE TASTE : UNDERSTAND CHEMISTRY OF HAZARDOUS COMBINATION OF FOOD**VISHAKHA PUNKHIA**

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ABSTRACT

Nutrition is the most reliant need of the body for everyday mechanisms. Though there is a variety in food, still the correct combination of food components is very important in current environmental conditions. Understanding the interactions between food components is crucial for maintaining optimal health and preventing negative consequences. Sometimes the food substances with reverse nature to each other affect adversely to our body by causing metabolic disorders. This article examines the potential hazards associated with consuming specific food combinations and their impact on digestion, nutrient absorption, and overall well-being.

INTRODUCTION:

Our Bodies are naturally designed to consume processed food as the end product of photosynthesis from the Plants. In the modern era we commonly eat food which is good in taste, no matter what will eventually happen after eating it. If we eat supplements, we don't think about the nature of supplements and their reaction & effect on the body, because we are constantly bombarded with messages about the importance of taking supplements, a diet with vitamins, minerals and other nutrients in order to be healthy. We forget the fact supplements are not magic pills that will always give tremendous results, they gradually lower the metabolic mechanisms. Many supplements can actually be hazardous.

When we consume food which has an opposite nature then they can interact with each other and can cause dangerous side effects. By reacting they can form toxins in the body which show harmful effects on the body and can cause food poisoning, headache, stomachache, skin problem and so many other foodborne diseases.

In this Article we will try to understand the chemical properties of food supplements and their toxins which are created after eating them.

The following table shows some hazardous combinations of food that people use commonly in their diet or for taste.

Hazardous Food Combinations:

S. R. No.	Opposing Nature Food Combination	Effect on Body After Eating	Toxin and Chemical Interaction
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1	Mango + Bitter Gourd	This contrast can cause digestive discomfort like bloating, gas, and indigestion in some individuals.	Mangoes are warm in nature (according to Ayurveda), while bitter gourd is cool. The papain enzyme in mangoes can potentially interfere with the digestive enzymes of bitter gourd, hindering proper digestion and nutrient absorption.
2	Onion + Milk	Lactose intolerance, stimulates higher stomach acid production, might exacerbate symptoms like bloating, gas, and diarrhea. The sulfur compounds in onions can interact with proteins in milk, potentially leading to curdling and digestive discomfort.	Milk contains Casein, a protein that coagulates in acidic environments. Citric acid, being acidic, can cause the casein to clump together, forming curd and giving the milk a lumpy texture. This isn't inherently dangerous, but it can be unpleasant to drink and affect digestion.
3	Milk + Citric Acid	Digestive Discomfort: The curdled milk can be harder for your stomach to break down, potentially leading to bloating, gas, and indigestion. This is especially true for individuals with sensitive stomach or lactose intolerance.	Milk contains casein, a protein that coagulates in acidic environments. Citric acid, being acidic, can cause the casein to clump together, forming curds and giving the milk a lumpy texture. This isn't inherently dangerous, but it can be unpleasant to drink and affect digestion. Reduced Nutrient Absorption: The curdling process can also affect the bioavailability of certain nutrients in milk, like calcium and vitamin D. This means your body might not absorb them as efficiently when consumed with citric acid.
4	Grapes & Onion	Leads to gas, bloating, and indigestion. Enzyme interactions: The enzymes in grapes, like invertase, can potentially interfere with the digestive enzymes in onions, hindering proper breakdown and nutrient absorption.	Contrasting properties: According to Ayurveda, grapes are cooling in nature and sweet, while onions are pungent and heating in nature. This contrast in properties can create digestive imbalances. Sugar overload: The natural sugars in grapes combined with the fructose in onions can be overwhelming for the digestive system, potentially causing

			nausea or diarrhea.
5	Honey & Ghee	Honey's Cooling properties and ghee's igneous properties can disrupt digestive balance, leading to discomfort like bloating and indigestion.	HMF formation: Warmth in Honey can lead to the formation of hydroxymethylfurfural (HMF), a compound with potential health risks in high doses. While ghee is clarified butter, some residual heat might potentially contribute to HMF formation.
6	Milk + NaCl (Salt)	Temporary breakouts or blemishes.	Salt can cause milk proteins to clump together, leading to curdling and hindering smooth digestion. This can potentially lead to gas, bloating, and indigestion, which can reflect on your skin in the form of temporary breakouts or blemishes.
7	Chocolate + Fried Food	Digestive discomfort: Fat overload: Both chocolate and fried foods are high in fat. Combining them can overwhelm your digestive system, leading to potential symptoms like bloating, nausea, chest burn, and indigestion.	Sugar rush and crash: Chocolate contains high amounts of sugar, which can lead to a rapid energy spike followed by a crash. Combining it with the already high fat content of fried foods can amplify the blood sugar rollercoaster, leaving you feeling sluggish and drained. Conflicting properties: According to Ayurveda, chocolate is considered "Kapha-pacifying" (cooling and heavy), while fried foods are "Pitta-aggravating" (heating and stimulating). Combining these opposing energies is believed to disrupt digestive balance, further contributing to discomfort.
8	Curd + Spicy food	Spicy food can stimulate stomach acid production, which can be exacerbated by the lactic acid in curd. This can lead to chest burn and discomfort, especially for	Enzyme interference: The capsaicin in spicy food might interact with the beneficial bacteria in curd, potentially reducing their effectiveness in aiding digestion.

		individuals prone to acidity.	
9	Spinach & Tomato	Kidney issues; sensitive to nitrates and oxalates	<p>Spinach: Contains nitrates, which can convert to nitrites in the body. High nitrite intake has been linked to certain health concerns. However, the amount of nitrates in spinach is minimal, and cooking further reduces it. Contains oxalic acid, which can interfere with calcium absorption and contribute to kidney stones in susceptible individuals. However, most people can safely consume moderate amounts of spinach without issue.</p> <p>Tomato: Contains solanine, a glycoalkaloid that can be toxic in high doses. However, the levels in edible tomatoes are very low, and cooking further reduces them.</p>
10	Milk and Fish	This combination can curdle the milk in your stomach, leading to bloating, gas, and indigestion.	The interaction between milk proteins and fish proteins can create a compound called trimethylamine oxide (TMAO), which has been linked to an increased risk of heart disease.
11	Citrus fruits and Starchy foods	The acidity of citrus fruits can slow down the digestion of starchy foods like bread, rice, or potatoes, leading to heartburn and bloating.	No specific toxin is produced, but the combination can create an uncomfortable digestive experience.
12	Bananas and Yogurt	Both bananas and yogurt contain high amounts of natural sugars and fiber. Eating them together can overwhelm your digestive system, leading to gas, diarrhea, and even stomach	Both bananas and yogurt contain high amounts of natural sugars and fiber. Eating them together can overwhelm your digestive system, leading to gas, diarrhea, and even stomach cramps.

		cramps.	
13	Meat and Melons	Melons are high in water content and can dilute the digestive enzymes needed to break down protein in meat. This can lead to indigestion and incomplete protein digestion.	No specific toxin is produced, but undigested protein can putrefy in the gut, creating unpleasant symptoms like gas and bloating.

After knowing about these combinations, a thought generally comes to mind that eating certain food combinations can affect next generations.

There is no such process by which you can identify the food you are eating can directly affect your genetic makeup.

But there are some indirect ways in which your diet can be affected.

For e.g., *if you are not getting enough nutrients, minerals, vitamins such as folic acid during pregnancy, your baby may be at an increased risk of neural disorder.*

i.e. During Pregnancy Papaya & Pineapple are not eaten because,

Papaya contains:

- Latex and Papain, which can trigger uterine contractions and potentially harm the pregnancy. Experts generally advise against eating unripe papaya during pregnancy.

Pineapple:

- Contains bromelain, an enzyme that breaks down proteins. Some believe it could soften the cervix and induce premature labor.
- However, the amount of bromelain in edible pineapple flesh is minimal and unlikely to cause harm to a healthy pregnancy.

During pregnancy Fig and Date are strictly excluded from diet because these are warm in nature and lowers the blood Glucose level.

And a second thought comes to our mind that *what will happen if we eat Anti-nature food once, will we die?*

And you can also think

"For e.g., I have been eating Bitter Gourd with Mango juice since childhood but nothing has happened to me."

It is necessary to remember that “Every Action Necessarily has Some Reaction, it could take some time for the reaction to happen or it could be that the reaction is still happening and you have not paid attention to it”.

Because we think minor stomach ache, itching on skin, headache and acidity are common.

Nowadays we usually say “A Person is no longer a human being; it has become the home of disease.”

DATA COLLECTED:

According to WHO, 1 in 10 people around the world get affected by food borne diseases every year while an estimated 16,00,000 people get sick each day due to unsafe food. UN data indicated that food borne disease leads to the death of almost 4,20,000 people each year with children contributing almost 40% of those at 1,25,000 deaths.

The World Bank's 2019 report shows that food borne diseases cause about \$95.2 billion in lost productivity each year in low- and middle-income countries. The report also shows that the cost of treating food borne diseases is \$15 billion a year.

Research shows that from 2009 to 2022, the total number of food poisonings due to consumption of toxic food across India is 9646.

According to a report from The Times of India ([Link](#))

In Rajasthan during the wedding feast 6 out of every 10 people have to face the problems of diarrhea/ gas acidity/vomiting/food poisoning due to eating food prepared at weddings.

According to Daily news “3 out of every 6 people face food-borne illness in a day.”

CONCLUSION:

Food combinations play a crucial role in maintaining optimal health. Understanding the science behind food interactions and avoiding hazardous combinations can significantly improve digestive health, nutrient absorption, and overall well-being. While occasional consumption of anti-nature food combinations may not have immediate direct consequences, long-term exposure can contribute to various health issues. Therefore, individuals should make informed dietary choices to promote long-term health and well-being.

PRECAUTIONS:

The most common problem which people don't give concern to is the attention in their food plates while eating either in a buffet or any feasts. The variety in food items left us in mind as to how to eat all the items but more important is what to eat. We don't check which item we will eat with which of the other food item, this creates wrong chemical combinations in our digestive tract leading to different gastric imperfections. Therefore, it becomes so important that we must consider the correct choices of food items whenever we eat at any occasion. Make sure that what we eat will lead us to healthier well-being.

How to protect us from food-borne illness?

1. We need to remember that humans eat food for survival, and don't survive to eat.
2. Our mouth is not a dustbin, and our stomach is not a dump yard. Whatever we eat will show their positive or negative effects on the body. If we eat healthy food combinations then we can secure ourselves from diseases like food poison, stomach ache, fatty liver, acidity, and many more.
3. We should maintain a time period in between consuming opposing nature food.
4. We should do regular Yoga and Exercise to boost our metabolism.
5. If any adverse effect is shown by the body then must consult with a Physician and take proper medicine.

LINKS:

<https://timesofindia.indiatimes.com/city/jaipur/rising-cases-of-food-poisoning-in-wedding-feasts/articleshow/91527868.cms>

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22. Food Chemistry by Owen R. Fennema

ELS-0035

A STUDY ON AVIAN BIODIVERSITY IN FOLKLORE AND FOLKSONGS OF SHEKHAWATI REGION OF RAJASTHAN, INDIA.

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ABSTRACT

Shkhawati is the newly declared division of Rajasthan, which includes Churu, Jhunjhunu and Sikar districts. The shekhawati area is very rich in cultural tradition of folk songs, folklore and frescos paintings of havelis. The present work is carried out in three districts of shekhawati division and personal interviews were taken in rural as well as urban areas. We have collected about 100 folk songs based on birds and about 200 folk-lores related to avian biodiversity. These folk lore's and folk songs explain the hidden treasure on indigenous knowledge of ethno-ornithology. The present study focuses on the description and presence of avian biodiversity and symbolism in Rajasthani folk songs and the impact of industrial growth and Diaspora resulting in decline of bird's population as well as in cultural tradition. The present study creates a concrete account of these ethno-ornithological aspects of birds and human relationships.

ELS-0036

Availability of Floride in Mandawa Ground Water**POONAM SHARMA AND DR. DAU LAL BOHRA**

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ABSTRACT

The availability of fluoride in groundwater is a critical aspect of environmental and public health, particularly in regions where groundwater is a primary source of drinking water. This study focuses on Madawa, a region grappling with water-related challenges, to evaluate the concentration of fluoride in its groundwater and its potential impact on the local population. The research employs a comprehensive approach, combining field surveys, hydrogeological analysis, and water quality assessments. Groundwater samples were collected from various wells across Madawa, representing different depths and geological formations. These samples were analyzed using state-of-the-art laboratory techniques to determine fluoride concentrations. Concurrently, hydrogeological investigations were conducted to understand the geological factors influencing fluoride levels in the groundwater. The findings reveal significant variations in fluoride concentrations across different areas of Madawa. Some regions exhibit elevated fluoride levels, surpassing the permissible limits set by international standards for safe drinking water. The hydrogeological analysis suggests a correlation between geological formations and fluoride concentration, emphasizing the influence of local geology on water quality. High fluoride levels were associated with specific geological formations, indicating localized sources of contamination. The study also explores the potential health implications of elevated fluoride levels in Madawa's groundwater. Chronic exposure to high fluoride concentrations has been linked to dental and skeletal fluorosis, posing significant health risks to the community. Understanding the distribution and sources of fluoride in groundwater is crucial for implementing effective mitigation strategies and ensuring the provision of safe drinking water. The implications of this research extend beyond Madawa, serving as a valuable case study for regions facing similar challenges worldwide. The findings underscore the importance of regular monitoring, community awareness, and sustainable water management practices to mitigate the adverse effects of excessive fluoride in groundwater. Moreover, the study highlights the need for collaboration between researchers, policymakers, and local communities to develop context-specific solutions that address the complex interplay of geological, hydrological, and health factors influencing groundwater quality. In conclusion, this research contributes valuable insights into the availability of fluoride in Madawa's groundwater, shedding light on the potential risks to public health and emphasizing the importance of proactive measures to ensure access to safe drinking water for the local population.

ELS-0037

"REVITALIZING SOIL HEALTH: EVALUATING ORANGE PEEL BIOCHAR AS A REMEDY FOR HEAVY METAL TOXICITY IN LEGUMINOUS PLANTS "**RAKHI RAJ MAURYA¹, J. ANURADHA***

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ABSTRACT

Biochar is a high-carbon material obtained by biomass pyrolysis under anaerobic. Conditions. Due to the rich organic carbon, high stability, high alkalinity, and rich pore structure of biochar, its addition to soil can increase soil organic carbon content and stimulate soil microbial activity. Orange peel biochar was added to the soil to increase the content of organic carbon components and enzyme activities in the soil and promote organic carbon mineralization. The Cipangopaludina chinensis shell powder was added to the soil to increase SOC, MBC, DOC, urease activity, catalase activity, and sucrase activity in the soil, and decreased ROC and AK. The effect of Cipangopaludina chinensis shell powder on urease activity and sucrase activity in soil was better than that of orange peel residue biochar. Different proportions of orange peel residue biochar and Cipangopaludina chinensis shell powder had different effects on soil, and the treatment of g2k1 (2.6% orange peel residue biochar +1.3% Cipangopaludina chinensis shell powder) had the best effect on soil organic carbon components and enzyme activities. Compared with the control, the activities of SOC, MBC, DOC, ROC, catalase, urease, and sucrase in soil with 2.6% orange peel residue biochar +1.3% Cipangopaludina chinensis powder increased by 19.81%, 64.88%, 67.81%, 19.44%, 77.55%, 487.12%, and 406.62%. It is worth mentioning that the presence of pores identified in biochar's from orange peels can improve the performance in soil amendment as well as in adsorption processes to test the efficiency to remove contaminants from wastewaters.

ELS-0038

**MAJOR INSECT PEST OF CROPS AND PEST PROBLEM IN HILL AGRICULTURE: A
REVIEW**

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ABSTRACT

Background: Insect pests are a major constraint for hill agriculture, causing substantial crop losses annually. The major pests include borers, sucking pests, defoliators, pod borers, white grubs and termites affecting key crops such as maize, rice, vegetables and fruits. Pest management in hills faces several challenges due to inaccessible terrain, lack of infrastructure, limited resources for farmers, climate change impacts etc.

Methodology: This review synthesizes published research on insect pests of hill agriculture to provide insights into their biology, ecology, nature of damage and sustainable management approaches. Both conventional sources and online literature databases were searched using keywords such as “insect pests”, “hill agriculture”, “crop losses”, “integrated pest management”. Relevant papers were thematically analyzed to develop the outline and content.

Results & Discussion: An integrated pest management (IPM) model involving cultural practices, mechanical removal, conservation biological control, biopesticides and need-based chemical insecticides is proposed based on analysis. Community participation, capacity building of farmers through training programs and institutional support are key enablers for successful IPM implementation in hills. Further research is needed on climate-resilient IPM tactics, remote sensing-based pest surveillance tools and biopesticides suited for niche hill crops and insect biotypes.

Conclusion: Implementing IPM with a holistic approach engaging local communities is vital for managing insect pests in hills sustainably while securing livelihoods of small holder farmers. Location specific research, bridging input delivery gaps and favorable policies fostering community pest management collectives offers pathways for impactful IPM translating to national food security.

KEYWORDS: Insect pests, hill agriculture, integrated pest management, crop losses, pest ecology.

