



Think**BIG**

First International Conference on **Innovation & Intellectual Property Rights**

Book of Abstracts



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About IAIPR 2022

Innovation is the key to the progression of any country. Every country needs to develop an innovative ecosystem for its holistic growth. The countries are improving their political environment, education, infrastructure, and knowledge creation so that more and more innovative start-ups can be developed to boost the economy. Intellectual Property Rights play a pivotal role in protecting innovation for more benefits. The report as released by WIPO clearly shows that China (68,720 applications, +16.1% year-on-year growth) remained the largest user of WIPO's PCT System, followed by the U.S. (59,230 applications, +3%), Japan (50,520 applications, -4.1%), the Republic of Korea (20,060 applications, +5.2%) and Germany (18,643 applications, -3.7%). Thus, it can endeavor that Intellectual property rights have a direct impact on nation's growth and capital generation.

The nations are looking out for technological solutions for problems related to safe drinking water, cleaner air, soil reclamation, energy conservation, and more. The world is looking out for technologies, which are sustainable, and environment-friendly.

This conference aims to provide a competitive platform to highlight recent technologies, potential avenues, challenges, and opportunities pertaining to the theme of Innovation and Intellectual Property Rights.

FOREWORD

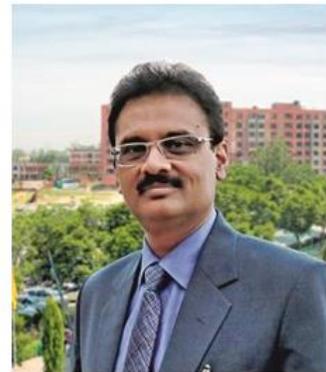
I am delighted to welcome all attendees and participants from academia and industry to the 1st edition of the International Conference on Innovation and Intellectual Property Rights, 2022. I am happy to share that the researchers and scientists from all over the globe have contributed their scientific ideas in this conference, held at Lovely Professional University. In the contemporary world, intellectual property (IP) rights and IP laws play a significant role for establishing different start-ups based on the novel ideas. This conference establishes a forum for the fruitful discussions, facilitate the interdisciplinary research, and bring together the researchers from all corners of the world. I am hopeful that all of us would be able to reap the benefits from this wonderful conference. I extend my warm wishes to the organizers of the conference.

Shri. Ashok Mittal

Chief Patron, IAPRR 2022,

Chancellor, Lovely Professional University

Punjab, India.



From the desk of Pro Chancellor

I would like to extend a warm welcome to all the delegates and the participants in this 1st edition of the International Conference on Innovation and Intellectual Property Rights, 2022. This conference has resulted in the convergence of all brilliant minds from academia and the industry and share their ideas and work here at Lovely Professional University. The goal of this conference is to look at practical solutions to the difficulties that humanity is now facing challenges and opportunities pertaining to the theme of Innovation and Intellectual Property Rights. I must sincerely thank the Intellectual Property and Rights (IPR) Cell and School of Law for their untiring efforts to make this conference a successful event.

Rashmi Mittal

Patron, IAPRR 2022,

Pro Chancellor, Lovely Professional University

Punjab, India.



From the desk of Pro Vice Chancellor

It brings me great pleasure to greet all of the prominent scientists, delegates, participants, young researchers, and students from all around the world who are attending this 1st edition of the International Conference on Innovation and Intellectual Property Rights, 2022. The scientific community will have the opportunity to discuss current research trends and cutting-edge technologies at this conference. The role of Intellectual Property (IP) in the modern era has become significant as it helps with the right protection of idea till commercialization. IP has a major role in entrepreneurship as it helps the budding entrepreneurs to put their best foot forward and protect their invention till marketing. IP has been majorly used as a marketing tool by the corporate since ages. Trademarks and trade dress are the burning examples for it.

This conference aims to enlighten participants about the various changes that are happening in the dynamic intellectual property world. It will help the participants to connect with industry, stake holders and acclaimed scientists of academia so that they can find a way not only to protect their inventions but build a strategy around their research for profitable marketing. The IPR generated should not be limited to certificates and granting's rather there should be an ecosystem which mentors the inventors for product development, technology transfer and successful commercialization. The main goals of this conference are to promote high-level research and to make quality research universally validated through product development. I would like to congratulate the conference organizers and wish them great success in terms of the outcomes of this worldwide conference. Finally, I would want to offer my heartfelt gratitude to the Intellectual Property and Rights (IPR) Cell and School of Law who have helped to make this renowned gathering of scientists and delegates possible.

Dr. Lovi Raj Gupta

Pro Vice Chancellor, Lovely Professional University

Punjab, India.