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INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES

EGS-001

THE CARBON FOOTPRINT CALCULATIONS OF IIT JODHPUR CAMPUS FOR YEAR 2019-2020**DEEP GAUDANI^{1*}, NITISH KUMAR JAIN³, MUKUND KUMAR³, PRADEEP DAMMALA^{1,2}, SUDIPTA DAS² AND ANAND PLAPPALLY^{1,2,3}**¹*Department of Civil and Infrastructure Engineering, IIT Jodhpur, India*²*Center for Emerging Technologies for Sustainable Development, IIT Jodhpur, India*³*Department of Mechanical Engineering, IIT Jodhpur, India**Email: m22ci058@iitj.ac.in *Corresponding author***ABSTRACT**

Background: This article focuses on evaluating the carbon footprint of the Indian Institute of Technology Jodhpur (IITJ) campus situated at the eastern edge of the Thar Desert, India. The year 2019-2020 is considered in this evaluation. The evaluation enumerates a comprehensive analysis using the Greenhouse Gas (GHG) Protocol and ISO 14064. The study illustrates parameters such as total CO₂ emissions, addressing direct and indirect emissions from activities such as electricity consumption, fuel usage, and waste generation within the IITJ campus. Here Scope 1 and Scope 2 emissions are summarized. Key findings from the parametric study indicate that electricity consumption significantly contributes to emissions, particularly in hostels and departmental buildings. Further the fuel consumption in various building infrastructures as well as transport is taken into consideration while performing the emissions analysis. Understanding the strategic importance of sunlight and high irradiance in Jodhpur, a net zero concept using an example case considering hybrid wind and solar electric system is also proposed.

Methodology:

1] Measurement of each category like for the electrical consumption in kWh and in liters for the LPG consumption.

2] Finding the GHG emissions factor associated with each category for example, LPG the emission factor is 1.61 KgCO₂/unit.

3] We will calculate the amount of CO₂e for each category by the consumption with the emission factor.

$$CF(tCO_2e) = \sum_{i=1}^n (X_i \times F_i)$$

Here X_i is the amount of energy (LPG, diesel, and electricity), and F_i is the GHG emission factor per type of energy

Result and Discussion

The assessment of IIT Jodhpur's carbon footprint revealed that electricity consumption, primarily driven by air-conditioning needs, constitutes the major share of greenhouse gas emissions (GHGs), constituting 92.96% of the total. Notably, hostels exhibit higher electricity usage, attributed to individual AC units per student. Diesel and LPG usage contribute significantly, with the latter being predominant in mess facilities. The net-zero plan focuses on demand reduction through measures like virtual meetings, electric vehicles, and efficient building management. Scope 2 emissions from purchased electricity surpass Scope 1 emissions, emphasizing the importance of transitioning to renewable energy sources. On-site renewable energy generation, particularly solar panels and a hybrid wind-solar system, emerges as a pivotal strategy to mitigate emissions. This comprehensive plan aims to significantly reduce the institute's carbon footprint, aligning with India's climate goals and fostering sustainability awareness among the campus community.

Conclusion

This project assesses the carbon footprint of the IITJ campus. It is observed that electricity consumption is the biggest contributor to greenhouse emissions from the university. This is due to the high electricity needs of air-conditioning systems used for about 8 months in the year. On the other hand, this study has enhanced staff and student awareness of the possibilities for GHG emission reduction. The implication of the carbon footprint study is to enable the institute and other academic institutions in the region to work towards carbon neutrality as well as align with the sustainable development goals of the United Nations.

KEYWORDS: Carbon Footprint, GHG Emissions, Sustainability, Net-zero, Solar Power

EGS-002

TEMPORAL WATER RESOURCE ASSESSMENT FOR LAST HALF DECADE WITH THE AIM OF SUSTAINABLE DEVELOPMENT OF KOTA, RAJASTHAN, INDIA**HIMANCHAL^{1*}, DEEPTHA GIRIDHARAN², SUNIL DUHAN³, ASWATHY PUTHUKKULAM⁴, ANUGYA SHUKLA⁴, DEEPIKA BHATTU⁵, VENKATA RAVIBABU MANDLA⁶, VIVEK VIJAY^{4,7} AND ANAND K PLAPPALLY^{3,4}**¹ *Inter-Disciplinary Research Platform of Space Science and Technology, IIT Jodhpur, India*² *School of Artificial Intelligence and Data Science, IIT Jodhpur, India*³ *Department of Mechanical Engineering, IIT Jodhpur, India*⁴ *Centre for Emerging Technologies and Sustainable Development (CETSD), IIT Jodhpur, India*⁵ *Department of Civil & Infrastructure Engineering, IIT Jodhpur, India*⁶ *Center for Geoinformatics Applications in Rural Development (C-GARD), NIRD & PR, Hyderabad, India*⁷ *Department of Mathematics, IIT Jodhpur, India*Corresponding Email: himanchal.1@iitj.ac.in**ABSTRACT****Background:**

This article elaborates the spatial water resource statistics of Kota city, Rajasthan, India from 1970s. Here the initial assessment of the first twenty years showcases the water resources which provided the society Kota's drinking and agriculture water needs. A loss of water resources was observed in a geospatial ground survey experiment. This article investigates these changes in landscape and therefore land use aspects.

Methodology:

A ground truthing was performed by travelling and collecting geospatial survey points for water source identification. The satellite imageries over a temporal scale have been downloaded using USGS Earth explorer platform, LANDSAT (1,2,3,5,7, and 8) satellites data for 1975, 1980, 1990, 2000, 2010, 2020 years. These imageries are processed for calculating various indices like NDVI (Normalized Difference Vegetation Index), and NDWI (Normalized Difference Water Index). Geospatial data attributes are utilized to calculate the area of watersheds temporally.

Result and Discussion

With time, Kota lost its surface water resources to a completely different land use. This loss is clearly observed while studying the surface water coverage till 1990. Anomaly in the water resources was brought in after the construction of the Kota Thermal Power Plant during 1983 was observed, which is very prominent in the satellite imageries of 1990. Thereafter a sharp decline in population growth rate is observed.

Conclusion

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An in-depth analysis of NDWI indices revealed that the carrying capacity of Kota plummeted to a highly water stressed condition with stagnant water cover with increase in population during 1980-2000. The spatial analysis also reveals similar land use changes which elaborate the improvement in green cover in the later years after 2011. Further, this green cover indicates diversion of surface water towards agriculture and landscaping for feeding the population and to provide it with sanitation and irrigation services. The implication is the evaluation of carrying capacity of cities similar to Kota to provide water for their sustenance.

KEYWORDS: NDWI, Carrying capacity, Population, Kota, Water resources, Spatial.

EGS-003

CLIMATE CRISIS: A SHARED RESPONSIBILITY FOR ALL**DEEPAK KUMAR**

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ABSTRACT

As our world is progressing and becoming more modernized thanks to technological advancements, the more toll it takes from the environment. In today's time climate crisis is one of the most concerning issues (if not the most) which humanity faces, as COP 28 proceeds in United Arab Emirates which is an opportunity to identify global solutions for limiting Global temperature rise to 1.5 degrees which is a major concern for nations, which are situated in coastal areas. The Climate Crisis impacts every country of the world but especially the Global South countries and the small Island Nations as these countries do not have enough capital and technical ability required to tackle those problems. We have very often seen that the Developed (Global North) Countries blame the Developing or Underdeveloped (Global South) Countries for the climate crisis and they try to escape their liability on this issue. There is no sense of justice here. This paper will look upon

(a) What is a climate crisis and its effect upon the world?

(b) The different types of problems which the Global South countries face by focusing on Seychelles, a small island state.

(c) The blame game of the Developed World and how their approaches against climate changes are somewhat deceiving in nature.

(d) Lastly, we would focus on the ways through which the world could solve this climate crisis in a 'just way' so that this does not remain as an onus only for some countries.

Keywords: Greenhouse gases, Carbon Emission, Seychelles, Climate Justice, and Climate Finance.

INTRODUCTION:

Climate change and global warming is a reality and human activities, mainly greenhouse gases and carbon emission are responsible for this. Given their devastating acts it would not be wrong to call climate change and global warming an emergency, thus it is often called a climate crisis. The climate crisis is not waiting for us to act, it is here and getting worse each year. The world continues to get warmer at an alarming rate putting every living species in grave danger. The climate crisis is the defining challenge of our generation. Scientists are clear about the reality of the climate crisis, and we should be too.

Climate Crisis

Climate crisis is a precise term, given the ineffective actions regarding climate change this term projects the severity of the issue and need for immediate action. According to climate scientists this problem is as much a social problem as a scientific problem, thus, to ensure a mass participation in this, scientists decided to call climate change as 'climate Crisis' as the term crisis adds urgency or emergency to the situation and given the human psychology we often do not act until the sword is hanging over our head. We can say that this trick has worked as now more and more people are realizing that climate crisis is a huge problem for humanity and our planet and this can be seen in the poll conducted by UN named as “People’s Climate Vote” (1) (United Nation, 2021) 50 countries(with over half the world’s population) the sample size was of 1.2 million people among this almost two-third of the people believed that climate crisis is a global emergency and they urged greater action from world leaders to address this crisis quickly and to create favorable policies for the same. Climate scientists have shown that it is human activities which are responsible for virtually all global warming over the past two centuries. Human activities like burning of fossil fuels (coal, oil etc.) are releasing greenhouse gasses like CO₂, CH₄ (methane) into the atmosphere and also helping in carbon emission, which are warming the world faster than at any given time in the last two thousand years. The average surface temperature of earth is now 1.1°C warmer (2) (IPCC, 2021) than it was in the late 1800s (before the industrial revolution) and warmer than at any time in the last 100,000 years. The last decade (2011-2020) was the warmest one ever recorded (3 (IPCC, 2021) and each of the last four decades has been warmer than any previous decade since 1850.

Effects of Climate Crisis

The effects of the climate crisis are interrelated where one thing leads to another because the Earth is a system where everything is connected, changes in one area can influence changes in all others. If we look at some of its effects, then we see that due to global warming and they are as follows: -

Hotter temperatures:

With rising greenhouse gas concentrations, the global surface temperature also increases. Since the 1980s, every next decade has been warmer than the previous one. Countries around the globe are now experienced hot days and heat waves and hotter temperatures.

Climate Change:

Most visible and prominent effects of global warming and increasing carbon emission can be seen through the erratic change in the climate of different regions around the world. Countries are now experiencing extreme types of weather events where some countries are facing severe heat waves which leads to more frequent droughts (which ultimately leads to desertification of arable land), water scarcity and also to wildfires, whereas some countries on the other hand witness excessive rainfall, flooding, uneven wind patterns and heavy snowfall and then there are countries also which experience

these conditions all together. These climate changes lead towards loss of human lives and huge economic loss too.

Increasing Severe Storm:

With the increase in the surface temperature of water bodies we observe that more disastrous storms are frequently formed in many regions. Cyclones, hurricanes, and typhoons need and thrive on the warm ocean surface because it creates the low-pressure zone in the oceans which helps in the propagation of these storms. Storms very often cause deaths and result in huge economic and capital losses.

Rising sea level:

The rate at which the oceans are getting warmer has increased in the last two decades. As the ocean warms its volume increases because water expands as it gets warmer, which further leads towards rising water levels across the globe. Melting ice sheets and polar ice caps also cause sea levels to rise, this serves as a challenge to the existence of small island nations and also poses a grave danger to the coastal lines of the countries. The oceans also absorb carbon dioxide from the atmosphere, the more water in the ocean the more carbon dioxide it absorbs which makes the ocean more acidic (ocean acidification), which endangers marine life and coral reefs.

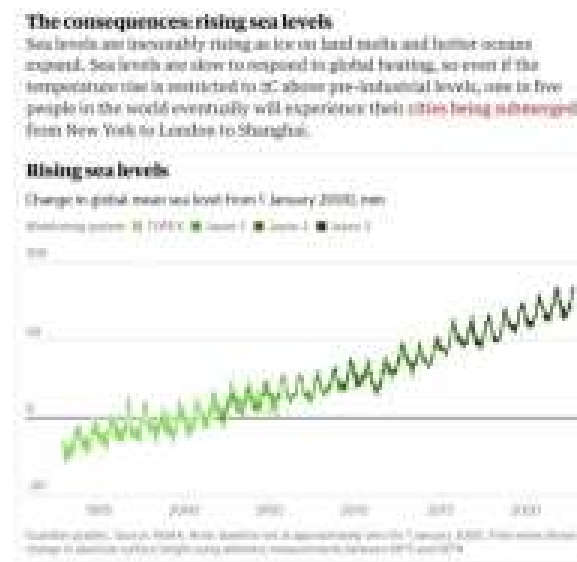


Image Credit: The Guardian

Food Crisis:

Extreme weather events also lead towards food crisis, hunger and poor nutrition. Fisheries, crops and their yields, livestock may be destroyed or become less productive. With the

increasing acidification of the ocean, marine resources which are food to billions of people are at risk. Droughts and heatwaves which lead towards water scarcity and desertification of fertile land along with extreme rainfall followed by flooding pose a serious challenge to agriculture because it's not an easy job to grow crops in these extreme conditions thus we witness less yield of crops which could give birth to a hunger crisis. These extreme conditions also result in scarcity of drinking water which is limited in quantity posing a much greater risk to humanity. More health risks Climate change also poses a great risk to human lives. The increase in the frequency and severity of heat waves, wildfires, droughts, floods, landslides, storms, have taken many human lives. But apart from these

climate change also poses the risks of diseases, infection, virus breakout etc. With increasing air pollution and smog causes diseases such as asthma, heart related issues and lung cancer etc. The changing climate means that mosquitoes, birds and mammals will come out of their previous habitats in search for more suitable places, which increases the chances of spread of infectious diseases with them. Mosquito-borne diseases such as dengue, chikungunya, Zika, West Nile virus and malaria could spread more due to climate change. WHO says that Climate crisis a 'substantial risk' to fight against malaria. (4) (Sarah Johnson, 2023) Storms and floods often create stagnant water which is not only perfect breeding grounds for mosquitoes, but it also increases the risk of water-borne diseases such as cholera, typhoid and diarrhea. Scientists also fear that due to climate change new types of pathogens, bacteria, viruses could form, which could result in the formation of a totally new type of pandemic. Not only humans but all the living creatures and species of the planet are severely affected by this climate crisis and some even face the threat of being extinct in the next few decades.

Poverty and Migration:

Climate change increases the odds of pushing more people below the poverty line. Floods may sweep away urban slums which results in destroying homes and livelihoods, excessive heat makes it difficult to work in outdoor jobs. Water scarcity may affect food production which could also lead towards poverty and hunger. Climate crisis also contributes to migration. Climate migration occurs when people leave their habitual place of residence, either temporarily or permanently and move within the country or across an international border due to the sudden and unpredictable change in their local environment due to the climate change. Climate migration generally happens due to excessive heat, water scarcity, droughts, shoreline erosion, urban and coastal flooding and agricultural disruption. Most migrants are from places that are most vulnerable and least ready to adapt to the impacts of climate change. Generally, it is seen that people move within their country rather than going to a foreign state as far as climate migration is concerned.

To give a number to this migration here is a report named 'The Ecosystem Threat Register' (ETR) released in September 2018 by the 'Institute for Economics and Peace' (IEP), (an Australian international think tank) which shows that at least 1.2 billion people could be displaced by environmental threats by 2050. (5) (Peace, 2021)

Economic Loss:

Climate crisis also results in huge economic losses, as the report published by published by the Swiss Re Institute in April 2021 named as ‘The economics of climate change: no action not an option’ (6) (Institute, 2021) predicts that the global GDP is set to lose around 11 percent by 2050 if the Paris Agreement and carbon emission target are not met. The Global South countries would bear the majority of this loss, as depicted in the figure below.

	Temperature rise scenario, by end-century			
	Well below 2°C increase Paris target	2.0°C increase	2.5°C increase	3.2°C increase
	The likely range of global temperature gains			Impact rate
Estimating the economic loss impacts from rising temperatures in % GDP, relative to a world without climate change (2°C)				
World	-4.2%	-11.0%	-13.9%	-18.1%
OECD	-3.1%	-7.8%	-8.7%	-10.8%
North America	-3.1%	-6.8%	-7.4%	-9.5%
South America	-4.1%	-10.8%	-13.0%	-17.0%
Europe	-2.8%	-7.7%	-8.0%	-10.6%
Middle East & Africa	-4.7%	-14.0%	-21.0%	-27.0%
Asia	-5.0%	-14.9%	-20.4%	-26.5%
Advanced Asia	-3.2%	-8.5%	-11.7%	-15.4%
ASEAN	-4.2%	-17.0%	-28.0%	-37.4%
Oceania	-4.5%	-11.2%	-12.3%	-16.5%

Image credit: Swiss Re Institute

The report published by University of Delaware named as ‘Loss and Damage Today: How climate change is impacting output and capital’. This report shows that low and middle-income countries have experienced capital losses worth \$2.1 trillion due to climate change in the course of time which would rise further if nothing were done. (7) (Anand, 2023) This further proves that the global south (developing or underdeveloped) countries suffer the most from the climate crisis, but then also the global north countries blame them for this climate crisis as if they are the only one emitting carbons and greenhouse gases.

Case Study of Seychelles:

Seychelles is an island country and an archipelagic state comprising 115 islands located in the western side of the Indian ocean. It is part of the African continent. Seychelles is also part of ‘Small Island Developing States’ (SIDS). It is a group of small island countries which are developing countries too, they share similar ‘sustainable challenges’ which include limited resources, vulnerability to natural disasters and others. Most members of this group face severe and increasing threats due to the climate crisis.

The most severe threat which Seychelles faces due to climate change is ‘Rising the levels of the sea’.

As we know Seychelles consists of 115 islands with an average elevation of 2m above sea level, according to an IPCC report the global sea level could rise from 66cm to 110 cm higher than the today's level till year 2100. (8) (R. WARRICK, 1991) As per Seychelles' ambassador for climate change Ronald Jumeau, 80% of the population live and 80% of economic activity occurs in coastal regions (9) (Page, 2017). If these estimates prove right then Seychelles would lose much of its coastal regions to the ocean as they will either sink or might be on the verge of sinking, then this would trigger a mass migration people would move towards inland creating ruckus and scarcity of the resources. Further the tourism driven economy of Seychelles would also take a huge hit.