Table of Content

S.No	Title & Authors	Page No
1	Compulsory License Under Copyright Law: A Study of Its Impact on Music Rights <i>Shrawanee Kumari Das</i>	16
2	Design and analysis of beach cleaning robot <i>Rameshwar Cambow, Hamzah Abdulsalam Mohammed Al-ghassani</i>	17
3	IPR in India – The Way to Achieve New Heights <i>Durga Pandey, Dr. Geeta</i>	18
4	Impact of Smart City Mission on Promotion of Sustainable Development in the Srinagar City of Jammu & Kashmir <i>Muzafer Rasool Hajam, Dr. Manvendra Singh, Rubaya Akther</i>	19
5	Urbanization Trends, Town Planning and Need for Sustainable Development in Anantnag District of Jammu & Kashmir <i>Rubaya Akther, Dr. Rajvinder Kaur, Muzafer Rasool Hajam</i>	20
6	Identification And Analysis of Black Spots on Nh44- Kurnool (India) <i>Lalith Kumar, Aasna Arora</i>	21
7	Easy Access of Intellectual Property Rights To Specially Abled Persons <i>Lobhpreet Kaur, Dr. Dalliandeep Kaur Tiwana</i>	22
8	Review on evolution and upgradation of Gas Turbine Engines in aircrafts <i>M.S Raghul, Chaitanya Khanna, Ruhul Amin Choudhury, Mandeep Singh,</i>	23
9	Patent, pandemic and developing countries – A critical analysis of TRIPS agreement and the developments so far	24

	<i>Renuka</i>	
10	Analysis of modified P-I-N Tunnel FET Architecture for Applications in Low Power Domain <i>Sabitabrata Bhattacharya, Suman Lata Tripathi</i>	25
11	Intellectual Property Rights and Criminal Law <i>Bhavyya Sharma</i>	26
12	Effect of Multimedia on Achievement In Social Sciences At Secondary School Level <i>Ms. Lakhwinder Kaur, Dr. Arjinder Singh, Dr. Parminder Kaur</i>	27
13	Preliminary Study of Development of Light Weight Concrete Blocks Using Rice Husk Ash <i>Lalith Kumar, Manpreet Saini</i>	28
14	AI In Patents: Demystifying Ownership and Patentability <i>Pragya Sharma, Gaurav Sahni</i>	29
15	Intellectual Property Rights in Virtual Fashion World <i>Akash Rathour, Neha Kundu,</i>	30
16	Spatiotemporal Evolution Analysis of Urban Heat Island in Jalandhar <i>Priyanka Sagar, Manpreet Singh Saini, Jit Kumar Gupta, Kapil Kumar Sharma, Anubhav Goel, and Ravindar Singh Sikarwar</i>	31
17	Artificial Intelligence and the Copyright Protection Law in India: An Analytical Study <i>Dr. Seema Modi</i>	32
18	Compulsory Licensing of Patents <i>N. Kumutha, Dr. Amutha. Dr. G. Saravana Venkatesh</i>	33
19	UPI based apps as digital cohesion: Role of mobile media in rural West Bengal	34

	<i>Madhusree Jana, Kushal Kumar R.</i>	
20	Development and Validation of Teacher’s Managerial Skills Scale <i>Ms. Neelu Jhanji, Dr. Parminder Kaur</i>	35
21	Publicity Right as Emerging Area of Intellectual Property Right: An Analysis <i>Divya Jain, Dr. Meenu Chopra</i>	36
22	Dynamics of Intellectual Property Rights Regime in India <i>Tavseef Ahmad Mir, Dr. Manvendra Singh</i>	37
23	Geographical Indications as a Tool of Economic Development <i>Ekta Sood</i>	38
24	Interplay between IPR & RTI with special reference to Patent Law in India: An Unfolding <i>Dr. Geeta, Ms. Vanshika Premani,</i>	29
25	Examining the role of IPR’S in E-commerce Industry <i>Sargunpreet Kaur</i>	40
26	Sustainable strategies to condense post-consumer textile waste: A Review <i>Megha M, Neha Sah</i>	42
27	IPR and The Indian Fashion Industry: Challenges and Possibility <i>Neha Sah, Ezhilanban J.J.</i>	43
28	Media Usage of Urban and Rural in Nagaland <i>Wapangsun gla Longkumer, Dr. Kushal</i>	44
29	Tax on Transferring Intellectual Property Rights <i>Dr. Meenu Chopra</i>	45
30	Sustainable Planning Strategies for River Restoration: A case study of Musi River, Hyderabad City <i>Mokaddam Nikhil Moses, Rishab Gaba</i>	46
31	Effect of Multimedia on Achievement in Social Science at Secondary School Level <i>Ms. Lakhwinder Kaur, Dr. Arjinder Singh, Dr. Parminder Kaur,</i>	47

32	The Classroom Management Skill among Pre-service and In-service Teachers, Their Challenges and Recommendations: Meta Analysis <i>Deepali Ohri, Dr. Vijay Kumar Chechi</i>	48
33	Ecological and Societal Advantages of Precast Concrete Technology <i>Shanmukh Mallapureddy</i>	49
34	Investigation on Different Novel Methods of Preventing Foreign Object Debris <i>Nimisha Mohan, Mandeep Singh, Ruhul Amin Choudhury</i>	50
35	Patentable and Non-Patentable Inventions <i>Rajeswari V</i>	51
36	Review on Liquid Propulsion Engine Patents <i>Rahul Singhal, Yash Mangrole, Ruhul Amin Choudhury</i>	52
37	Review on Past Developed Nuclear Reactor Patents <i>Jayesh Jadhav, Priyanka Reehl, Mandeep Singh, Ruhul Amin Choudhury</i>	53
38	A comprehensive review on Recent Innovation in Drones and its Application <i>Riddhi Malhotra, Rishika Awasthi, Mandeep Singh, Ruhul Amin Choudhury</i>	54
39	Development and Validation of Cyberloafing Scale <i>Shivani Gulati, Dr Nimisha Beri</i>	55
40	Significance of Intellectual Property Law in Sports <i>Dr. Basant Singh, Ms. Isha Manchanda</i>	56
41	Study of drag impact on grid fins through Computational Fluid Dynamic (CFD) analysis <i>Shriya Shivaraman, Reshmitha Shree S A, Mandeep Singh, Ruhul Amin Choudhury</i>	57
42	Protection of Traditional Knowledge in India and Brazil: A Comparative Analysis <i>Pragya Sharma, Renuka</i>	58