Rising sea level could also result in the erosion and salinization of the coastal arable land which could severely impact agriculture and could even lead towards a food crisis.

Due to the Global Warming, we are now observing increase in the 'average mean surface air temperature' and change in the precipitation events of the Seychelles. (10) (Climate Change Overview, 2021) This indicates that Seychelles climate is now a much warm and wet one, there would be longer dry spells (drought like situation) followed by an event of intense precipitation. This type of climate creates enormous pressure on the resources of the country and is also prone to disasters such as storms, excessive rainfall and droughts which results in economic loss. Seychelles from the past two decades have witnessed higher temperatures, heat waves, droughts followed by excessive rainfalls, floodings, landslides and storms on a regular basis. Climate change is also severely impacting coral reefs and mangrove forests of the Seychelles. Coral reefs are like a boon for countries like Seychelles given their properties they serve as a breeding ground and natural habitat for fishes and other marine creatures, and they are the main component of the underwater ecosystem. They also save the coastal regions from erosion as they reduce the impact of the wave energy by 97% and also help in saving human and capital loss. Coral reefs are also very important from a tourism point of view as they attract a lot of tourists. But due to the rising surface temperature of the ocean, increasing ocean acidification and sedimentation there is an increase in the bleaching (corals turn white in color) of the coral reef of Seychelles, this bleaching makes the coral very weak and if prolonged it results in their death. Bleaching Events have been noticed in 1998, 2016 due to El Nino which resulted in bleaching of 90% of the coral reef of Seychelles and after the 2016 events the coral coverage of the reefs reduced from 50% to 5%. (11) (Page, 2017) In 2019 the last time the bleaching occurred was due to the rise in the sea surface temperature and ocean acidification. Scientists believe that if climate change is not controlled then the annual bleaching of coral would start by 2050 which could possibly pose a threat to the existence of Coral reef of the Seychelles.

All these effects of the climate change would severely impact the tourism and fishing sector of the Seychelles economy, and majority of the Seychelles people have either a direct or indirect job related to these two sectors, thus those people would become jobless if those two sectors are adversely affected and on whole the economy of Seychelles would take a pretty bad hit if the climate change is not curbed. Ultimately problems like migration, increased health risks and others would follow.

The Blame Game of The Global North:

As we know, climate change is one of the most severe challenges which the world is facing and presently it is not less than any crisis. The biggest reasons for this crisis are the Carbon emission and greenhouse gases emission. By taking into account the current level of carbon and greenhouse gases emission by the global south (developing or underdeveloped) nations, the global north (developed) nations blame them for their increasing share in the emissions from the past two decades and they call for the stringent cuts in the emissions of the global south and by doing this they attempt to shift the responsibility of climate change onto the developing countries, and they try to escape their liability on this issue. The climate crisis is the result of the cumulative buildup of the emission of greenhouse gases and carbon (fossil fuels consumption) in the atmosphere which started with the onset of the industrial revolution (was started by today’s global north countries) and not only due to the emissions of the recent times. If we look at the data since 1850 then we would find that the largest emitters of the greenhouse gases (in total and in per capita terms) are the global north countries like the US, UK, Germany etc. These nations became developed, industrialized and grew their respective economies by burning fossil fuels (coal, oil) and emitting an unrestricted amount of carbons and greenhouse gases like CO₂, CH₄ (methane) through their factories, vehicles and homes. The image below depicts fossil fuel consumption by countries.

The countries with the largest cumulative emissions 1850-2021:

Billions of tonnes of CO₂ from fossil fuels, cement, land use and forestry

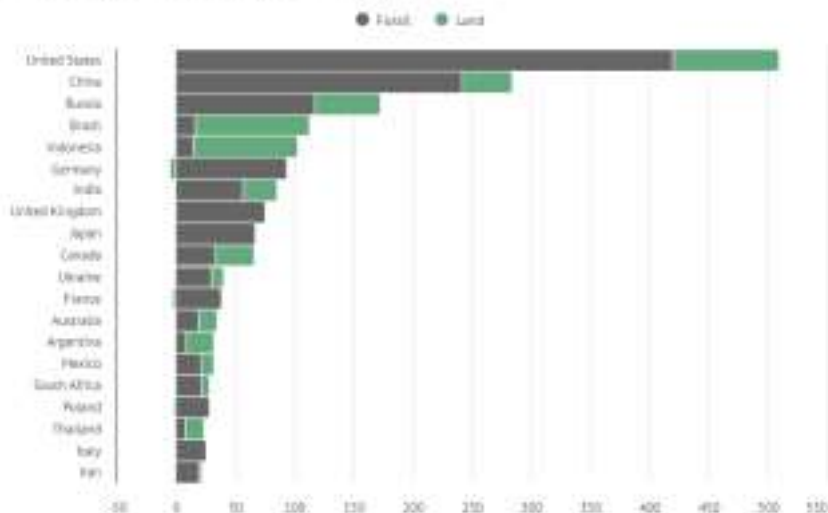


Image Credit: Carbonbrief.org

In today’s time also these big developed countries are emitting these gases in disproportionately way, given their size, although countries like China and India have seen rapid greenhouse gases emission increases in the first two decades of the century but given their huge population they emit very less per capita when compared with the developed nations. The picture below depicts carbon emission per capita by countries.

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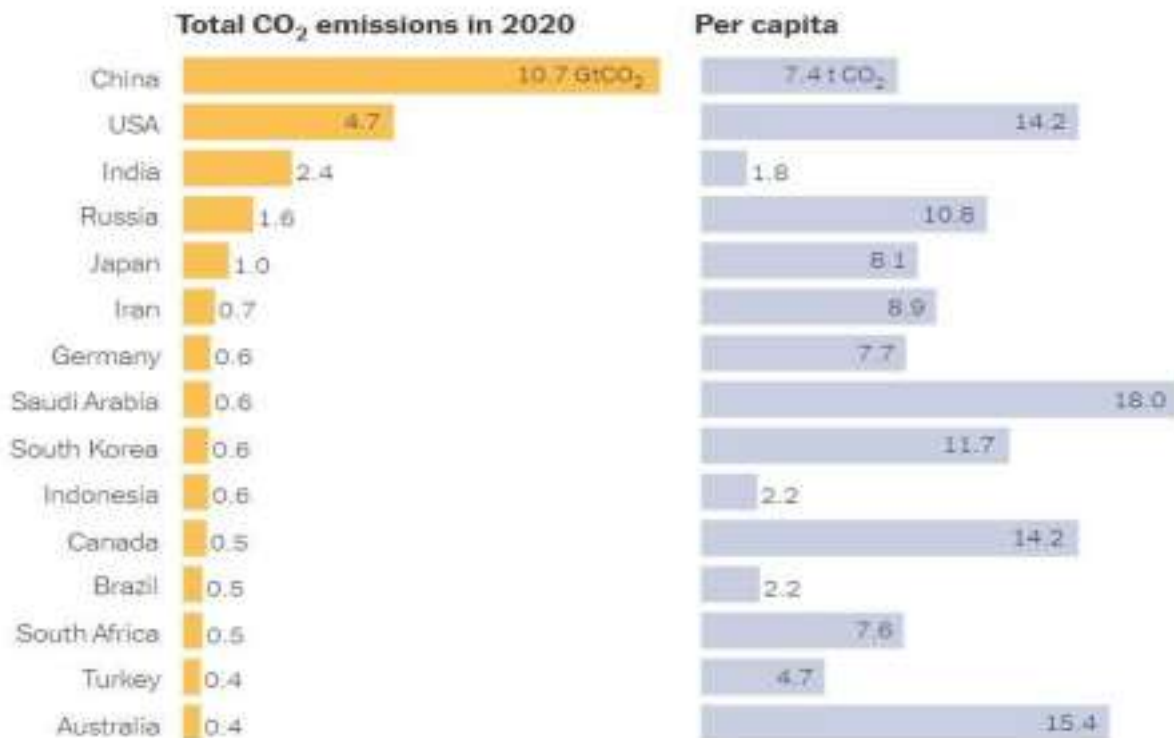


Image Credit: The New York Times

Yes, the emission of the Global south countries is increasing now and that of the Global north is now decreasing. The main reason behind this is that we are now witnessing rapid growth in the developing countries

as they want to be developed and become more modernized and be at par with the Global North nations. The developed nations made most of the industrial revolution and the developing nations want to replicate that feat but in doing so the developing countries must be cautious towards the emission of carbon and greenhouse gases and must reduce them wherever they can.

The main reason for the decrease in the emissions of the Global North is that the developed nations have managed to outsource more than half of their emissions to the developing nations, and they have also exported their pollution emitting companies and factories there in order to meet its

production needs. (12) (Shan Jie, 2021) There is also a difference between the motivation of the emissions of the global north and global south countries. The Global South is emitting more carbon and greenhouse gases in order to provide basic facilities and fulfill basic needs of their people whereas the emission from Global North is mainly to provide luxury and associated lifestyles to their people, but in per capita terms the rich developed nations are still emitting more than the developing nations. Thus, it would be unjust to think that the developing nations must cut down their emissions at the same level as the developed nations, as the developing nations do not have adequate financing and technology required for smooth implementation of this process.

Deceiving Approach of The Global North:

The Global North countries have indeed made some progress in cutting down their carbon and greenhouse gases emissions which is appreciable but overall, according to me their approach regarding climate change is deceiving in nature. In the following points I will describe this. Firstly, the developed countries, at the 15th Conference of Parties (COP 15) of the UNFCCC in Copenhagen in 2009 agreed to provide \$100bn a year by 2020 to the developing countries for managing climate actions, this plan was formalized next year in COP16 Cancun, but not once the targets have been achieved and thus the plan was delayed till 2025 this shows their lack of seriousness regarding the matter. Furthermore, the major chunk of the money which is provided under this agreement is given as loans and not as grants, which is increasing debt to the developing countries. (13) (Kozul-Wright, 2023). According to many developing countries this sum is very less, and this is not enough and it is only a fraction of what is needed for them to meet their climate goals in accordance with the Paris Agreement. Based on the recent analysis of financing needs United Nations Framework Convention on Climate Change's it was estimated that the developing countries require at least \$6 trillion (about \$18,000 per person in the US) by 2030 to meet less than half of their existing Nationally Determined Contributions. (14) (Kozul-Wright, 2023)) The developed countries have also resisted the calls for the creation of a new “loss and damage” fund, this mechanism calls on the rich developed countries to compensate developing poor ones for the "loss and damage" caused by climate change, it is important because the developing countries who have low level of emission suffer the most from the climate change and they do not have enough and required resources to mitigate the climate change. The developed countries also do not share the latest devices and technologies with the developing world which would help them in reducing emissions and meeting their climate, but they rather sell it to them and make their profits and increasing burden on the purse of developing nations. Secondly, if we look at the reports of Climate Action Tracker it shows that the goals set up by the developed nations are ‘insufficient’ in meeting the target set up by the Paris Agreement. (15) (Countries, 2022) Given their technological advancements and funding it should be better than this. Thirdly, the USA, the second largest emitter of Carbon in the world, getting out of the Paris Agreement shows their accountability towards other countries. The developed countries such as Germany, Australia, Canada, UK, US etc. emit more carbon at per capita level when compared with the global standards and they blame global south countries for higher emission, which still emits less than these countries in per capita terms. Fourth, the global north countries in order to keep their emission rates down and keep their country clean, not only they outsource and export more than half of their CO2 emission to the developing countries in form of pollution emitting factories and they also export their plastic and e wastes to these for recycling purposes which if not handled properly turns out to be very dangerous and they are the source of large amount of carbon emission and they also release harmful gases like Carbon Monoxide, Methane etc. After doing all these things the Global north have the audacity to blame the global south countries and they try to shed their responsibilities towards climate change even though they have majorly contributed to the accumulation of the harmful gases in the atmosphere which paved the way for Global Warming and climate change.

How we can tackle Climate Crisis in Just Manner:

Climate Crisis is here, and it is a reality which is not waiting for us to act, this is the most defining challenge of our time which poses threats on multiple fronts and our inactions against

this would have devastating impacts. Climate crisis is not only a scientific problem it is also a social problem too, as its effects range from hotter temperature, extreme weather rising sea levels to food crisis, mass migration to health risks and from loss of lives to economic and capital loss. If we do not act now, it will be very late. Nature knows no international boundaries, air and water travel with ease from one country to another and the same is the case for pollutants. No country is immune to the climate crisis. It impacts each and every nation. The severity could be different, but everyone faces it. So, the fight against the climate crisis is a collective and shared responsibility for all of us and not just for a handful of countries, every nation would have to contribute to this. But we must also make sure that the mitigation efforts involved against the climate crisis are ‘just’ in nature as every country involved in this is not on an equal footing with the others. Here are some measures through which we can tackle climate in a just way.

(1) Common But Differentiated Responsibility Common but Differentiated Responsibilities (CBDR) is a principle of international environmental law within the United Nations Framework Convention on Climate Change (UNFCCC) establishing that although all states are responsible for addressing global environmental problems, yet they all are not equally responsible for those problems. This principle also acknowledges different capabilities and differing responsibilities of individual countries in addressing climate change. The principle of CBDR was formalized in Earth Summit 1992, held in Rio de Janeiro, Brazil. CBDR contains two elements- one is the common responsibility of all the states towards the concerns of environmental protection, climate change and sustainable development and the other is the differentiated responsibility where the states on the basis of their capabilities, capacity would work on climate change and environment protection. CBDR focuses not on equality but on equity, focusing on the middle path, which is beneficial for all, it is a sort of compromise for both the developed and developing countries. It is a more just and fair approach as it balances, on one side, the need for all states to take responsibility for global environmental problems, with the other side, the need to recognize the wide differences in levels of economic development between states. During the Rio negotiations the common but differentiated responsibilities principle was rejected by the USA and thus it could not reach a consensus and as a result it often gets sidelined in environmental debates.

(2) Proactive role of Rich Developed Nations As we know, the climate crisis is happening due to the cumulative build up of greenhouse gases and carbon emissions which started from 1850 (with the onset of the Industrial Revolution by the developed countries) and not due to the recent increase in the emission rates of the developing countries. If we look upon the data then we will find that it is the developed nations which have higher emission rates when compared with the developing nations, even though they have smaller populations as compared to the developing world. But it is the poor developing nations which suffer and are most vulnerable to climate change as they do not have required resources to mitigate climate change and adapt according to it. Here the developed nations should come to the aid of the poor nations and must help them with every and any means necessary, playing a proactive role. They must take the initiative as they have the greatest responsibility towards climate change and global warming, but they should also help the other countries to mitigate or adapt to climate change. The developed nations given their technological advancements and strong purse should now move towards carbon neutrality more quickly and

must invest more in clean and green energy and must work on techniques to how these can be produced at more affordable rates so the developing countries could also reap its benefits. The quicker mitigation from the side of the developed nations would give more time to the developing nations to achieve their climate goals. I would also like to add that developing nations should be aware of their recent rise and also do more to curb their emissions. After all, it is the collective responsibility of all to fight the climate crisis and not just of global north or global south countries.

(3) Climate Justice ‘Climate Justice’ takes into account that the effects of the climate crisis are highly unequal and how it can have different social, economic, public health, and other adverse impacts on those populations which are least responsible for climate change and calls for fair distribution of the burdens of climate change. Climate justice acknowledges climate change as an ethical and political issue, not as purely environmental or physical in nature, it also addresses concerns regarding human rights and social inequality with respect to the climate crisis. Climate justice also calls for sustainable development by keeping in mind the developmental needs of the global south.

(4) Climate Finance Climate Financing refers to large scale investments which are required for climate actions aiming to mitigate or adapt to the consequences of climate change. The funds\investments are drawn from public or private, national, international, multinational and alternative sources. Climate financing is very crucial for the poor developing countries as they are the most vulnerable to climate change and they suffer most from it too, they rely on the funds from the developed countries or multinational institutions. But the problem with funds which they get is that the funds provided are very low. According to experts the funds are up to six times less than what it needs to be. Secondly, the funds which they get the majority share are in the form of loans which have been non-concessional, very few are given as grants, this is increasing debt distress upon these countries and they end up paying more on debt structuring and not on climate adaptation every year. The true justice with the global south countries would be to increase the amount of the climate finances, this should be in line with the ‘nationally determined contributions’ of the countries and secondly the sum allocated for this purpose must be in the form of grants and not debts. These funds should be made easily available, there should be a regulating body to govern the proper utilization of the funds by the receiving country for the purpose of climate change. Increasing the ceiling of Climate Financing is the need of the hour. The creation of ‘Loss and Damage Funds’ at the recently held COP28 in Dubai, is the first step towards this and a good initiative, although more funds should be pledged for this than allocated but nonetheless this would help the countries who suffer most from the effects of the climate crisis.

(5) Transfer of Technology as Technology plays an important role in our fight against the climate crisis and according to the UNFCCC development and transfer of technology is essential to support a nation’s climate action plan. Technology helps to mitigate and to adapt to the effects of the climate change at fast and more efficient rate Through the help of technology only the global south countries could cut down their emission level, this also helps us in smooth and ‘just’ transition from fossil fuel-based energy consumption to a clean, green, and renewable energy consumption like solar, wind and nuclear energy etc. Some of these measures are expensive for a developing country but with the advancements in technology they would become cheap, more effective and more climate friendly. The transfer of technology to

global south countries is important because these countries do not have the necessary technology required to mitigate climate change as proper use of technology saves a lot of money and makes lives easy for the people and would help in creating a more resilient and a cleaner world.

CONCLUSION:

The Climate Crisis is upon us. Its effects are more visible than ever, and it is the most defining challenge for our generation, which requires immediate action. If we do not act now, it will be catastrophic for us. Climate crisis is a global problem which requires participation from everyone but the responsibility of the global north (developed countries) is more because it is due to their unprecedented rate of greenhouse gases and carbon emission from the industrial revolution that we are witnessing this climate crisis, not only they must lead the fight against climate crisis (as they required resources like funds and technology) but they must also help the global south (developing nation) as well in order to mitigate and adapt to the effects of the climate change by providing them with adequate funds and technology as it is these nations which suffer the most from the climate crisis. The global south would also have to bear its responsibility in this too by reducing their emission levels wherever they can and switching to more green and clean energy and reducing their dependence on fossil fuels. Although there is some cooperation, often we witness blame games between the global north and south. We all would have to rise above all this and if we all can act as one and be together in this and with ‘fair and just’ distribution of responsibility we can win this race against the climate crisis, but we need immediate action. Tackling the climate crisis is not an onus only on either global north or global south countries, it requires a global response and shared responsibility from all.

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EGS-004

TRADE ROUTE AND MIGRATION HISTORY OF ASIA SHANTILAL JOSHI & SUNIL KUMAR SAINI

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ABSTRACT

The Silk Road is an ancient trade and migration route that traverses the Central Asian geography. This article examines the interaction between geopolitics, climate, natural resources and trade along the Silk Road. It explores the migration history of the region, examines today's problems and offers various solutions. The aim is to use the unique characteristics of the region to promote the Silk Road in order to promote economic growth, sustainable trade and cultural exchange in the region.

Keywords: Silk Road, Trade Route, Migration History, Central Asian Geography, Geopolitics

Historical Geography of Migration:

The historical geography of migration along the Silk Road is a tapestry woven with threads of different cultures, civilizations and economic exchanges. This migration route lasting several centuries left an indelible mark on the landscape of Central Asia. Once the epicenter of a flourishing trade, the Silk Road connected East and West and fostered a dynamic exchange of not only goods but also people.

Cultural Crossroads:

The Silk Road served as a melting pot of cultures, where different ethnicities mingled, trading ideas, languages and traditions. Cities along the route, such as Samarkand and Bukhara, became vibrant centers of cultural exchange, attracting traders, scholars and migrants from far and wide.

Trade and migration dynamics:

The historical movement of people along the Silk Road was intricately connected with trade routes and economic activities. Merchants, traders, and artisans traveled vast distances and contributed to the spread of cultural practices and technological innovations.

Nomadic tribes and settled communities:

Nomadic tribes such as the Scythians and Mongols were an integral part of historical migration patterns, moving seasonally across the steppes. Settled communities along the Silk Road adapted to the ebb and flow of migrating populations, affecting local demography and social structures.

Religious Propagation:

The Silk Road facilitated the spread of the world's major religions, including Buddhism, Islam, and Christianity. Monasteries, mosques and churches became centers of religious influence, attracting pilgrims and promoting religious diversity.

Imperial conquests and migrations:

Imperial conquests such as those of the Mongols and the Timurids led to significant population movements and demographic shifts. The movement of conquered peoples and the establishment of new administrative centers shaped the geopolitical landscape.

Caravanserais and urbanization:

Caravanserais, strategically located along the Silk Road, played a key role in accommodating travelers and promoting urbanization. These stops not only facilitated trade but also served as centers of cultural exchange and intellectual discourse.

Legacy of Silk Road Cities:

Historic cities that flourished along the Silk Road, including Kashgar, Khiva, and Xi'an, testify to the lasting impact of migration on urban development. Architectural wonders, marketplaces, and cultural institutions reflect the amalgamation of influences brought by migrating populations.

Decline and Revival:

The decline of the Silk Road due to geopolitical shifts and the rise of maritime trade routes marked the end of an era. Current efforts to revive the Silk Road, such as China's Belt and Road Initiative, aim to rekindle economic and cultural ties along historic migration routes.

Contemporary Migration Challenges along the Silk Road:

Today, the Silk Road, once celebrated for its role in fostering cultural exchange and trade, faces myriad challenges that have changed its narrative. The following aspects delve into the current migration challenges on the Silk Road and shed light on the complex issues facing migrants and the region as a whole:

Illicit Trafficking Nexus:

The Silk Road has turned into a conduit for illicit activities, primarily narcotics and human trafficking. Organized crime networks exploit porous borders and extensive road networks and use them to facilitate the illegal movement of contraband and individuals.

Patterns of migration from Southeast Asia:

Migrants fleeing Southeast Asian countries, driven by socioeconomic hardship, political instability and other pressures, are navigating the Silk Road in search of refuge and better opportunities in the West. The route through Central Asia offers an alternative to the Mediterranean route and highlights the challenges faced by those passing through countries struggling with governance and economic crises.

Failed governments and economic collapse:

Many Southeast Asian countries have faced governance failures and economic collapses, prompting their citizens to seek alternative migration routes. Central Asian nations along the Silk Road are grappling with the consequences of hosting and facilitating the passage of migrants through territories marked by poor governance and economic problems.

Climate crisis and environmental impacts:

Climate crises, including extreme weather events and environmental degradation, contribute to the challenges faced by migrants on the Silk Road. Changing climate patterns in Central Asia are affecting resource availability and exacerbating existing socio-economic vulnerabilities, further complicating the migration environment.

The overlooked refugee crisis:

The historical appeal of the Silk Road often overshadows the current refugee crisis unfolding in the region. The plight of migrants fleeing conflict, persecution and socioeconomic hardship often goes unnoticed, raising questions about the region's commitment to addressing the humanitarian aspects of migration.

Reinventing the Iron Curtain:

The concept of the Iron Curtain, once associated with the ideological divide in Europe, reappears metaphorically along the Silk Road. Strict border controls, security concerns and reluctance to address the complexities of migration contribute to a figurative Iron Curtain, impeding the free movement of individuals and hindering regional cooperation.

Narco-terrorism and militancy:

Historically known for trade in valuable commodities, the Silk Road is now plagued by an infestation of narco-terrorism and militancy. The deliberate oversight of these security challenges raises questions about the region's ability to confront threats that go beyond traditional notions of trade and migration.

Unreported migration routes:

The migration routes of those who pass through the Silk Road often go unreported and are overshadowed by more widely covered migration routes. The lack of attention to the experiences and challenges faced by these migrants calls for a close examination of the human stories that intertwine in the current fabric of the Silk Road.

Addressing Migration Issues:

To alleviate migration problems, Central Asian countries together with international organizations must adopt a comprehensive approach. Strengthening governance, supporting economic development and addressing the root causes of migration are essential. Cooperation between nations is essential to create a coordinated response that ensures the safety and well-being of migrants while respecting human rights.

Reviving the Geographical Importance:

Several strategic approaches can be considered in the effort to revive the Silk Road as a center of legal and prosperous trade. These initiatives aim to capitalize on the geographic significance of the Silk Road, capitalize on historical symbolism, and promote regional cooperation for sustainable economic growth:

Infrastructure development:

Modernization of transport networks: Investments in the modernization of road and rail networks along the Silk Road are key. This upgrade improves connectivity, reduces transportation costs and facilitates smoother business flows.

Logistics and Trade Facilitation: The development of efficient logistics hubs and trade facilitation centers at key points along the Silk Road streamlines the movement of goods, reduces delays and increases overall trade efficiency.

Connectivity Improvements:

Technology integration: The incorporation of modern technologies such as GPS tracking, real-time monitoring and digital documentation can increase the efficiency and transparency of trade on the Silk Road.

Multimodal transport: The integration of different modes of transport, including road, rail and potentially air and sea routes, creates a comprehensive and resilient Silk Road network.

Regional cooperation:

Establishment of Free Trade Zones: The creation of free trade zones along the Silk Road promotes regional cooperation by reducing trade barriers, tariffs and bureaucratic obstacles. This promotes a more favorable environment for cross-border trade.

Harmonization of regulations: Alignment of trade regulations, customs procedures and standards between Silk Road countries promotes the smooth flow of goods and services and removes barriers.

Historical symbolism for investment:

Cultural and Heritage Tourism: Promoting cultural and heritage tourism along the Silk Road can attract investment. The preservation and display of historic monuments and artefacts creates a unique selling proposition for the region.

Public-Private Partnerships (PPP): Cooperation with private enterprises to restore and maintain historical monuments promotes responsible tourism and contributes to the economic development of the region.

Sustainable development initiatives:

Environmental protection: Integrating sustainable practices into trade and infrastructure development ensures the long-term health of Silk Road ecosystems. This includes measures to minimize the impact of increased business activities on the environment.

Community involvement: Involving local communities in the planning and implementation of development projects promotes a sense of ownership and ensures that the benefits of economic growth are shared equitably.

Investment support:

Incentives for Investors: Offering incentives such as tax breaks, reduced regulatory burdens and financial support can attract foreign and domestic investors to participate in Silk Road development projects.

Promotion and Marketing Campaigns: Strategic marketing of a revitalized Silk Road through global campaigns can attract international attention and attract investment and partnerships for economic activities.

Trade Corridor Management:

Efficient customs and border procedures: Implementation of streamlined customs and border procedures reduces delays and uncertainties and contributes to a more favorable business environment on the Silk Road.

Security Cooperation: Joint efforts among Silk Road countries to address security challenges, including those related to human trafficking and illicit activities, creates a safer and more stable trade corridor.

Education and skills development:

Workforce Readiness Programs: Investments in education and skills development programs will ensure that the local workforce is equipped with the skills needed to actively participate in the evolving business environment along the Silk Road.

Knowledge Exchange Platforms: Establishing platforms for the exchange of knowledge and expertise among Silk Road nations promotes a culture of learning and continuous improvement.

By implementing these comprehensive strategies, the Silk Road can be transformed into a thriving hub of legal and prosperous trade that promotes economic growth, cultural exchange and sustainable development throughout the region.

Economic Prosperity through Trade:

The revival of the Silk Road as a key trade corridor holds enormous economic potential. Strategic investments in transport infrastructure can reduce barriers to trade and increase the efficiency of cross-border movement. Special economic zones along the route can attract businesses, create jobs

and promote economic growth. This approach can help reshape the Silk Road as a thriving trade artery connecting different markets.

Environmental Sustainability:

Once a conduit for the exchange of goods, ideas, and cultures, the Silk Road now stands at the crossroads of a new era—an era in which its revival must be guided by the principles of environmental sustainability. As nations consider rejuvenating this historic trade route, it is imperative to consider strategies that will not only promote economic growth but also prioritize environmental protection.

1. Development of green infrastructure:

The revival of the Silk Road offers a unique opportunity to implement green infrastructure projects. By incorporating sustainable practices into road and rail networks, as well as port facilities, states can reduce their environmental footprint. This includes the use of green building materials, energy efficient transport systems and the incorporation of green spaces along the route.

2. Ecological transport:

The movement of goods along the Silk Road can be optimized with respect to environmental sustainability. Switching to green modes of transport, such as electric or hybrid vehicles, can significantly reduce carbon emissions. Additionally, investments in efficient logistics and supply chain management can minimize waste and depletion of resources, making trade along the Silk Road more environmentally friendly.

3. Protection of biological diversity:

The Silk Road passes through regions of rich biodiversity, with diverse ecosystems along its route. Environmental sustainability efforts should include measures to protect and preserve these natural habitats. Creating protected areas, promoting reforestation initiatives and implementing wildlife conservation programs can help preserve biodiversity hotspots along the route.

4. Integration of renewable energy:

Silk Road countries can use the power of renewable energy sources to support economic activities. Solar and wind energy projects can be strategically located along the route, providing clean and sustainable energy supplies for infrastructure development and day-to-day operations. This shift towards renewable energy not only reduces dependence on fossil fuels, but also mitigates the impact of climate change.

5. Waste management and circular economy:

With the increase in business activities on the Silk Road, the potential for waste generation also increases. Implementing robust waste management systems and promoting a circular economy – where resources are reused and recycled – can minimize the impact on the environment. Waste reduction initiatives along with public awareness campaigns can promote responsible consumption and disposal practices.

6. Environmental impact assessment:

Prioritizing environmental impact assessment (EIA) before the start of major development projects is essential. These assessments should evaluate the potential environmental consequences of infrastructure projects and identify ways to mitigate negative impacts. EIA

findings can inform decision-making processes and ensure that development along the Silk Road is in line with sustainable practices.

7. Climate resilient infrastructure:

Given the increasing frequency of climate-related events, it is essential to design infrastructure that can withstand environmental challenges. Climate-resilient elements such as flood-resistant structures and sustainable water management systems should be incorporated into development plans. This approach ensures the longevity of Silk Road infrastructure in the face of changing climate patterns.

8. Public education and environmental education:

It is crucial to provide local communities and travelers with knowledge about environmental protection. Implementing environmental education programs and promoting sustainable practices among residents, businesses and tourists can create a shared responsibility for the protection of the natural heritage of the Silk Road.

9. International cooperation for environmental protection:

Environmental sustainability along the Silk Road requires cross-border cooperation. Nations should engage in joint initiatives, share best practices and jointly address transboundary environmental challenges. International organizations and environmental agreements can play a vital role in facilitating cooperation in protecting the Silk Road environment.

10. Monitoring and adaptive control:

The establishment of monitoring systems for monitoring environmental indicators is essential for adaptive management. Regular assessments of air and water quality, biodiversity health and overall ecological conditions can inform adaptive strategies to ensure that the Silk Road remains a sustainable and resilient corridor for future generations.

Conclusion:

The restoration of the Silk Road is an immense promise of economic prosperity and cultural exchange between nations. However, this revival must be guided by a commitment to sustainability and ensuring that the historic trade route becomes a model for responsible development. As we navigate the complexity of modern challenges, it is crucial to recognize that the importance of the Silk Road goes beyond trade – it is a conduit for environmental, social and cultural connectivity.

The multifaceted issues addressed in this discourse, from narco-terrorism and human trafficking to environmental sustainability, underscore the complex tapestry of challenges and opportunities that define the Silk Road. Addressing these challenges requires collaboration, innovative strategies and a shared commitment to create a corridor that enriches people's lives while preserving the natural and cultural heritage embedded in its landscape.

Future outlook:

The future of the Silk Road depends on the collective will of nations to forge a path that balances progress and protection. Here are the key considerations for shaping the future of the Silk Road:

1. The Sustainable Development Goals (SDGs): Aligning the revival of the Silk Roads with the United Nations' Sustainable Development Goals offers a comprehensive framework for addressing social, economic and environmental challenges. The adoption of the Sustainable Development Goals ensures a holistic and inclusive approach to development.

2. Technological integration: Leveraging advances in technology such as digital infrastructure and smart logistics can increase the efficiency of trade on the Silk Road. Incorporating technology not only facilitates smoother transactions, but also provides tools to monitor and manage environmental impacts.

3. Cross-border cooperation: The Silk Road passes through diverse geopolitical areas, which requires strong cross-border cooperation. Diplomatic efforts, joint initiatives and shared governance structures can promote stability and harmony among nations and promote sustainable development.

4. Cultural preservation: The preservation of the rich cultural heritage along the Silk Road is an integral part of its identity. Initiatives to protect historic sites, promote cultural exchange and celebrate diversity contribute to the creation of a corridor that transcends economic interests and fosters mutual respect between nations.

5. Inclusive Economic Development: The benefits of the revival of the Silk Road should be extended to all segments of society. Inclusive economic policies, job creation and community engagement are key to ensuring that local residents actively participate in and benefit from the opportunities that increased trade brings.

6. Climate Resilient Practices: Given the challenges posed by climate change, the integration of climate resilient practices into infrastructure development is absolutely essential. Future projects must prioritize sustainability, incorporate green technologies and adaptive measures to withstand environmental uncertainty.

7. Education and awareness: An educated and aware population is essential for the success of sustainable development initiatives. Promoting environmental education, cultural awareness and ethical business practices fosters a sense of responsibility among stakeholders and creates a foundation for long-term success.

In navigating the future of the Silk Road, it is crucial to view it not just as a trade corridor, but as a symbol of unity and shared progress. The success of this enterprise lies in the ability of nations to transcend individual interests and work together to build a Silk Road that transcends time and connects past, present and future in a sustainable continuum.

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INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY

PGC-001

Cestrum nocturnum (raat ki rani): As a green corrosion inhibitorPREETI SHARMA*^{1,2}, HARLAL SINGH², SARITA KHATURIA²Email: preetshah7@gmail.comhlsingh9@gmail.comsaritakhaturia.slas@modyuniversity.ac.in

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ABSTRACT

In recent decades, environment friendly corrosion inhibitors have attracted great interest due to the growing environmental problems caused by the widespread use of old and dangerous inhibitors. Green inhibitors have high stopping power, have a negligible environmental impact and are made from inexpensive renewable resources. A wide range of environmental friendly organic chemicals such as ionic liquids, imidazoline, phenylmethanimine and chitosan derivatives have good properties to protect metal surfaces from corrosion. These substances therefore replace conventional, harmful corrosion inhibitors. Numerous plant extracts, including neem, aloe, green tea and moringa, have been selected for their proven antioxidant and bioactive properties. Various experimental methods, including potentiodynamic polarization and electrochemical impedance spectroscopy (EIS), were used to evaluate the corrosion suppression ability of the extracts. The results demonstrated the potential of natural plant extracts as effective and environmentally friendly replacements for traditional inhibitors and demonstrated their usefulness in stopping corrosion. Inhibition mechanisms were investigated using surface analysis techniques such as Fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). This made it possible to gain insight into the interaction between plant extracts and corroded metal surfaces. To maximize realistic application parameters, the study examined the effects of temperature, exposure time and extracts concentration on braking performance. The results provide important information for the development of long-term corrosion protection plans in an industrial context and expand our understanding of the mechanisms by which natural plant extracts control corrosion. A promising approach for environmentally friendly corrosion management is the use of natural plant extracts as corrosion inhibitors. This study complements on-going efforts in many industries to develop sustainable and practical solutions to reduce corrosion problems.