43	Recent Developments in Metal Complexes of Gallic Acid and Its Therapeutic Use: A Patent Review <i>Nishit Kohli, Dr. Runjhun Tandon</i>	59
44	Lupeol: An Alternative Approach Towards Cancer Treatment <i>Devender Sharma, Arun Sharma, Pankaj Wadhwa, Gurvinder Singh, Rajesh Kumar</i>	60
45	Advanced Oxidation Processes for Treatment of Wastewater <i>Priya and Suman Sen</i>	61
46	Regulation of Non-Morphological Aspects of Plant Varieties <i>Akriti, Aditi Shirpurkar,</i>	62
47	Pyrrrolidine derivatives as Antibacterial Agents, Current status and future prospects: A patent review <i>Aeyaz Ahmad Bhat, Nitin Tandon, Runjhun Tandon</i>	63
48	Patenting of Pharmaceutical Solid-State Forms: A Review <i>Vaishali Chaudhary, Pawan Gupta, Abhinav Joseph</i>	64
49	Therapeutic Potential of <i>Pogostemon cablin</i> Herb-A Comprehensive Review <i>Archana Thakur</i>	65
50	TRIPS-plus agreements and the increasing challenges to Public Health in developing countries: A Critical Analysis <i>Dr. Showkat Ahmad Wani, Gursimran Singh</i>	66
51	Getting Prepared for the Fresh COVID19 Wave: Chemical Oxygen Generator for in a Resource Poor Settings <i>RK Singhal, Ritesh Chandra, A. Garg</i>	67
52	A Prototype for Free-Choice Resistance Screening Against Storage Insects	68

	<i>Devina Seram, Senthil Natesan, Pandiyan Muthaiyan, Kennedy John Samuel</i>	
53	Green Synthesis of Metal Oxide Nanoparticles <i>Sneha Jain, Suman Sen</i>	69
54	Analysis of COVID-19 Technology Transfers Through the Lens of TRIPS Interactions to Indian Law and Competition Policy <i>Dr. Varinder Kaur, Shrikant Kulkarni</i>	70
55	Role of Spiritual Intelligence on the Mental Health of learners in Digital Transformation of Education: A Review of Literature <i>Deepali Ohri, Dr. Sonia Sharma</i>	71
56	Health Status of Women in Border Area of Jammu and Kashmir With Special Reference to Maternal and Reproductive Health <i>Haseena Nighat Khan, Zahid Rehman</i>	72
57	Dehydrins: Stress Responsive Proteins in Wheat <i>Ridhi Joshi, Dr. Gurmeen Rakhra</i>	73
58	Mathematical Modelling and Optimizing the Pneumatic Seed Sowing Device <i>Patel C.h, Samriddhi Vikram Kafle, Gaurav Upadhyay, Rachit Singh Pawar, Bheemireddy Sai Sujana Reddy</i>	74
59	Mental Health of Students and Remote Learning <i>Vishal Singh, Dr. Satish Kumar</i>	75
60	A Patent Review: Synthesis and Gigantic Pharmacological Properties of Benzimidazole Scaffold <i>Anuradha, Amit Mittal, Shivani Sharma</i>	76
61	Therapeutic Charisma of Imidazo [2,1-b] [1,3,4]-Thiadiazole Analogues: A Patent Review <i>Anuradha, Amit Mittal, Shivani Sharma</i>	77
62	Nanomaterials-Based Methods for Wastewater Treatment	78

	<i>Rabika Saha, Suman Sen</i>	
63	Oral Insulin Delivery: A Patent Review <i>Shivani Sharma, Amit Mittal, Anuradha</i>	79
64	Improving Oral Bioavailability of Poorly Water-Soluble Herbal Drugs Using Self-Nano Emulsifying Drug Delivery System for Colon Cancer: A Review <i>Khushboo Bhardwaj, Priyanka, Arun Sharma</i>	80
65	Patent Landscaping in Bio-Medical Waste Treatment <i>N. Kumutha, Dr. Subrata Hait, Dr. G. Saravana Venkatesh, Dr. Amutha</i>	81
66	Review on Nanocrystal Formulation Innovations and Their Patented Work <i>Dr. Ashish Suttee, Prashant Tandale</i>	82
67	Effect of Ashwagandha Based Food Products on Mental Health: A Patent Based Review <i>Shama Kakkar, Dr. Runjhun Tandon, Dr. Nitin Tandon</i>	83
68	Recently Development in Silver Nanoparticles Utilized for Cancer Treatment and Diagnosis: A Patent Review <i>Shripad Patil, Dr. Runjhun Tandon, Dr. Nitin Tandon</i>	84
69	Sustainable Development and Mental Health of The Students During Covid-19 Pandemic Situations <i>Sarbtej Singh, Dr. Satish Kumar</i>	85
70	Framework for Delineation of Planning Boundary for Hyderabad 2041 <i>Gowni Pranay Kumar, Manpreet Singh Saini</i>	86
71	Aconitum laeve Royle: A potential anticancer agent against Ehrlich ascites Carcinoma in Albino Mice <i>Sanjay Kumar, Mohammad S. Javed, Pawan Kumar</i>	87
72	Socio economic condition of Park Circus and surrounding Slums area in Kolkata Municipality <i>Rana Bala</i>	88

73	Water purification using plant extract: A Patent Based Review <i>Neha Goyal, Runjhun Tandon</i>	89
74	Contribution of SWAYAM-MOOCs towards Sustainable Development: A Pilot Study <i>Pooja Verma, Vijay Kumar Chechi</i>	90
75	A Study on “The Impact of Non-Motorized Transport in a City” <i>Swati Singh</i>	91
76	Dimensional Analysis of Spiritual Intelligence Scale with Respect to Gender And Locale <i>Deepali Ohri, Dr. Sonia Sharma</i>	92
77	Identification of Indicators to measure Water Scarcity for Coastal Cities of India <i>Sameeksha Rai</i>	93
78	Study of emotional intelligence in relation to attitude towards e-learning <i>Neeraj Bala</i>	94
79	Coastal Development and Vulnerability in Perspective of Regulatory Framework <i>Sameeksha Rai</i>	95
80	Patent Rights Amid a Pandemic <i>Ramandeep Singh</i>	96
81	Potential Role of <i>Tinospora cordifolia</i> (Giloy) in Functional Foods: A Review <i>Shama Kakkar, Dr. Runjhun Tandon, Dr. Nitin Tandon, Nishit Kohli</i>	97

82	Design Innovation in Handicrafts- A step towards Sustainable Development <i>Megha Dua</i>	98
83	Role of Cyclohexanone Selenosemicarbazone in Biological Field <i>Rinku Malhi</i>	99
84	Cotbot: An Autonomous Robot to Detect Diseased Leaves in Plants using Convolutional Neural Networks <i>Devata Sai Rama Krishna Gupta, PatibandlaSiddardha, Karanam Venkata Vineeth, Nandini, Panakanapali Guru Teja Reddy, Nitin Kumar</i>	100

Compulsory License Under Copyright Law: A Study of Its Impact on Music Rights

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This research paper presents the present legitimate system and how it doesn't appear to successfully resolve the issue as for music ventures and accordingly, the Music industries are facing declining profit. The development of such Statutory Tribunals in India has been so irregular and without a uniform model. The decisions given by these courts similarly as their safeguarded legitimacy have been addressed to in different cases.

The present legal structure doesn't appear to actually resolve the issue regarding music enterprises and therefore, the Music business is confronting declining profit. There is a requirement for the governing body to guarantee that the Copyright Board is established according to specific least lawful guidelines so the inquiries on its uprightness stopped."

Music is a fundamental piece of the Indian history and the nation is known for having rich legacy of people and exemplary music is a fundamental piece of the Indian history and the nation is known for having rich legacy of people and exemplary music. Accordingly, it is important to have compulsory licensing to safeguard the privileges of the proprietors who made or composed such incredible piece of work in music without getting taken advantage of in the music industry and their work can be utilized by the third individual without harming their rights as the owner. The fundamental point of this research paper is to depict the significance of compulsory licensing and its effect on the music rights.

Keyword: Intellectual Property Right, Music Right, Compulsory licensing, Copyright Law

Design and analysis of beach cleaning robot

Rameshwar Cambow, Hamzah Abdulsalam Mohammed Al-ghassani

Lovely Professional University, Phagwara, Punjab, India

The evolution of robotics has played a significant role in the growth of industrial sector. However, the potential of this technology is yet to be explored for handling environmental hazards. As more than seventy percent of the earth's area is occupied by the water therefore it become very important to ensure cleanness in water bodies and beaches also. In this work, an attempt has been made to design a CAD model of the beach cleaning robot using Solid works software by Dassault systems. Here, conveyor chain drive is preferred over wheels because of uneven and muddy terrain on the beaches. The robot runs on Li-ion chargeable battery and is designed to move within a specified area. Vision and proximity sensors are employed at the front to ensure efficient movement of the robot without any collision. Along with modelling, the optimization of the design has also been carried out using analysis workbench of the Solid works.

Keywords: beach, robot, CAD model, sensors.

IPR in India – The Way to Achieve New Heights

Durga Pandey, Dr. Geeta

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Intellectual Property Rights have become the basis of determining the wealth, knowledge and advancement of a country in recent years, hitherto changing the definition of ‘a developed nation’; the innovation, transformation and creativeness that a nation brings into the world, adds to its intangible assets generated with the venture and efforts of human intellect. India too has globally as well as domestically made multifarious efforts to build its name in the IPR sphere. But still India can be seen lagging behind many countries in IPR indexing as per the recent 9th International Intellectual Property Indexing released by the GIPC (Global Innovation Policy Center). Despite the improving scores in subsequent years, India holds 40th rank out of 53 global economies in IPR sector in the year 2021; far behind the top countries like US, UK, Japan, which hold 1st, 2nd and 5th rank respectively. The paper therefore focuses on comprehending the significance of IPR in India, tracing factors responsible for such a lagging behind other competitors, to whom India gives a neck to neck vie in other sectors and to suggest necessary steps to create a robust innovation and foster the IPR culture to unprecedented level of heights; altogether this study would also aim to explore every single possible step to maintain India’s positive momentum in IPR, as observed in the last 9 years of Indexing, but at a much faster and expeditious pace.