Keywords: Corrosion inhibitors, environment friendly, FTIR, SEM

PGC-002

CATALYSIS IN GREEN CHEMISTRY: ADVANCEMENTS AND APPLICATIONS**SUDARSHAN SHARMA***Department of Chemistry Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan, India**Email: sharma19sudarshan@gmail.com***ABSTRACT**

The utilization of catalysts in chemical transformations has undergone a paradigm shift towards greener and more sustainable practices. Traditional methods often involve harsh conditions, excessive energy consumption, and the generation of undesirable by-products. In contrast, catalysis provides a strategic pathway to enhance reaction rates, selectivity, and overall process efficiency while minimizing waste. The advent of novel catalytic systems has paved the way for greener chemical transformations, with a focus on atom economy and the use of renewable feedstocks. One of the noteworthy advancements in catalysis is the exploration of bio-based catalysts derived from renewable sources. Enzymes, for instance, have gained prominence for their selectivity and mild reaction conditions. By harnessing the power of biocatalysis, researchers have achieved intricate transformations with reduced environmental footprint. The integration of biocatalysts into green chemistry practices opens avenues for sustainable synthesis, aligning with the principles of eco-efficiency and resource conservation. Green solvents play a crucial role in catalysis, influencing reaction outcomes and environmental compatibility.

Keywords: *Catalysis, Green Chemistry, Sustainable Synthesis, Environmental Impact, Green Solvents*

PGC-003

GREEN CHEMISTRY: A MULTIDIMENSIONAL APPROACH FOR SUSTAINABLE FUTURE

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ABSTRACT

During the time of industrialization, world economic evolution was established due to revolution in green chemistry for sustainability. Paul Anastas and John Warner, in the 1990s, postulated the 12 principles of green chemistry, which are based on the minimization of toxic solvents in chemical processes. One of the most active areas of research and development in green chemistry is the development of analytical methodologies, giving rise to the so called green analytical chemistry. Various impacts of green chemistry in the field of pharmaceutical sciences, environmental sciences, population dynamics and companies development are discussed in this review paper. Future of green chemistry in environmental sustainability for future generations is also described in this paper.

Keywords: Green chemistry, Chemical processes, Environmental science, Analytical methodologies, Pharmaceutical science

PGC-004

GREEN MATERIALS FOR ENERGY STORAGE AND CONVERSION

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ABSTRACT

The world's dependence on fossil fuels is unsustainable, driving the urgent need for clean and renewable energy solutions. Green materials, derived from renewable resources and processed with minimal environmental impact, offer a promising avenue for developing efficient and sustainable energy storage and conversion technologies. This review explores the latest advancements in various green material classes, including their functionalities, advantages, and limitations, for applications in batteries, solar cells, fuel cells, and other energy conversion systems. We also discuss the ongoing challenges and future research directions for green materials in this critical field.

Keywords: *Green energy materials; Renewable energy; Organic batteries; Carbon nanomaterials for energy; Green synthesis of electrocatalysts*

INTRODUCTION: The increasing global energy demand and the alarming consequences of climate change necessitate a paradigm shift towards clean and sustainable energy solutions. While renewable energy sources like solar and wind are becoming more prevalent, their intermittent nature necessitates efficient energy storage and conversion technologies. Green materials, synthesised from renewable resources and characterised by low environmental impact, are emerging as key players in this transition.

Green Materials for Energy Storage:

1. Batteries:

- Organic polymers: Bio-based polymers like lignin and cellulose are being explored for electrodes and electrolytes due to their abundance, sustainability, and relatively high capacity.
- Carbon nanomaterials: Graphene, carbon nanotubes, and biomass-derived carbon composites offer enhanced conductivity, cycle life, and energy density for both lithium-ion and sodium-ion batteries.
- Metal oxides and phosphates: Abundant and environmentally benign elements like iron, manganese, and sodium are being utilised in high-performance cathodes to achieve lower cost and environmental burden compared to traditional cobalt-based materials.

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2. Supercapacitors:

- Metal-organic frameworks (MOFs): These highly porous and tunable materials derived from organic ligands and metal ions deliver exceptional energy density and power density compared to conventional carbon electrodes.
- Hydrogel electrolytes: Biocompatible and biodegradable hydrogels based on cellulose, alginates, and other natural polymers offer flexibility, safety, and improved ionic conductivity.
- Electrodeposited metal oxides: Green synthesis of metal oxides like RuO₂ and MnO₂ directly on substrates allows for high surface area, low-cost, and binder-free electrodes with excellent capacitance.

Green Materials for Energy Conversion:

1. Solar Cells:

- Organic photovoltaics (OPVs): Conjugated polymers derived from biomass offer lightweight, flexible, and low-cost solar cells, although their efficiency still needs improvement.
- Perovskite solar cells: Lead-free perovskite materials synthesised using green solvents and fabrication processes show promising efficiency and scalability potential.
- Quantum dots and nanorods: Green-synthesised semiconductor nanomaterials like CdSe and ZnS exhibit efficient light absorption and offer flexibility for device design.

2. Fuel Cells:

- Biocatalysts: Enzymes and microbial fuel cells offer sustainable and efficient conversion of biomass-derived fuels like hydrogen and methanol into electricity.
- Electrocatalysts: Green synthesis of platinum-free catalysts based on iron, nickel, and cobalt is crucial for reducing the cost and environmental impact of fuel cells.
- Membranes: Nafion alternatives derived from renewable polymers like sulfonated poly(ether ether ketone) (SPEEK) offer high proton conductivity and improved durability for fuel cell operation.

Challenges and Future Directions:

Despite the remarkable progress, green materials for energy storage and conversion face various challenges:

- Performance limitations: While some green materials show promise, their overall efficiency and stability often lag behind conventional materials.
- Scalability and cost-effectiveness: Scaling up green synthesis processes and reducing the cost of these materials are crucial for widespread adoption.
- Standardisation and life cycle assessment: Robust standards and life cycle analyses are needed to ensure the true environmental sustainability of green materials.

Future research should focus on:

- Developing novel green materials with superior performance and stability.
- Optimising synthesis processes for scalability and cost reduction.
- Exploring multi-functional materials that combine multiple functionalities for improved device performance.
- Developing integrated systems and addressing the techno-economic feasibility of green energy technologies.

Conclusion:

Green materials hold immense potential for revolutionising energy storage and conversion towards a sustainable future. By addressing the existing challenges and fostering collaborative research and development efforts, we can unlock the true power of these innovative materials and create a cleaner and more secure energy landscape.

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PGC-004

CHEMICAL ANALYSIS OF GROUND WATER OF NAWALGARH, JAUNJHUNU**RAJASTHAN****CHETAN DADHEECH**

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ABSTRACT

The chemical analysis of ground water quality of Nawalgarh, Jaunjhunu in Rajasthan is presented. It is important from this point of view to observe the suitability of water for safe drinking and irrigation. The different parameters measured are pH, conductivity, TDS, calcium, magnesium, total hardness, COD, alkalinity, Cl⁻, F⁻, PO₄(3⁻), Na⁺, K⁺, SO₄(2⁻), NO₃⁻, Cd²⁺, Pb²⁺ and Fe²⁺. From the observed data it is found that parameters like conductivity, TDS, alkalinity, F⁻ have high values in this area whereas other parameters are approximately within the limits or below limit.



INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES

ILS-001

VOICES UNVEILED: LANGUAGE DYNAMICS AND LITERARY EXPRESSIONS IN THE DISCOURSE OF DISABILITY

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ABSTRACT

The present paper delves into the intricate relationship between language, disability, and literature. This research explores the multifaceted ways in which language shapes societal perceptions of disability and how literature serves as a transformative medium for expressing the diverse experiences within the disability community. Beginning with an examination of historical contexts, the study traces the evolution of linguistic representations of disability, unveiling the power dynamics embedded in language choices and their impact on constructing narratives. The paper critically analyzes a range of literary works, both classic and contemporary, investigating how authors and characters contribute to reshaping perceptions of disability. It explores the dual role of literature as a reflective mirror of societal attitudes and a catalyst for change, challenging stereotypes and amplifying voices often marginalized within the discourse. Moreover, the study delves into the challenges of linguistic accessibility in literature, emphasizing the barriers faced by individuals with diverse communication needs. It highlights the role of technology in fostering linguistic inclusivity, examining the impact of assistive technologies and accessible formats in ensuring equal access to literary expressions. “Voices Unveiled” contributes to the ongoing discourse on language, disability, and literature by providing insights into the potential of linguistic representation to empower individuals with disabilities and foster a more inclusive literary landscape. The findings offer a foundation for further research, encouraging continued exploration of the dynamic interplay between language dynamics and literary expressions in shaping a more equitable and diverse society.

KEYWORDS: Language, Disability, Literature

ILS-002

INDIAN ENGLISH POETRY: SPIRITUAL QUEST AND SUFFERINGS OF MAN**MR. PRAMOD KUMAR SAINI**

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ABSTRACT

Indian poetry in English began in Bengal, the province in which the British first gained a stronghold. In addition, poetry was largely an urban phenomenon centered in Calcutta. Infact, for the first fifty years, it was confined entirely to a few Bengali families who were residents of the city. Then, gradually it moved to other urban centers such as Madras and Bombay; even today, Indian poetry in English remains largely urban. Moreover, because English was an elite language in India, Indian poets in English came from the upper classes and castes. Indian English poetry had its dark and bright areas of growth since the beginning of nineteenth century, a period of uncertain social and political conditions it was as observed earlier. If one recapitulates social, economic and political scenario and the measured but definite emergence of English domination, it would reveal new aspects of development of poetry. Poetry in initial years appears restrained and speaks of unequalled grace and chasteness in idiom. Spiritualism is often considered to be the core of Indian culture and as such it has found a very prominent place in Indian English poetry, particularly in the Pre- Independence era. The basic ideas of the chief scriptures and the fundamental principles of Indian spiritual tradition found representation in the poems of this period. Poetry is the expression of human life from times eternal. India in fact has a long tradition of arts and poetry from ages. Colonialism gave a new language, English for the expression of Indians.

Keywords: Language, Political scenario, English domination, Indian culture, Indian spiritual tradition.

ILS-003

USE OF HUMOR IN R.K. NARAYAN’S NOVEL

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ABSTRACT

Humour is a state of mind that has the ability to make people laugh. Humor and wit identify the comic species. Wit is the mental faculty of intelligence. In his novels, Narayan employs wit to produce humour. It is possible to understand the sociological interpretations of humour in R. K. Narayan's works for his ideas are based on in-depth research and offer several viewpoints on literary interpretations. He uses critical analysis to build social order, acceptance, and transformation through making fun of human conditions, interactions, and cultures. Humor is a sort of art, and people's acceptance of humour depends on a variety of sociological circumstances. Humor improves a person's physical and psychological health. It is an amusing intellectual experience that makes people laugh. Narayan's writings, which are fictionalized, portray the peculiarities and foibles of modern Indian life. They have a genuinely sarcastic quality. Comedy is a sort of art that helps people understand the evil that exists in their society. R. K. Narayan uses the genre of comedy to combat corruption in society. To demonstrate to his viewers the contradiction present in Indian culture, he uses regular people from the community as his protagonists. Indian philosophy is heavily infused in his writings. A discussion of the sociological interpretations of humour that may be found in many contexts, descriptions, narratives, and dialogues that enhance and advance human life is attempted.

Keywords: Humour • Perception • Sociological evolution • Cognitive experience • Irony

ILS-004

KING LEAR AS A TRAGEDY OF SPIRITUAL REGENERATION

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ABSTRACT

King Lear is the story of sin, suffering, realization, redemption and regeneration of King Lear. Doctor Faustus is by and large a Morality Play. It has several elements which were found in a typical morality drama. We have here the Chorus both at the beginning and at the end. Its purpose is to expound the crime and punishment of Dr. Faustus. When the play starts, the Chorus tells us how Dr. Faustus is swollen with the cunning of a self-deceit and is abandoning heavenly matters of theology for the devilish exercise of necromancy. He is thus preparing himself to eat the forbidden fruit. His sin is the same as of Adam who fell from heaven by defying the laws of God. For this moral aberration Faustus will lose his soul and suffer perpetual damnation in hell. The inclusion of The Seven Deadly Sins in the play is reminiscent of the morality play. In Doctor Faustus, the Seven Deadly Sins appear as the accomplices of the Devil. Good and Bad Angels represent God and Devil in a morality play. They also signify the true and false conscience of an individual. The Good Angel takes the side of the higher self of man. The Bad Angel encourages his baser self. The one leads to heaven, the other to hell. In Doctor Faustus, the Good Angel urges the hero to leave the execrable art of necromancy and think of heaven and heavenly things. He also advises him to trust in prayer, repentance and contrition as the means to enter heaven. The Devil in the play plays the same role as Satan in Paradise Lost. He instigates Faustus to eat the fruit of forbidden tree of knowledge. Faustus accepts his instigation because his own mind is weak. He bids adieu to divinity and declares that he will study the metaphysics of magicians. His belief is that necromantic books are heavenly and there is a world of profit, delight, power, honour and omnipotence in the practice of the black art. He exclaims that a sound magician is a mighty god.

Keywords: Morality Play, Devilish Exercise, The Seven Deadly Sins, Necromantic Books.

ILS-005

PLOT IS THE SOUL OF A TRAGEDY

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ABSTRACT

Aristotle has mentioned six formative or constituent elements of a tragedy and of these elements he considers the plot as the most important. But tragedy, according to Aristotle, is not an imitation of men, but of men in action. Action implies a process, the process of change from prosperity to adversity and every such action is made up of a number of events and incidents. Plot is the organisation of the incidents and events which make up the action of a tragedy. Furthermore, in the Aristotelian sense action is not a purely external act, but it is also an inward process, the expression of a man's inner self, his thoughts and emotions, in short, his mental processes, which are revealed in outward action. In drama, the characters are not described; they enact their own story and so reveal themselves. Unlike an epic, Drama is performance, because we know the characters from their performance before our eyes, and not from what we are told about them. In short, plot contains the kernel of that action which is the object of a tragedy to represent. It is the plot which shows a character passing from prosperity to adversity, as a result of his own actions. It includes outward events as well as the motives and mental processes which determine those events. Plot, therefore, is of paramount importance. Obviously, there can be no tragedy without plot. Thus plot brings out character, hence it has primary importance. In life, and so in drama, it is action or plot, which reveals character or the moral nature of a dramatic personage. So, Character can be realised only through plot. Plot is the first necessity of the drama. It is primary while character is secondary. There can be a tragedy without a character, but there can be not tragedy without plot.

Keywords: Tragedy, prosperity, imitation, thoughts and emotions, moral nature.

ILS-006

THE USE OF SUPERNATURAL IN MACBETH

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ABSTRACT

Belief in the supernatural was wide -spread in the age of Shakespeare. Indeed such belief is universal, though the forms it takes differ from age to age. There are superstitions in our own rational age as they were in the so-called superstitious ages of the past. And an artist will be popular if he does not make use of popular beliefs in his artistic creations. Shakespeare was a popular and practical playwright. As such we find in his plays all those mysterious powers of good and evil which go under the names of angels, fairies, ghosts, witches, and other supernatural agents. The supernatural plays a very important role in Macbeth. In fact, it is an integral part of the play. Shakespeare, no doubt, introduces it not only to satisfy the popular demand of the audience of his day. He goes much further and informs the supernatural with moral and psychological significance which makes it infinitely more interesting. He introduces supernatural agencies, such as the witches and the ghost of Banquo, in order to impart mystery and spiritual significance to human action. In other words Shakespeare uses them artistically. The supernatural machinery in Macbeth mainly consists of the witches, the ghost of Banquo, and some other supernatural happening especially on the day of Duncan's murder. The Witches in Macbeth seem to have a character of their own. They are ugly, disgusting, and horrible in appearance. They are nameless and sexless though they are referred to as "weird sisters". They seem to be women but they are possessing beards. In outward form they are lean and thin, skeleton-like, with melancholy faces, and clad in wild attire. Their activities are supposed to be powerful and malignant. They are agents of Satan, the embodiment of all that is evil in the universe. They take fiendish delight in preparing special charms by using horrid ingredients. They can transform themselves into all kinds of shapes; they can ride tempests, sink ships, create thunderstorms, and destroy life at will. They have a good grasp of the true nature of the Witches.

Thus the supernatural in Macbeth has been used by the dramatist as a sort of comment on, and a fulfillment of, the natural human action of the tragedy. Herein lies the originality of Shakespeare's use of the supernatural. Shakespeare makes it abundantly clear that the man is a free agent, in spite of the greatest pressure of the circumstance that may play havoc with his capacity of taking decisions in critical moments of his life. He is free to choose between good and evil and shape his destiny accordingly.

Keywords: Supernatural elements, Superstitious Ages, Witches, Natural Human Action.

ILS-007

BACON IS THE BLEND OF PHILOSOPHY MORALIZING AND WORLDLY WISDOM

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ABSTRACT

There is no doubt of it; Bacon's essays are a treasure house of worldly wisdom. Worldly wisdom means the kind of wisdom that is necessary for achieving worldly success. Worldly wisdom does not imply any deep philosophy or any ideal morality. It simply means the art or the technique that a man should use to achieve success in his life. Bacon's essays reflect such wisdom. With the help of his essays, Bacon teaches us the art of how to get on in this world, how to become rich, how to rise to high positions, how to use one's power to get good results, how to gain influence etc.