Keywords: Intellectual Property Rights, IPR Performance, Indian IPR Policy, IPR Culture, Innovation, IPR Reforms.

Impact of Smart City Mission on Promotion of Sustainable Development in the Srinagar City of Jammu & Kashmir

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Sustainable development has emerged as the vital component of urban planning and public policy frameworks due to global challenges of rising urbanization, environment pollution, global warming and unprecedented climate changes like heat waves, snow storms and flash floods. The United Nations' Sustainable Development Goals paradigms aim to promote smart, resilient and sustainable urban socio-economic infrastructure, use of retro-fitting techniques, shift towards solar and other renewable energy resources and exploration of innovative and sustainable mechanisms for delivery of public services. The Government of India's 'Smart City Mission', a flagship urban development initiative aims to develop few selected cities through rebuilding eco-friendly basic infrastructure, development of housing facilities, waste management facilities, roads and lanes, and increasing green and open spaces in the urban landscape. This paper analyses the impact of Srinagar Smart City Mission on promotion of sustainable development, resilient infrastructure and use of smart and sustainable technologies for public services in the Srinagar city of Jammu & Kashmir. The paper is based on comprehensive analysis of the data collected from thirty respondents including common citizens, academicians and administrative practitioners, by using open-ended questionnaire technique. The findings revealed poor public satisfaction about the impact of the Srinagar Smart City Mission on development of eco-friendly and resilient infrastructure in the city. It also highlights the sluggish use of innovative and smart technological interventions for public service delivery and need to mitigate challenges of rising water pollution and air pollution in the region.

Keywords: Smart city Mission, Sustainable development, Srinagar, Pollution, Kashmir

Urbanization Trends, Town Planning and Need for Sustainable Development in Anantnag District of Jammu & Kashmir

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The rapid urbanization in recent decades and subsequent urban development concerns including rising environment pollution, global warming and climate changes, have led policy focus towards re-development of cities and towns across the world through eco-friendly and sustainable town planning paradigms like development of ecofriendly and resilient socio-economic infrastructure, use of renewable energy resources, smart technological interventions, recycling waste management practices and increase in green spaces as emphasized under the United Nations Sustainable Development Goals framework. Indian government started several national flagship town planning schemes including the ‘Atal Mission for Rejuvenation and Urban Transformation – AMRUT’, to rebuild resilient urban infrastructure in the selected towns and cities across the country including the Anantnag town of Jammu & Kashmir Union territory. The paper explores the level of urbanization trends, impact and challenges of administrative interventions for town planning and need for sustainable development mechanisms in the Anantnag district of Jammu & Kashmir. The paper is based on analysis of data gathered by open-ended questionnaire method involving 50 research respondents including common citizens, officers from the Anantnag Municipal Council and the district administration. The findings reveal significant increase in urbanization in recent years, poor town planning including housing congestion, poor sanitation facilities, skewed transportation services, lack of green spaces and adoption of sustainable smart technologies. The paper also highlights the implementation challenges faced by various town planning initiatives like AMRUT Mission in the region.

Keywords: Urbanization, AMRUT Mission, Sustainable development, Anantnag, Jammu and Kashmir

Identification And Analysis of Black Spots on Nh44- Kurnool (India)

Lalith Kumar, Aasna Arora

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The number of urban motor vehicles is increasing due to the rapid development of the economy and urbanization. Although city travel is more convenient, traffic safety issues are becoming more prevalent. Due to the significant economic and human losses that accidents are caused, road accidents are one of the major factors impeding civilizational development and economic growth. Accidental black spots are where accidents have historically happened multiple times. The focus of this paper is on the mode of transportation used and its impact on other modes of transportation. This survey is being carried out in the city of Kurnool, Andhra Pradesh. The information was gathered from the nearest police stations available for the consequent five years, from 2017 to 2021. According to preliminary analysis, there are four 'black spots' in the given corridor line. These four locations were subjected to a thorough examination. Improvement measures have been recommended based on the detailed analysis

Keywords: Transportation, Road Accidents, Accidental blackspots,

Easy Access of Intellectual Property Rights To Specially Abled Persons

*Lobhpreet Kaur, Dr. Dalliandeep Kaur Tiwana
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Intellectual Property Rights are available to those persons who invent or create something new and for that they can access their copyright, patent, trademark, industrial design, layout designs and geographic indication of source. These types of rights are intangible in nature and provide an absolute right over their invention or creation. This paper focuses upon the easy access of Intellectual Property Rights for specially Abled Persons. The new amendment in Copyright Act, 2012 provides the right of copy for print disabled community. But there should be a relaxation to access this copyright especially upon products invent for the benefit of especially abled persons and separate provisions must be enacted for getting copyright or patent by especially abled persons. By using the secondary methods which includes comparative study of developed nations with Indian laws related to access of intellectual property rights for especially abled persons, researcher tries to draw the attention upon the need of relaxation provisions in these laws for especially abled persons.

Keywords: Intellectual Property Rights, specially abled persons, Access, Copyright, Patent

Review on evolution and upgradation of Gas Turbine Engines in aircrafts

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This article provides a comprehensive review of historical evolution of the gas turbine Engines (GTEs) for aircrafts. Since past 40 years almost all commercial aircrafts are powered by GTEs with a variety of minute yet significant changes in either turboprops or turbofans for improvement of efficiencies as well as reduction of polluting emissions by covering various aspects of increasing bypass ratios, fuel efficiencies, resolving complicated centrifugal forces acting on propellers, reducing tremendous turbine noises, etc.

This review focuses on recent advancements and adjustments made in autochthonous and primeval designs and components such as introduction of intercoolers, Twin-Annular Pre-swirl Injector (TAPS), chevron blades in casings, heavier and state of the art gearboxes with rotatory engine and parts & methods to facilitate these already complicated yet sophisticated engines by analysing the configurations, methodologies and implementations in the patents.

Keywords: Gas turbine engines, Fuel efficiency. TAPS, turbine.

Patent, pandemic and developing countries – A critical analysis of TRIPS agreement and the developments so far

Renuka

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The agreement on trade-related aspects of intellectual property rights (TRIPS) brought a significant change in world trade as it laid down standards for the protection of intellectual property rights. However, the history behind the formation of the TRIPS agreement hints that more than the world consensus, it was section 301 of the U.S trade act that acted as a driving force behind it. TRIPS agreement contains provisions relating to patent protection and, it extends to all kinds of goods. It also covers pharmaceutical and medical goods. Due to this reason, the agreement has always been criticized as an impediment to the right to health especially in developing countries. Scarcity of covid- vaccines in developing countries has again stirred controversy about the overprotection of patents provided by the TRIPS. In background of this it becomes important for all of us to have a holistic understanding of patent system under TRIPS agreement and its effect on the access to medicine across the world, specifically in developing countries.

The author of this paper has analysed the provisions relating to patent protection under the TRIPS agreement and its effect on developing countries amid pandemics. The author has also discussed the further development related to TRIPS, specifically the Doha declaration relating to the right to health.

Keywords: TRIPS agreement, developing countries, right to health

Analysis of modified P-I-N Tunnel FET Architecture for Applications in Low Power Domain

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A modified Tunnel FET structure is analysed in this paper for applications in ultra-low power VLSI domain. The proposed device modifies the conventional P-I-N TFET architecture with double gate for better control of the channel tunnelling current. The device introduces asymmetrical gate lengths for front and back gates. A highly doped low band gap, pocket material is also introduced near the source region of the device to enhance ON current and improve ON to OFF current ratio. The device also exhibits enhanced subthreshold characteristics and low DIBL. Gate oxide engineering is performed for the device to propose the optimum length high/low-k gate oxide combination for improved performance. The design and simulation of the proposed device is done using Silvaco Atlas Device Simulator Tool. The device is also optimised with respect to channel length, pocket dimensions, asymmetric under/overlap of the front/back gates and a wide temperature range to propose the best architecture for ultra-low power use.

Keywords: Tunnel FET, PIN diode, VLSI, DIBL

Intellectual Property Rights and Criminal Law

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The intellectual property rights are those rights which are available to that person who has created something new. It protects the rights of the inventor so as to ensure that nobody takes the undue advantage of the creator's hard work. In order to do so there are various laws and enactments which have been passed by the legislators of our country to ensure protection to the creators. In this paper the researcher has tried to highlight the relevance of criminal law in the protection of intellectual property rights. Criminal jurisprudence plays a very important role in creating a fear in the minds of the people who wants to use someone else's idea for their own benefit. The researcher will also try to highlight the weaknesses of the criminal procedure used in the effective implementation of intellectual property rights.

Keywords: Intellectual Property, Criminal jurisprudence, criminal procedure.

Effect Of Multimedia on Achievement In Social Sciences At Secondary School Level

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This study examined the effect of multimedia on achievement in social sciences at secondary school level. The study adopted pre-test and post-test with reference to group i.e., control group and experimental group. The population of the study consists of 100 students selected from IX class social science students affiliated to C.B.S.E. The experimental design was used. To measure the achievement, achievement test in science was used as research tool. The study was delimited to IX class secondary school students affiliated to C.B.S.E only. Experimental group was taught science with multimedia, the control group was taught science through conventional method. The data was analysed with the assistance of statistics namely descriptive statistics, inferential statistics and graphical representation. The results of the data revealed that multimedia significantly enhance the achievement in social science of IX class students as compared to those taught with conventional method. It was concluded that multimedia significantly enhanced the achievement in social science. It was recommended that more multimedia used in social science at secondary school level for effective and efficient teaching and learning.