It is true that Bacon is a philosopher and a moralist. His essays show his character before us. The values of life are mentioned in his essays which is guidance to the readers. One can get success with the help of such moral laws which are mentioned in his essays. It can be clearly seen in Bacon's essays that he is a philosopher and a moralist. A philosopher is a person who has deep interest in the truth. But a moralist is a person who teaches us the difference between what is right or what is wrong. He urges us to choose the right path only. Bacon's all essays reveal the truth that the man is in relation to the world and Society. So, the subject of each area of common and wild spread interest. He deals with these types of subjects like; of love, of truth, of Revenge, of envy, of adversity, of marriage and single life, of death etc. His essays provide some good advice. They tell us what is right and what is wrong for us. We have to choose among their choices which they reveal. They add to our knowledge.

Keywords: Bacon's essays, ideal morality, moral laws, wild spread interest.

ILS-008

PARADISE LOST AS AN EPIC POEM

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ABSTRACT

Paradise Lost is a work of epic poetry written in 1667. It is considered by many to be John Milton’s magnum opus and one of the greatest poems in the English language. This poem is about how Satan has been cast out of Heaven and is plotting his revenge on God by trying to tempt humans away from following God. John Milton’s poem is written in blank verse, which means that there are no rhyming lines or regular meter.

There are many elements that make Paradise Lost an epic poem. The first and most obvious is use of blank verse. Milton’s grandiose vision of the fall of mankind is truly epic in scope. In addition, the poem features a number of traditional epic elements, such as a divine Muse, an invocation to the reader, and elevated language, use of blank verse, structure of poem, impressive character, Unity of actions indicates Paradise lost as an epic poem.

In Paradise Lost, John Milton sought to tell a story that would be both epic and timeless. In order to achieve this goal, he needed to create a work that was unified in both action and theme. To accomplish this, Milton wove multiple biblical and classical stories into his own narrative. In doing so, he created an epic poem that is both cohesive and exciting.

I found Paradise Lost to be a very interesting and well-written poem. I liked the way that it told the story of the fall of man, and I thought the overall message of the poem was very powerful. I would definitely recommend this poem to anyone who is interested in learning more about the fall of man or in reading an excellent piece of literature.

Keywords: Epic poetry, blank verse, grandiose vision, classical stories.

ILS-009

JOHN DONNE AS A METAPHYSICAL POET**MS. SWATI KUMARI MEENA**

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ABSTRACT

John Donne, the pioneer of this metaphysical school of poetry, and his contemporaries like Andrew Marvell, Henry Vaughan, George Herbert and Richard Crashaw importantly contributed to this new poetic field of metaphysical poetry. John Donne, indeed, is a metaphysical poet but many critics doubt it. It is because Donne's poetry is limited to emotions, whereas in conventional terms, metaphysical poems are long and poetry of metaphysics is about the philosophical system of the universe. Donne's poetry is personal in nature; there is no philosophy in it; if it has any philosophy then it is only of love. On the other hand, many critics defended John Donne. In his eyes, John Donne has created new kind of metaphysical poetry, which has psychological curiosity and it is based on personal experiences. Thereby, he considers John Donne a metaphysical poet. As a poet of love, too, Donne is a Metaphysical poet. For him love is not physical but spiritual. Thus it can be said that Donne plunged deep in Metaphysical pursuits. His selection of subject matter, his treatment, his diction and style prove him to be a true and great metaphysical poet.

Keywords: Pioneer, metaphysical poet, Donne's poetry, Psychological curiosity.

ILS-010

**PATRIARCHY VS. FEMININITY : CHALLENGING ARCHETYPAL ROLES IN
PALACE OF ILLUSION BY CHITRA BANERJEE DIVAKARUNI**

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ABSTRACT

Palace of Illusion by Chitra Banerjee Divakaruni challenges the archetypal roles assigned by the traditional society. This novel is a retelling of Mahabharata from Draupadi’s point of view. She represents a woman confronting with patriarchal society to establish her identity. In an era, when women were regarded mere decorative items, Draupadi defied the conventional roles allotted to women by the male dominated society. The present paper aims to discuss Feminist Theory along with tradition vs. modernity, myths, and archetypal theory. The writer presents an innovative theme in a traditional story. In this well known story, the reader does not only read about the Great War between the Kauravas and Pandavas, but also about the role of Draupadi in causing this war. She is the spokesperson in this novel and always proves her actions as legitimate. Her character is distinguished from other women characters because she is strong-minded and does whatever determines to do. In a conventional epoch, Draupadi is being presented as a modern woman who is regarded as equal to man. The old myths and archetypes have been questioned by the writer to make the character of Draupadi Supreme. Thus, the present paper tries to search some interesting issues and themes in the famous novel by one of the greatest Indian Diaspora Writers.

Key words – feminism, patriarchy, modernity, identity

ILS-011

ARTIFICIAL INTELLIGENCE AND LITERATURE

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ABSTRACT:

Marvel's influence on popular culture is unparalleled, and its embrace of emerging technologies, including artificial intelligence, is reshaping the entertainment landscape. This research paper explores the intersection of Marvel entertainment and the evolving landscape of artificial intelligence (AI) and digital media. Marvel, a powerhouse in the entertainment industry, has been at the forefront of integrating cutting-edge technologies into its storytelling and production processes. This paper investigates how AI technologies are shaping Marvel narratives, character design, filmmaking, and audience engagement, thereby contributing to the broader discourse on the symbiotic relationship between the entertainment industry and technological innovation. CGI and Visual Effects Investigating the role of AI in the development of realistic computer-generated imagery (CGI) and special effects, enhancing the visual spectacle of Marvel films. An exploration of how AI technologies contribute to the creation and evolution of Marvel characters, including the use of algorithms for character design, personality development, and storyline generation.

Keyword: Artificial Intelligence ,Marvel narratives , global audience.

ILS-012

Use of Humor in R.K. Narayan’s Novel

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ABSTRACT

Humour is a state of mind that has the ability to make people laugh. Humor and wit identify the comic species. Wit is the mental faculty of intelligence. In his novels, Narayan employs wit to produce humour. It is possible to understand the sociological interpretations of humour in R. K. Narayan's works for his ideas are based on in-depth research and offer several viewpoints on literary interpretations. He uses critical analysis to build social order, acceptance, and transformation through making fun of human conditions, interactions, and cultures. Humor is a sort of art, and people's acceptance of humour depends on a variety of sociological circumstances. Humor improves a person's physical and psychological health. It is an amusing intellectual experience that makes people laugh. Narayan's writings, which are fictionalized, portray the peculiarities and foibles of modern Indian life. They have a genuinely sarcastic quality. Comedy is a sort of art that helps people understand the evil that exists in their society. R. K. Narayan uses the genre of comedy to combat corruption in society. To demonstrate to his viewers the contradiction present in Indian culture, he uses regular people from the community as his protagonists. Indian philosophy is heavily infused in his writings. A discussion of the sociological interpretations of humour that may be found in many contexts, descriptions, narratives, and dialogues that enhance and advance human life is attempted.

Keywords: Humour • Perception • Sociological evolution • Cognitive experience • Irony

Introduction

R.K. Narayan is one of the most well-known and popular Indian novelists. His tales emphasised the humour and vitality of everyday life and were based on a caring humanism. Using the English literary idiom, Narayan conjures diction of exceptional freshness and rare creativity. He was a vivid and dynamic author who uses humour and simplicity to explain human behavior [1]. RK Narayan stood shortened to R. K. Narayan, on Graham Greene’s advice. Narayan published works up until the age of eighty-seven, wrote for more than fifty years, and lived to be ninety-five. He wrote fifteen novels, five collections of short stories, a number of travelogues and non-fiction collections, English translations of Indian epics, and the memoirs “My Days ”. However, it is not Narayan's prolific output, nor the currency of his content or the lack of either-that places him among the finest storytellers of modern English [2].

Literature Review

R. K. Narayan was born on 10 Oct, 1906 in Madras, South India. He got his education at Maharaja's college in Mysore where his father was a teacher. He did not become a successful writer right away, like many successful people. His father was a teacher at Maharaja's college, now known as collegiate high school, in Mysore, where RK Narayayn received his schooling education. He did not become a successful writer right away, like many successful people. With the little money he received from writing tales and essays for several newspapers, he struggled to make a life. But all changed when renowned British author Graham Greene read the first draught of his Malgudi-set novel *Swami and friends* [3]. With the imaginary help of Graham Greene, it was published, and the author never looked back, enthralling millions of readers all over the world. Together, he produced 29 novels based on Malgudi and a large number of short stories. His novel 'The Guide' won him the prestigious Sahitya Academi Award first time given to a book in English. R. K. Narayan created an imaginary world that doesn't exist yet resonates with folks who read English because it is so perfectly genuine. His books have endured in popularity for many years because of their subdued, comforting appeal. Additionally, numerous American universities include his writing in their literature curricula [4]. The list of Narayan's achievements is never ending. He won many awards during the course of his literary career. His first major award was the Sahitya Academi Award (1958) for 'The Guide'. He won the Film fare award for best story when the book was adapted into a movie. He was awarded the Padma Bhushan in 1964 as part of the republic day honors. He received the AC Benson Medal in 1980 from the (British) royal society of literature, where he had an honorary membership. He received the honorary membership in the American academy of arts and letters in 1982. Despite numerous nominations, he never won the Nobel prize for literature. Honorary doctorates were also awarded by Delhi university, the university of Mysore, and the university of Leeds in 1967, 1976, and 1977, respectively (1973). In recognition of his contributions to English literature, Narayan received a nomination at the end of his career to serve in the upper chamber of the Indian parliament for a six-years term beginning in 1989. He received the Padma Vibhushan, India's second-highest civilian honour, in 2000, a year before his passing. Through his writing, Narayan was most successful in opening up India to the outside world. Along with Raja Rao and Mulk Raj Anand, he is regarded as one of the three top writers of Indian literature in the English language. One of the greatest novels India has ever produced; he gave his readers something to look forward to with Malgudi and its inhabitants. He did a convincing and experimental job of bringing small town India to his viewers. Malgudi was not simply a made-up Indian village; it was also alive with people, every one of whom had their own quirks and personalities, making the situation feel as familiar to the reader as if it were their own neighborhood regarding him [5].

Discussion

A sociological perspective on the humorist R.K. Narayan: "It was Monday morning, and Swaminathan was reluctant to open his eyes. In the calendar, he thought Monday was particularly terrible. (1944, p.1) the reluctance of a school boy to attend school brings out the humor in Narayan's writings. His creative mind uses life's truths to reveal humour. Characters are quite humorous with the intention of painting a fun picture with their language. All of the

characters have witty, humorous personalities that give readers a lot of enjoyment. Narayan's comedy is honourable, knowledgeable, and mature because of his in-depth research, broad knowledge, and minute perceptions of ephemeral life [6].

Narayan writes in his 1935 first book *Swami and Friends*, "and yet you are roving about the home like an unbound donkey". Swami's exams were about to start from next day. He makes a list of things to buy for the examination and gives it to his father. His father gets very angry and scolds him for wandering like a donkey in the house and not being serious about studies.

The word "donkey" used by Narayan as a metaphor makes the reader laugh as we all know the qualities of a donkey. Swami is being compared to a lazy donkey that has no work to perform. Narayan's humor provides an important ingredient in his otherwise strong indictment and criticism of the contemporary society and its many facets, oddities in characters. His mild satire provokes people, to think and change towards the betterment of life. His stories like 'Swami and friends' have humorous details which provoke emotion and enlighten experience.

Father of Swami reads an article about a brave young man who confronts a tiger. He tells Swami to learn something from the article which leads to an argument between them. Father challenges Swami to demonstrate his bravery by spending the night alone in his workplace [7].

When Swami was sleeping at his father's office, he felt lonely. His imagination of ghosts and devils grew, and his heart beat faster. He had a night. The psychological effect of an imagination of tiger and trauma faced by Swami tickles the funny bone of the reader. Narayan has the innate quality of going in-depth of the childhood experience and puts in with a touch of humor.

Swami ducks beneath the bench after spotting a shadow in the space. He bites into the flesh of the thief and thus becomes a hero overnight; he is praised by the police and teachers. "You saw how beastly our headmaster was. You would have punched him in the face if you had been in my position. When Rajan attended Board High School, he came to see Swami. Swami receives a spanking from the headmistress for smashing the ventilator window in his office. Everyone who was wearing a headgear made of foreign

fabric took it off and burned it. Swami pursues them on their hartal and throws stones through the school's windows. The following day, the Headmaster summoned Swami and reprimanded him. He quickly leaves the structure, muttering that it is filthy. Swami states that if he had been in Rajam's shoes during this encounter, Rajam would have struck him in the face [8].

The situation reflects the strong nationalism among the people of Malgudi, and they are united to protest against the British Rule in India by boycotting wearing caps made up of foreign cloth. Swami wants to gain sympathy from his friend Rajam. Amusement arises from false claims upon our sympathy which ends in laughter. Because of his harsh ways, Swami refers to his Headmaster as a beast. Swami's character is full of the innocence of a child. It is natural for any human being to revolt on being punished, but Swami being a student had to suppress his anger.

In the novel the painter of signs Narayan tells us about a painter. Raman was a voracious reader of books. He delves into Menaster's reading philosophy, calling him a beast for his rigid conduct. Readers laugh at the various bookworm characters. "It's not like folks are terrified of kids these days. In those days, the house was full "added Aunt. At that time, according to Aunt, the house

was packed. The reference to the past by Raman's aunt refers to a time when the house was crowded with kids who were respectful to their elders. Nowadays, a young child would intimidate their parents and demand money from them. The reader giggles at the role-reversal between children and their parents. The reader laughs along with the population control message. Raman believes that bachelors should receive a bonus since by staying single; they help to reduce population growth. The irony with which Narayan presents the issue of population expansion makes the reader chuckle. Where long lines of people may be seen battling for food, clothing, and shelter. Narayan, Narayan uses animal characters to create humour in his books, such as "a tiger for malgudi." In this book, the tiger speaks for itself. "The Head Masters' room was the scene. I was convinced and saw a very respectable man leaping upon his table and climbing into an attic". In order to rest, the tiger goes into the head master's room. The tiger saw a man climbing up a table to get to the attic, where he felt safe. According to Narayan, head master is a respectable man in a position of authorities who does absurd things like leap on the table and hides in the attic to save his life. The comic character of a chatty man is used by Narayan to amuse the reader in the 1986 book "The Talkative Man." The wife of Dr. Rann was looking for her husband. When she arrives in Malgudi, she encounters a chatty fellow and tells him everything. The chatty man worries that Mrs. Rann would strip him of his title. In this novel 'The World of Nagaraj' Narayan says that misunderstanding between Gopu and his son Tim. The technique of using absurdity in the character of Nagaraj, when he is talking to himself loudly produces amusement.

Conclusion

Narayan details his grandma's life in the 1992 book "the grandmothers tale." Bala and Viswa were wed while they were young. When Viswa visited his wife, his neighbor would make fun of him. Readers are amused by Viswa's desire to see his wife. R.K. Narayan collected his hilarious articles into the 1956 book next Sunday. Article 'radio license': Narayan was passing through the last grace period allowed for renewing his radio license. To renew his radio license, he had to complete a form. The author says that it always happens when one has to write slowly in block letters. He ruined the form as a result, and he was too afraid to ask the officer for another one. In his 1974 book "The Reluctant Guru," Narayan wrote a few amusing essays. The fundamental human instinct of fear is constantly present in "The Reluctant Guru." This essay makes me giggle because of Narayan's dread as an emotion. The subject of a reporter's interview with Narayan was afterlife, which also happened to be the subject of his book "The English teacher." He asked Narayan if he believed in an afterlife and if he could converse with spirits, see ghosts, or practice spirituality. Narayan responded by stating that he writes fiction. The book "a writer's dream" contains some humorous sections. Narayan chose unusual topics for his articles and attempts to make them humorous in the essay "pick pockets." He respects burglars because they are good, peaceful, and harmless. The struggle between quietist renunciation and social action that Narayan's novel seems to address has precedents in traditional Hindu storytelling. After revisiting Narayan's works several years later, Naipaul explains how he initially mistook them for holy texts and only afterwards realized that they were more than just social comedy.

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INTERNATIONAL GROUP OF CONFERENCES: ARAVALLI, 16th to 18th December 2023

ONLINE FACULTY MEMBER PRESENTATION (17th Dec 2023)

17 Dec 2023 (Time: 9.30 AM) at webex.com

Meeting link:

<https://rerfitwing.webex.com/rerfitwing/j.php?MTID=ma1de661bd445c05e4e7127100a230b81>

Meeting number: 2513 801 1979, Meeting password: YQhp4Md3NZ9

S. No	Name	College Name	Email	Cof	Paper
7	Dr Jeevesh Sharma	Jaipur-Ajmer Express Highway, Dehmi Kalan, Near GVK Toll Plaza, Jaipur, Rajasthan	jeeveshmanipal17@gmail.com	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	CSR Audit An Evaluation of Corporate Social Responsibility Practices
8	Dr Swati Sharma	Jaipur	swati.coer18@gmail.com	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	Navigating Growth: A Strategic Analysis of Challenges and Opportunities for Small and Medium-sized Enterprises (SMEs) in the Contemporary Business Landscape.
18	Mr. Abdullah Qureshi	Jai Narain Vyas University	abdullahqureshi120291@gmail.com	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	Decentralization and Local Governance in India: Assessing the Panchayati Raj System
31	Mrs Bindiya verma	Ramu ka baas ,jaipur road ,sakar	bindiyav81@gmail.com	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS	Corporate social responsibility

				RESEARCH AND SOCIAL SCIENCE	
38	Ms. Anjana R Nair	Indian Institute of Technology Jodhpur	nair.3@iitj.ac.in	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	#Kare Jo Unnat: Exploration for Localization of Sustainable Development Goals
3	ANIL RAJ	Patliputra University, Patna	anilraj470@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Type of Optimization Model Using Stochastic Linear Programming
9	Dr Vikas Tailor	Pilani, Jhunjhunu, Rajasthan	vikaskachhot@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Mathematical Model of Suspended Particles on Micropolar Fluid Flow
11	Dr. Himanshu	New York, USA	himanshu720@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Friedreich's Ataxia: Potential Treatments Targeting Repressor Regions and Transcription Factors
12	Dr. Jitender Kumar	Weizmann institute of Science Israel	jitender.kumar@weizmann.ac.il	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	NV Center in Diamond for Quantum Technology

17	Mr Vijay Kumar	R B S College, Agra	vijaykumar.ibs@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Effect of 120 MeV Au ion irradiations on nanocrystalline TiO ₂ Thin films
22	Mr. Dipesh Bhardwaj	Sobhasaria Group of Institutions, NH-52, Gokulpura, Sikar-332021 (Rajasthan)	dipeshbhardwaj572@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Analyzing the Complexity of Linear Programming Problems
23	MR. KAMLESH KUMAR SAINI	SHRI JJT UNIVERSITY, JHUNJ HUNU,	Kamleshpilani@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Fractional Derivative Operator
24	Mr. PATEL RAM SUTHAR	Associate Professor, Dr. Bhimrao Ambedkar Government College, Sriganganagar-335001	prsuthara@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Mg-Cu-Y-Gd BMGs and their Poisson ratio
25	Mr. Pradeep Kumar Sharma	Vivek College of Education Bijnor, (U.P)	pk14196@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Relation between Model and Probability
26	Mr. SANTOSH KUMAR KUNDARA	Sw. PNKS GOVT. PG COLLEGE, DAUSA (RAJASTHAN)	8559969229	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE,	

				MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
40	Ms. BEMINAR S	MALANKARA CATHOLIC COLLEGE, MARIAGIRI	beminars1997@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Structural, Vibrational Spectroscopic (FT-IR, FT-Raman) and Electronic Investigations on Cadmium Chloride Adipic Acid
43	Ms. Payal Swami	Nawalgarh, Jhunjhunu (Raj)	payalswami95@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Quantum Horizons: Elevating Rocket Science through Transformative Computing
50	RAM NIWAS MEGHWAL	GOVERNMENT COLLEGE SUJANGARH	meghwalramniwas@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Fractional integral formulas involving H-Function
52	RESHMA	PDSU SIKAR	reshmamahich55@gmail.com	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	DISCOIDAL CAPACITY OF SERUM
51	Ravindra Goswami	Department of Botany, R.B.S. College, Agra	ravindragoswami2301	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE,	NATURAL BIOCIDES TO PREVENT MICROBIAL GROWTH ON CULTURAL HERITAGE

				INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	
5	Dr Deepak Dixit	Alabbar School of Management, Raffles University, Neemrana	deepak.dixit@rafflesuniversity.edu.in	INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT	Neo-Banking: Is It Worth Losing the Traditional Banking
15	Harshita samota	Banasthali vidyapeeth	8295515184	INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT	
19	Mr. Abhimanyu Singh Kulhari	Dr. K N modi university Newai	abhimanyusinghk@gmail.com	INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT	The Importance of Deep Learning in the Field of Object Detection
34	Mrs. Shiwangi Kulhari	K.N. Modi University	shiwangikulhari@gmail.com	INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT	The Significance of Deep Learning in the Context of Path Planning
35	Mrs. Sonali Tyagi	Manipal University, Jaipur	sonalityagi1206@gmail.com	INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT	Investigations in metaheuristic techniques with application to data mining
1	Adesh	Bhagwant University Ajmer	adeshmahalwar@gmail.com	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	

2	ANIL KUMAR	UNIVERSITY OF RAJASTHAN	chatuevedi.anil193@gmail.com	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	swami vivkanand ka shiksha darshan or ratriya shiksha niti - 2020
16	Jyoti Gupta	KMCL UNIVERSITY	Jyoti Gupta	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	A study of digital competence of female teachers working in secondary schools
30	Mrs Ararti Das	I A S E University Sardarshahar Churu	8233370788	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	
37	Ms. Adesh	Bhagwant University, Ajmer	adeshmahalwar@gmail.com	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	To Study the effectiveness of Heartfulness Relaxation Techniques on Stress Level of Primary School Teachers
39	Ms. ARCHANA SHARMA	Institute of Advanced Studies in Education, Gandhi Vidya Mandir, Sardarshahar (Churu) Pin code - 331403	Vanshikachotiyakolida25@gmail.com	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	श्री अरविन्द घोष के शैक्षिक विचारों की वर्तमान युग में प्रासंगिकता
4	Chiranjilal Meena	GOVERNMENT COLLEGE TONK	clmeena82@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	The Environmental Impact of Thin Films : A Comprehensive Analysis
6	Dr Jayana Upadhyay Vyas	1/73 Housing Board Colony Shivaji Nagar Dungarpur Rajasthan 314001	drjayanaupadhyay@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Medicinal wealth Use of Plants Biodiversity from Aravali Hills, Rajasthan

10	Dr. Chandra Sekhar Kapoor	RNDC, Govind Guru Tribal University, Banswara, Rajasthan, India	drcskapoor@yahoo.co.in	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Medicinal wealth Use of Plants Biodiversity from Aravali Hills, Rajasthan
14	Dr. Soni Shankhwar	Institute of asthma and allergy prevention, Helmholtz Munich, Germany	sonikk27@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	RIBEYE B domain is important for the assembly of ribbon in ribbon synapses of RIBEYE knock-in mice
20	Mr. Ankit Kumar Jangid	Government College, Kota University of Kota, Kota	ankitjangid7742@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Comparative Analysis of Bio-Culturing of Fresh Water Algae Spirogyra communis, Chlorella vulgaris and Spirulina platensis
27	Mr. Sonu Khayalia	Govt Lohia PG college Churu	9649437171	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	
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33	Mrs. Ramandeep 6	Hans Raj Mahila Mahavidyalaya Jalandhar	ramanbothmv@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	
36	Ms. Aachal Lonhare (Assistant Professor)	Talpuri International Colony, Bhilai (Chhattisgarh)	aachal.lonhare@rungha.ac.in	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Use of lipid polymer hybrid nanoparticle as novel drug delivery

				SCIENCE	system in cancer treatment
41	Ms. Manisha Meena	Ram kalyan sharma thekedar , Mahadewali civil lines tonk	manishamina963@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	THE ROLE OF NANO MATERIAL IN ENVIRONMENT SUSTAINABILITY
45	Ms. Roopa. C	Kuvempu University	roopac463@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	DIVERSITY AND DISTRIBUTION OF MOTH FAUNA IN AND AROUND KUVEMPU UNIVERSITY CAMPUS, SHIVAMOGGA, KARNATAKA
46	Ms. Sadhana Rai	Nims University Rajasthan Jaipur	sadhanaraigzp4040@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	"Seasonal Dynamics of Endophytic Fungal Communities in Psoralea corylifolia L. and exploring their Antimicrobial Potential"
47	Ms. SHAIK KOTHWAL RUQIAH	NIMS UNIVERSITY	ruqiah.sk123@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Paper Title : TREATMENT OF OAT CELL LUNG CANCER BY USING VITIS BASED GOLD NANOPARTICLE DRUG LEADS
48	Ms. Deepa verma	Government College Jamwaramgarh (Jaipur)	deepa.verma2577@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT	ECOLOGICAL IMPORTANCE OF BIRDS

				T AND LIFE SCIENCE	
49	Ms.Ramandeep Kaur	Hans Raj Mahila Mahavidyalaya Jalandhar City	ramanbothmv@gmail.com	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Biodiesel production from the microalga Chlorella pyrenoidosa to use it as green fuel.
21	Mr. Deep Ratilal Gaudani	Indian Institute of Technology, Jodhpur	m22ci058@iitj.ac.in	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES	The Carbon Footprint Calculations of IIT Jodhpur Campus for year 2019-2020
13	Dr. Ranjana Agarwal	2k3, Housing board colony ,shastri nagar, Ajmer, Rajasthan	ranjana85agarwal@gmail.com	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Patriarchy VS. Femininity: Challenging Archetypal Roles in Palace of Illusion by Chitra Banerjee Divakaruni from Ranjan a
28	Mr. Sumit Garg	University College, Ghudda (Bathinda) 151001	sumitgarg23@pbi.ac.in	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Voices Unveiled: Language Dynamics and Literary Expressions in the Discourse of Disability
29	Mr. Sumit Garg	University College, Ghudda	9888771170	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	
42	MS. NEHA SRIVASTAVA	K-194/A SECTOR-9 OLD VIJAY NAGAR GHAZIABAD UTTAR PRADESH 201009	nehasri3108@gmail.com	INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY	Antidiabetic activity on herbal plants

44	Ms. Preeti Sharma	Faculty Quarters, Sobhasaria Group of Institutions, Sikar	preetshah7@gmail.com	INTERNATION AL CONFERENCE ON PHARMACEUT ICAL AND GREEN CHEMISTRY	Cestrum nocturnum (raat ki rani): As a green corrosion inhibitor
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INTERNATIONAL GROUP OF CONFERENCES: ARAVALLI, 16th to 18th December 2023
OFFLINE FACULTY MEMBER’S PRESENTATION (17th Dec 2023)

S. No	Name	College Name	Email	Cont No	Mode	Cof	Paper
1	Mr. Sunil Kumar Saini	Seth G.B. Podar College Nawalgarh	Sunilkumarsaini3821@gmail.com	9462093821	Offline	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	Contribution of Bhamashahs in the golden city of Shekhawati, Nawalgarh
2	Mr. Sandeep Kumar Jangir	Seth G.B. Podar College Nawalgarh	Jangirkumarsandee p47@gmail.com	9667127969	Offline	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	E-Commerce in india: current scenario and future prospectus
3	Mr. KRISHN PRATAP MEENA	S.R.R.M. Govt. College, Nawalgarh, Rajasthan.	kpsgdm@gmail.com	9461365665	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Some Properties of Class for the Meromorphic Multivalent Functions
4	Mr. SANTOSH KUMAR KUNDARA	Sw. PNKS GOVT. PG COLLEGE, DAUSA (RAJASTHAN)	santosh.kundara@gmail.com	8559969229	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTA	Electronic and magnetic properties of Mn doped ZnO thin films

						INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
5	Mr. Shankar Lal	Seth G.B. Podar College, Nawalgarh (Raj)	shankar90kmt@gmail.com	964988 8996	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE ALLURE OF LINEAR ALGEBRA AND ITS APPLICATION IN CERTAIN REAL-WORLD
6	Mr. Raju Dadheech	Seth G.B. Podar College, Nawalgarh	rajudadheech21@gmail.com	952969 3499	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
7	Ms. Jyoti Sharma	Sobhasari college, Sikar, Rajasthan.	chottiyarn3@gmail.com	988713 8156	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Advancements in the Finite Element Method for Nonlinear partial differential equations
8	Ms. Poonam Choudhary	Seth G. B. podar college, Nawalgarh	mkpoonamchoudhary@gmail.com	787752 6622	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
9	Ms. Roshan saini	Seth G.B. podar college nawalgarh	roshansaini63750@gmail.com	637509 5290	Offline	INTERNATIONAL CONFERENCE ON	The differential geometry and some potential topics topi

						APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
10	Poonam Saini	Government Science College, Sikar	psaini300391@gmail.com	9680631490	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	STUDY OF CELL CYCLE IN PREPARATION AND TREATMENT OF CANCER
11	Deepak kumar sharma	Seth G.B Podar College Nawalgarh	dks.barwasi@gmail.com	7425959474	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	The Structure of Finite Fields
12	Dr. Anupama	Govt. Science College, Sikar	anupama.sik.1256@gmail.com	9588200700	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	STUDY OF CELL CYCLE IN PREPARATION AND TREATMENT OF CANCER
13	Dr. Vibha Shrivastav	Department of Physics, Shri Kalyan Rajkiya Kanya Mahavidyalaya, Sikar	physics.podarcollge@gmail.com	9694937241	Offline	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS

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14	Meenu	S.R.R.MO RARKA Governme nt College ,Jhunjhun u	Meenu23031994@g mail.com	759711 0766	Offl ine	INTERNATI ONAL CONFERE NCE ON APPLIED SCIENCE, MATHEMA TICS AND COMPUTA TIONAL TECHNIQU E	Certain results for generalized hypergeometric function
15	Mr. Krisha n Kumar	Seth G. B. Podar College, Nawalgarh	krishanjangir151@g mail.com	915024 6431	Offl ine	INTERNATI ONAL CONFERE NCE ON APPLIED SCIENCE, MATHEMA TICS AND COMPUTA TIONAL TECHNIQU E	STUDY OF THERMAL PROPERTIES OF SHIFT HEAVY ION BEAM IRRADIATED POLYCARBONATE/ POLYSTYRENE DOUBLE LAYERED FILMS
16	Mr. Nitin Soni	Sobhasari a College , Sikar	nsoni6789@gmail.c om	946111 1092	Offl ine	INTERNATI ONAL CONFERE NCE ON APPLIED SCIENCE, MATHEMA TICS AND COMPUTA TIONAL TECHNIQU E	The Role of Cryptography Methods in Safeguarding Sensitive Information
17	Mr. Mukes h Kumar Saini	Seth G B Podar College, Nawalgarh	mukeshkumarsaini1 11@gmail.com	070145 69109	Offl ine	INTERNATI ONAL CONFERE NCE ON COMPUTE R SCIENCE AND MANAGEM ENT	Decoding Digital Footprints
18	Pravee n kumar	Seth G.B. Podar T.T. college, Nawalgarh	praveenchirush@g mail.com	953009 3550	Offl ine	INTERNATI ONAL CONFERE NCE ON EDUCATIO	“सेवारत शिक्षक प्रशिक्षण कार्यक्रमाँ में निर्धारित विशिष्ट

						N AND LEARNING	अध्यापन क्षेत्रों के प्रति अध्यापकों की अभिवृत्ति का अध्ययन”
19	PRAVESH KUMAR	SETH G.B. PODAR T.T. COLLEGE , NAWALGARH	kumarpraveshs511@gmail.com	9414668697	Offline	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	nawalgarh ke madymik star ke vidhyarthiyo ki sangyanatamak shaili ka budhi ke sandrabh mai adhayan
20	Dealeep Singh Shekhawat	Assistant professor seth gb podar tt College	daleepsa@gmail.com	9875229999	Offline	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	Bacho mai
21	Dr. Sandhya Sharma	Associate Professor, Jayoti Vidhyapeeth Women's University jaipur Rajasthan	sandhyasharma1903@gmail.com	9166169689	Offline	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	Role of Critical Thinking in Education
22	DURGA BHOJAK	SETH G. B. PODAR T. T. COLLEGE , NAWALGARH	durgasharma935171@gmail.com	9351718399	Offline	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	Ravindranath tagor ke shiksha darshan ki vartman yug mai prasangikata
23	Mr. Vinod Kumawat	Seth Gyaniram Bansidhar Podar College, Nawalgarh	vinodkumawat377@gmail.com	7014615525	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	PHYTOREMEDIATION BY SOME ALGAL SPECIES IN WASTE WATER – A REVIEW IN NAWALGARH REGION
24	Mrs. Pushpa Mourya	Govt. Science College, Sikar (Rajsthan)	pushpamourya3@gmail.com	9694014125	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Study of social behaviour of House sparrow (Passer domesticus)
25	Shyama Didwa	Seth G.B. Podar college,	shyamadidwania1991@gmail.com	7023183019	Offline	INTERNATIONAL CONFERENCE	Study on Tinospora cordifolia ethanomedicinal

	nia	Nawalgarh (Raj.)				NCE ON ENVIRONMENT AND LIFE SCIENCE	plants of Shekhawati region and their biochemical analysis
26	Dr.	Government Science College, Sikar	subhashgora@gmail.com	9413556065	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Importance Of Keratinophilic Fungi
27	Dr. Mukesh Kumar Khichar	Govt. Science College, Sikar, Rajasthan	mkhichar32@gmail.com	8890254933	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Importance of Keratinophilic Fungi
28	Dr. Purushottam Lal	SRRM Govt. College, Jhunjhunu, Rajasthan	bansiwal.guru@gmail.com	7737416521	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Biomass Allocation Strategies in Threatened Plant Species - Blepharis sindica T. Anders
29	Dr. Sarita	Professor	unbeatablesarita@gmail.com	8005775018	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Biodiversity and echolocation capacity of micro bats in Jhunjhunu, Rajasthan
30	Dr. Sunita Singh	Government Science College, Sikar (Rajasthan)	vsingh.sunita@gmail.com	9414983860	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Importance of Keratinophilic Fungi
31	Dr. SUNIT MEEL	Shri Radheyshyam R Morarka Rajkiya Mahavidyalaya Nawalgarh,	meel.sunit@gmail.com	9782730462	Offline	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND	Global Symposium on Environmental Sustainability and Geographical Sciences

		jhunjhunu				GEOGRAPHICAL SCIENCES	
32	Mr. Sudhir Jangir	Seth Gyaniram Bansidhar Podar College, Nawalgarh	sk9772743953@gmail.com	9772743953	Offline	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Use of Humor in R.K. Narayan's Novel
33	Mr. Pramod Kumar Saini	Seth Gyaniram Bansidhar Podar College, Nawalgarh	pk.balan10@gmail.com	9950915585	Offline	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Indian English Poetry: Spiritual Quest and Sufferings of Man
34	Dr. Shivangna Sharma	Govt Science college, Sikar	shivangna.Sharma@gmail.com	8949900477	Offline	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Artificial Intelligence and Literature
35	Ms. Preeti Sharma	Sobhasari College, Sikar	Preetshah7@gmail.com	8742898223	Offline	INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY	Cestrum nocturnum (raat ki rani): As a green corrosion inhibitor
36	Dr. Aruna Kumari	Government Science College, Sikar	apayal88@gmail.com	7891803399	Offline	INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY	Green chemistry: A multidimensional approach for sustainable future
37	Mr. Ambesh Kumar	Seth Gyaniram Bansidhar Podar College, Nawalgarh	ambeshbhandari007@gmail.com	8005506900	Offline	INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY	Green Materials for Energy Storage and Conversion