Keywords: Multimedia, Conventional Method, Achievement in Social Science, Experimental Group, Control Group, Secondary School Level

Preliminary Study of Development of Light Weight Concrete Blocks Using Rice Husk Ash

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The most widely utilised building material is brick. Analysing the cost, energy consumption, and carbon emission factors of traditional and non-conventional materials aids in identifying viable solutions for sustainable construction. Autoclaved Aerated Concrete (AAC) block, an eco-friendly material, gives a prospective solution to building construction. It can be as light as a quarter of the weight of traditional building pieces. Sand, cement, lime, fly ash, gypsum, aluminium powder, and water make up AAC, which is made up of readily available basic ingredients. By decreasing the dead load of walls/partitions on structural elements, the use of AAC blocks decreases construction costs by up to 20%. In this study, an attempt will be made to develop AAC blocks first using conventional materials, i.e., cement, calcined lime, gypsum, fly ash, and aluminium powder, and then replacing cement and calcined lime with suitable industrial waste in various proportions to achieve a similar strength as that of the conventional AAC blocks. Also, efforts will also be made to determine the best curing methodology and the curing time and temperatures. Tests such as compressive strength, density, water absorption, soundness, will also be conducted to determine the effect of the various material proportions or combinations on these properties.

Keywords: AAC blocks; compressive strength; density; industrial wastes; curing time.

AI In Patents: Demystifying Ownership and Patentability

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AI is the trending topic nowadays. Any company, business, corporation, or start-up today has pivoted towards artificially intelligent innovations and have started reaching new heights. The IP domain too, is running neck to neck in the race. Many researchers estimate that it will only be a matter of time until AI takes over as the prime source of innovation. This raises the question of how the patent system should handle technology generated entirely by computers, with minimum to none human intervention. This paper addresses the issue of who should hold the patent and the inventorship rights emerging from computer innovations if human input is inadequate to warrant designating a human inventor. Through this research, we also explore what different experts in the field have to say on question of ownership, along with how different countries have responded to the same concern.

Keywords: Artificial Intelligence, Intellectual Property, Patentability.

Intellectual Property Rights in Virtual Fashion World

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The neoteric incidence of French luxury group Hermès suing the NFT “MetaBirkins” creator Mason Rothschild over trademark infringement and dilutive use of its iconic Birkin name, the growing virtual trends in fashion Industry has raised many concerns over Metaverse and its relation with IPR. From Burberry’s first NFT collection with Blankos Block Party to Gucci’s Aria Collection Film at Christie’s, with the rapid expansion of the Metaverse, it will be interesting to analyse the NFT clothing craze plays out. It is however important for brands to consider actively extending their trade mark protection to the virtual space now in order to avoid potential conflicts and ‘virtual counterfeiting’ later down the line.

The paper explores a two-fold analysis- one is to inquire about the Metaverse trends in fashion Industry and their uses, and the second is to understand its relationship with IP rights The paper will provide fresh insight towards into the ways fashion industry is dealing with crypto tech, and what to expect as fashion advances ahead into a tech-savvy future.

Keywords: Metaverse, NFT, digital assets, trademark, infringement, crypto, virtual, IPR

Spatiotemporal Evolution Analysis of Urban Heat Island in Jalandhar

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The heat islands where urban areas get to meet with the high-temperature zone. From, this heat island affects the lively hood of the society. The heat island effects many cities in India like Jaipur, Delhi, agar, Lucknow Patna, and other cities). The heat island in the city happens when the temperature is high because of infrastructure development and we can't focus on the natural environment of the cities. the heat island also affects nearby rural areas and out cities. In this process, we related the relationship of built-up area (NDVI, LST, and NDVI) to see the area with effect in Jalandhar cities. this study suggests considerate the possible micro-climate changes in Jalandhar city. In the future, we can plan for sustainable improvement.

Keywords: LST (Land surface temperature), NDBI (Normalized differential built-up index), NDVI (Normalized differential built-up index)

Artificial Intelligence and the Copyright Protection Law in India: An Analytical Study

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Artificial intelligence is the latest and fastest-growing invention of science and technology. A few decades ago, it was considered almost impossible that the works which require the application of human intelligence, may be done even without the involvement of human beings. Artificial Intelligence has made it possible. By artificial intelligence, the works which require human judgment are done by the robot or some other machine that is controlled by a computer. It is even considered to be the birth of the fourth industrial revolution. It has put a great impact on the lives of human beings. It has made life easy and more comfortable. It offers efficiency at low cost. It may be utilized in almost all the fields like education, banking, transport and medical services etc. That's why, it is promoted on a very large scale.

Artificial intelligence has the capacity to create anonymous work. Thus, it has the potential to challenge the existing legal frameworks. It may create problems in determining who is the creator or author of the work. Consequently, the problem may come regarding the protection of the copyrights involved in it. In India, the law to protect copyrights is the Copyright Act, 1957. Application of the traditional law of protection of copyright may also cause some difficulties. So, the author discusses various aspects of the copyright law in India as applicable on artificial intelligence, along with the possible interpretation of the provisions keeping in view the present needs of the time.

Keywords: Artificial Intelligence, Copyright, Copyright Protection Law

Compulsory Licensing of Patents

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Compulsory Licensing (CL) is a mechanism made by the government to provide balance between the monopoly right holders and the third person with public interest by ensuring the ease availability of the patented products at reasonable rate. This paper discusses the background criteria for getting CL in India as per the Indian Patent Act, 1970 with a start from its concepts in TRIPS agreement. Case studies for the accepted and rejected CL in India are reviewed. The important CL cases that were permitted across the World including the present Covid pandemic CL are also discussed. Finally, the pros and cons perspectives of CL are analysed.

Keywords: Compulsory Licensing (CL), TRIPS agreement, COVID.

UPI based apps as digital cohesion: Role of mobile media in rural West Bengal

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In the present era, Information Communication Technology (ICT) has changed social and cultural engagement. When it comes to digital engagement, mobile phones play a significant role especially in the rural area and has become very popular, convenient and widely acceptable communication device. With the introduction of Digital India initiative by the Govt. of India, the use of mobile phone has been grown to facilitate the services. The initiative “designed to transform India into a global digitized hub” by reviving a rundown digital sector of India with the help of improving digital connectivity and skill enhancement and various other initiatives to make the country digitally empowered in the field of technology. Digital payment service under Digital India initiative emerged tremendously in last one decade to convert India into cashless economy for significant benefits towards global market. The research aimed to understand mobile infrastructure to use e-wallets in rural West Bengal. A survey questionnaire was conducted in rural areas of East Midnapore district to identify the level of awareness and practice of digital payment system and the perception for not adoption of the services. The study identified that mobile phone benefitted rural people setting and digital payment system is gaining popularity especially within the youth community. Though usage of UPI based apps are growing; but digital literacy, fear of fraud, security issue and lack of knowledge are the main challenges in the rural areas. For successful implementation of e-payment service, state government needs to organize training programs in different sectors.

Keywords: Digital payment system, e-wallets, mobile media, rural West Bengal

Development And Validation of Teacher's Managerial Skills Scale

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The 21st century teachers' role is not merely imparting subject knowledge but to prepare the students for life and make them capable to meet the challenges of the contemporary society therefore the Teachers today must possess the Managerial Skills along with the subject expertise. In the present era teacher as a manager is widely demanded to improve the quality of education and the teachers themselves need to develop their skills and personality to justify their job. The concept of Managerial Skills for the Teachers is an important factor that must be studied to bring about qualitative improvements in the education sector. Therefore, the researcher thought of developing an instrument which will be helpful in measuring the Managerial Skills of Teachers. The Teacher's Managerial Skills scale is based on the Five Dimensions of Managerial Skills for Teachers which are Communication Skills, Time Management Skills, Classroom Management Skills, Decision Making Skills and Pedagogical Skills. The Scale contains 60 items with 12 items for each dimension. The items have been framed with precision and expert advices. The item analysis has been undertaken and only those items have been included in the final draft which had significant t values for the high scorers and low scorers. The Validity of the scale has been established through expert opinions, internal consistency and the average item total correlations value is 0.40. The reliability of the scale has been established through split half method and the reliability index is 0.91. The scale is easily administrable and the sum total of scores in all the items indicates the Managerial Skills scores of the respondent. The scale will be very useful in the selection, appraisal and promotions of Teachers for various positions in the education sector. Moreover, this scale can be used by the Teachers for the self-analysis and scope of improvement for their professional development.

Keywords: Managerial Skills, Managerial Skills Scale, Teachers

Publicity Right as Emerging Area of Intellectual Property Right: An Analysis

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Intellectual Property Right is the result of human intellect. It can broadly be divided into two sects. The first sect including copyright and related rights. The second sect in comprising of industrial property i.e., patents, trademark. The IPR has extended to include Trade secrets, within its ambit. The expansion in the scope of IPR has directly been proportional to the growth of the world. Publicity right is postulated to be another such extension of the scope of IPR. The reason for postulation lies within various theories, such as Labour theory, utilitarian theory. It is conjucted that a person takes efforts and use their intellect for the development of their personality. The right gives the power to a person to own and regulated, when and where their pictures, will be utilized. The right is not limited to pictures only, it has expanded to include other aspects of the persons, like their names, voice, signature, i.e., every indicium of a person's personality which can directly be linked with them. Many countries have recognised, publicity right as a new branch of Intellectual property right. The relationship between the publicity right and different aspects of IPR shall be examined with the perspective of India. A comparative analysis with USA, shall be conducted in this article.

Keywords: Intellectual Property, IRP, Labour theory

Dynamics of Intellectual Property Rights Regime in India

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Intellectual property rights (IPR) are critical in enabling long-term innovation. IPR plays a good function in promoting sustainable innovation. Globalization is a major force at the turn of the millennium, and intellectual property has become an integral aspect of global civilization, particularly as the countries move toward a knowledge economy. How knowledge is governed and managed and who has access to it will decide how well this new economy functions and who uses it. A dynamic Intellectual Property Rights system, which provides a sense of security for intellectual works, is necessary for sustainable development. This paper outlines various Indian laws, international conventions and rules on intellectual property rights in India. Various statutes guarantee a person the right to protect his intellectual work. The sacrosanct fundamental rights enshrined in the Indian Constitution protect and incentivize innovation. India is a party to various international regimes of Intellectual Property Rights. Various forms of Intellectual Property rights often intermingle with each other. The paper takes help from various statutes passed by the Indian parliament and Conventions formulated at the international level. This paper is a sincere attempt to explain various legal protections for intellectual property. There is a thorough analysis of these protections in the latest global developments, and necessary modifications are suggested.

Keywords: Innovation, Legal System, Intellectual Property Rights, Sustainable Development, India

Geographical Indications as a Tool of Economic Development

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A Geographical Indication (GI) defines a product as being from a certain place, when the product's quality, reputation, or other attributes