OFFLINE RESEARCH SCHOLAR/STUDENTS

Name With salutation (Prof./Dr./ Mr./Ms.) for the purpose of certificate	Name of Affiliating Institution / University / College etc.	Mode	Mail Id	Contact Number (WhatsApp Mobile No.)	Register As	Participation In:	Title of Paper/ Abstract. If No, Kindly send your Paper / Abstract before the deadline at zoology.podarcollge@gmail.com and give answer : Nil
Ms. Shraddha	Banasthali Vidyapeeth	Offline	shraddha28021993@gmail.com	63885 62827	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	शिक्षण व अधिगम क्षेत्र में पाठ्यवस्तु प्रबंधन प्रणाली की प्रासंगिकता
Ms. Shalvi Kumari	Banasthali Vidyapeeth, Jaipur, Rajasthan	Offline	salvi.kashyap@gmail.com	87891 87595	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	The Role of Computer Mediated Instructions on the Development of 21st Century Skills
Sonu khayalia	Govt. Lohia pg college Churu	Offline	khayaliasonu@gmail.com	96494 37171	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Feeding behaviour of Black drongo
Himanchal DIXA	IIT Jodhpur MODY	Offline	himanchal.1@iitj.ac.in dikshasingh5944@	88814 18486 77424	Research Scholar/ Students Research	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCE INTERNATIONAL	Temporal water resource assessment for last half decade with the aim of sustainable development of Kota, Rajasthan, India DIETARY

	UNIVERSITY LAXMANGARH SIKAR	ine	gmail.com	29719	h Scholar/Students	TIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	ASSESSMENT OF DIABETES
Ms Anandita Kulhar	National Law University Nagpur	Offline	ananditakulhar@gmail.com	8278632517	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Evolution of Wildlife Laws in India: Past, Present, and Future Perspectives
Ms. Priya	Pandit Deendayal Upadhyaya Shekhawati University, Sikar (Raj.)	Offline	Sangwan.priya007@gmail.com	9461582631	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Cancer Biology
Dr. Sarita	Ph.d.	Offline	unbeatable sarita@gmail.com	8005775018	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Biodiversity and echolocation capacity of micro bats in Jhunjhunu, Rajasthan
Ms. Suman Saini	S.P.C. Govt. College, Ajmer. M.D.S. University, Ajmer	Offline	sumansikar22@gmail.com	9667049094	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	PHYSICO-CHEMICAL PARAMETER OF DOMESTIC WASTE WATER WITH SPECIAL REFERENCE TO BLUE GREEN ALGAE- A REVIEW IN NAWALGARH REGION DISTRICT JHUNJHUNU, RAJASTHAN (INDIA)
Sapana	Sapana kumari	Offline	Sapana kumari	9057336371	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ACCOUN	आजादी पूर्व की राजनैतिक Condition

						TING, BANKING , ECONOM ICS RESEAR CH AND SOCIAL SCIENCE	
Saroj	Saroj kumari	Offl ine	Saroj kumari	63768 77100	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON ENVIRON MENTAL SUSTAIN ABILITY AND GEOGRA PHICAL SCIENCE S	राजस्थान की सिथित व विस्तार
Dharmen dra kumar saini	Seth g b Podar college nawalga rh	Offl ine	dharmendrakatriya 8375@gimal.com	87398 37229	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON ENVIRON MENT AND LIFE SCIENCE	Population of herons
Ms. Itika kachhaw a	Seth G B podar college	Offl ine	Itikasingh490@gm ail.com	91669 04556	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON ENVIRON MENT AND LIFE SCIENCE	Over view of Human Genom Project
Mr. Nitin Kumar dayma	Seth G B poddar college	Offl ine	nitindayma99@gm ail.com	63781 77872	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON COMPUT ER SCIENCE AND MANAGE MENT	Contemporary issues in management business
Sarita kumari	Seth G. B. Podar collage Nawalga rh	Offl ine	Sabalsarita6497@g mail.com	73398 27787	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE	Linear transformation

						MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
Sarita kumari	Seth G. B. Podar collage nawalgarh	Offline	Sabalsarita6497@gmail.com	7339827787	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Linear tranformation
Vanshika Verma	Seth G. B. Podar college Nawalgarh	Offline	vanshikaverma548@gmail.com	9928762111	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE MATHEMATICS AND COMPUTATIONAL TECHNIQUE	Special function
Vipul saini	Seth G. B. Podar college nawalgarh	Offline	Skvipul2004@gmail.com	9785404420	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING ECONOMICS RESEARCH AND SOCIAL SCIENCE	वैश्वीकरण का भारतीय समाज पर प्रभाव
Mr. Himesh Sharma	Seth G.B podar college	Offline	sulochnasharma0510@gmail.com	8829987397	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON COMPUT	Contemporary issues in management of business

						ER SCIENCE AND MANAGE MENT	
Ms. Prachi Sharma	Seth G.B Podar college Nawalga rh	Offl ine	prachisharma1303 02@gmail.com	87428 54670	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE , MATHEM ATICS AND COMPUT ATIONAL TECHNIQ UE	Unlocking the Power of Special Functions: A Guide for Beginners
Mr.Rahul kumar	Seth g.b podar college Nawalga rh jhunjhu nu	Offl ine	rahulkumarsevda12 3@gmail.com	74269 83497	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE , MATHEM ATICS AND COMPUT ATIONAL TECHNIQ UE	The Differential geometry and some potential topics
Vandana kumari	Seth G.B. Podar College Nawalga rh	Offl ine	vk8588506@gmail. com	95714 06551	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE , MATHEM ATICS AND COMPUT ATIONAL TECHNIQ UE	Linear algebra
Mr. Sunil Kumar	Seth G.B. Podar college nawalgh ar, Jhunjhu nu,	Offl ine	Sunildoombra19122 000@gmail.com	73398 26633	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE , MATHEM	The partial differential equation and its application in real world

	Rajasthan					ATICS AND COMPUTATIONAL TECHNIQUE	
Ms. Harshita sharma	Seth G.B. podar college, Nawalgarh	Offline	sharmaharshita56789@gmail.com	7240387411	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS AND COMPUTATIONAL TECHNIQUE	A recognition journey of Measure theory through the length of Intervals.
Ms. Nisha saini	Seth G.B. podar college, Nawalgarh	Offline	nishasaini9448@gmail.com	7737199448	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS AND COMPUTATIONAL TECHNIQUE	A recognition journey of measure theory through the length of intervals.
Mr. Palmendra	Seth G.B. podar college, nawalgarh, jhunjhunu	Offline	palmendra02@gmail.com	8529183602	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS AND COMPUTATIONAL TECHNIQUE	The partial differential equation and it's application's in real world
Mr. Pankaj Kumar	Seth G.B. podar college, Nawalgarh, jhunjhunu	Offline	pankajchuri2001@gmail.com	7627038593	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE	The partial differential equation and it's applications in real world

	u					MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
Mr. Saurabh Mahich	Seth G.B. T.T podar college, Nawalgarh	Offline	saurabhmahich1999@gmail.com	76659 77341	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING	Impact of NEP in child education
Anju kumari	Seth G.b.podar college nawalgarh	Offline	Anju kumari	96539 83144	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING , ECONOMICS RESEARCH AND SOCIAL SCIENCE	राजस्थान की वर्तमान Condition
Mr. Lokesh Kumar	Seth ganiram bansidhar Podar collage Nawalgarh	Offline	Lokeshkumar31637@gmail.com	99832 06082	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Economic Importance of blue green algae and Role of algae in agriculture
Satish pajapat	Seth GB PODAR COLLEGE	Offline	Satishpajapat049@,com	77348 47065	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING , ECONOMICS RESEARCH AND SOCIAL SCIENCE	Paryavaran and samaj
Mr. SHRIKANT	Seth GB podar college	Offline	Shrikantsharma3790@gmail.com	90244 77949	Academician (Attende	INTERNATIONAL CONFER	Green accounting: urgent need of the modern world

SHARMA	Nawalgarh				e)	CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE	
Ms. Vijayshree	Seth GB podar college, Nawalgarh	Offline	vijayshreeshekhawat27@gmail.com	8302938439	Academician (Attendee)	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	BREEDING ECOLOGY OF BUBULCUS IBIS(CATTLE EGRET)IN NAWALGARH, JHUNJHUNU, RAJASTHAN
Saroj	Seth GB Podar TT College Nawalgarh	Offline	Saroj kumari	6376877100	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES	Rajasthan ki condition
Manshi Sharma	Seth gyaniram banshidhar podar College nawalgarh	Offline	mansisharmamkg@gmail.com	8829017303	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	A recognition journey of measure theory through the length of interval
Anita kuldeep	SETH GYANIRAM BANSIDHAR PODAR COLLEGE Nawalgarh	Offline	Anitakuldeep4@gmail.com	8955870466	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS	A systematic literature review on dynamic analysis

	ah (jhunjhu nu) 333042					AND COMPUT ATIONAL TECHNIQ UE	
Ms. Muskan	Seth Gyanira m Bansidh ar Podar College	Offl ine	jhajhariamuskan17 @gmail.com	99291 10980	Academi cian	INTERNA TIONAL CONFER ENCE ON ENVIRON MENT AND LIFE SCIENCE INTERNA TIONAL CONFER ENCE ON ENVIRON MENTAL SUSTAIN ABILITY AND GEOGRA PHICAL SCIENCE S	Re-introduction of Black Buck (Antelope cervicapra) at Jhunjhunu beed, Jhunjhunu (Rajasthan)
Ms poonam sharma	Seth gyanira m bansidh ar podar college	Offl ine	npoonamsharma15 @gmail.com	83063 34682	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON ENVIRON MENT AND LIFE SCIENCE	Availability of Floride in Mandawa ground water
Ms.Babit a Kumari	Seth Gyanira m Bansidh ar Podar College	Offl ine	babitameel7jan@g mail.com	94602 97850	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON ENVIRON MENT AND LIFE SCIENCE	Overview of Assisted Reproductive Technologies
Mr. Deepak Kumar	Seth Gyanira m Bansidh ar Podar College Nawalga rh	Offl ine	deepashu1977@g mail.com	94135 69928	Academi cian (Attende e)	INTERNA TIONAL CONFER ENCE ON ENVIRON MENTAL SUSTAIN ABILITY AND GEOGRA PHICAL SCIENCE	Climate Crisis: A Shared Responsibility For All

Mr. Sunil Kumar Saini	Seth Gyaniram Bansidhar Podar College Nawalgarh	Offline	sk2053157@gmail.com	9610730621	Academician (Attendee)	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES	Trade Route And Migration History of Asia
Mr. Shantilal joshi	Seth Gyaniram Bansidhar Podar College Nawalgarh	Offline	shantilalshantu1@gmail.com	9414733381	Academician (Attendee)	INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES	Trade Route and Migration History of Asia
Ms. LOVELIN SAINI	SETH GYANIRAM BANSIDHAR PODAR COLLEGE NAWALGARH	Offline	lovelinn009@gmail.com	8696768540	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Role of Genomic Sequencing in Covid
Ravi Kant kadayala	Seth Gyaniram Bansidhar Podar college Nawalgarh	Offline	ravi876483@gmail.com	8764830050	Research Scholar/Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Wildlife animal conservation and biodiversity
Yashoda	Seth gyaniram bansidhar podar college Nawalgarh jhujhunu	Offline	yashoda30012003@gmail.com	6367951535	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS	A systematic literature review on dynamic analysis

						AND COMPUT ATIONAL TECHNIQ UE	
Yashoda	Seth gyanira m bansidh ar podar college Nawalga rh jhujhunu	Offl ine	yashoda30012003 @gmail.com	63679 51535	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON APPLIED SCIENCE , MATHEM ATICS AND COMPUT ATIONAL TECHNIQ UE	A systematic literature review on dynamic analysis
Mr. Abhay Kumar	Seth Gyanira m Bansidh ar Podar College, Nawalga rh	Offl ine	abhaymeel7878@g mail.com	84269 24230	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON INDIAN LANGUA GE STUDIES	King Lear As A Tragedy of Spiritual Regeneration
Mrs. Swati Kumari Meena	Seth Gyanira m Bansidh ar Podar College, Nawalga rh	Offl ine	Sudhanshumeena2 487@gmail.com	92577 82698	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON INDIAN LANGUA GE STUDIES	John Donne as a metaphysical poet
Ms. Anju	Seth Gyanira m Bansidh ar Podar College, Nawalga rh	Offl ine	sandhyasoni1371 @gmail.com	87691 71289	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON INDIAN LANGUA GE STUDIES	Plot Is The Soul Of A Tragedy
Ms. Rinkal	Seth Gyanira m Bansidh ar Podar College, Nawalga rh	Offl ine	rinkalrao30@gmail. com	92568 56047	Researc h Scholar/ Students	INTERNA TIONAL CONFER ENCE ON INDIAN LANGUA GE STUDIES	The use of supernatural in Macbeth
Ms. Sampat Saini	Seth Gyanira m	Offl ine	sampatsaini885@g mail.com	77408 92189	Researc h Scholar/ Students	INTERNA TIONAL CONFER	Bacon is the Blend of Philosophy

	Bansidhar Podar College, Nawalgarh				Students	ENCE ON INDIAN LANGUAGE STUDIES	Moralizing and Worldly Wisdom
Ms. Sangeeta Kumari	Seth Gyaniram Bansidhar Podar College, Nawalgarh	Offline	sangeetasaini19073@gmail.com	72979 49419	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES	Paradise Lost as an Epic Poem
Anita kuldeep	SETH GYANIRAM BANSIDHAR PODAR COLLEGE, NAWALGARH (JHUNJHUNU)	Offline	anitakuldeep4@gmail.com	89558 70466	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS AND COMPUTATIONAL TECHNIQUE	A SYSTEMATIC LITERATURE REVIEW ON DYNAMIC ANALYSIS
Priyanka kumari	Seth.g.b .podhar college nawalgarh	Offline	Priyankanehra925@gmail.com	88752 01418	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING , ECONOMICS RESEARCH AND SOCIAL SCIENCE	भारत की राजनिति व्यवस्था
Ghanshyam Verma	Shri B D Todi PG College Laxman garh sikar	Offline	gsverma10@gmail.com	95290 03690	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE , MATHEMATICS AND COMPUTATIONAL TECHNIQUE	On the spot time

Mr.	SPC GOVERNMENT COLLEGE AJMER	Office	prithvisinghchouhan5@gmail.com	75978 61594	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Impact of climate change on groundwater resources
Rama Didwania	SPCG, College, Ajmer	Office	ramadidwania1319@gmail.com	63786 88095	Research Scholar/ Students	INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE	Assessment of faunal diversity of udaipurwati region in reference to their conservation perspective

STUDENTS LIST PODAR COLLEGE

Rashmi Jangir	Department of Physics, Seth Gyaniram Bansidhar Podar College	7878947601	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	STUDY OF THERMAL PROPERTIES OF SHIFT HEAVY ION BEAM IRRADIATED POLYCARBONATE/POLYSTYRENE DOUBLE LAYERED FILM
Sugandha Sharma	Department of Physics, Seth Gyaniram Bansidhar Podar College	9166457191	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Yashasvi Sharma	Department of Physics, Seth Gyaniram Bansidhar Podar College	7976008165	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Aditya Meel	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	7878738149	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Anjali Saini	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	8209324486	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS

Bharat Kumar Jangir	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	63678631 51	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS
Bhawana Saini	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	92578028 56	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	STUDY OF THERMAL PROPERTIES OF SHIFT HEAVY ION BEAM IRRADIATED POLYCARBONATE/POLYSTYRENE DOUBLE LAYERED FILM
Chetana Singodiya	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	82095276 81	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
Kalpana	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	70733578 24	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS
Krishan Kuamr Saini	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	81122500 37	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Kuldeep Kumar	Department of Physics, Seth Gyaniram	63761300 32	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE,	OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS

	Bansidhar Podar College, Nawalgarh			MATHEMATICS AND COMPUTATIONAL TECHNIQUE	
Lucky	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	9982226883	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS
Nikita	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	9509391558	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Nikita	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	8302058141	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
Pooja	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	8209580412	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Prem Kumari	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	9694937241	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS

Priyanka Kumari	Department of Physics, Seth Gyaniram Bansidhar Podar college, Nawalgarh	9929669424	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
Priyanka Saini	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	8890911707	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Sandeep Kumar	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	9660284353	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS
Saniya	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	9785084356	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS
Sonu Khichar	Department of Physics, Seth Gyaniram Bansidhar Podar college, Nawalgarh	8000926552	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
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Vijeta	Department of Physics, Seth Gyaniram Bansidhar Podar college, Nawalgarh	9351703019	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION
Vikash Kumar	Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh	7300094921	Research Scholar/Students	INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE	OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS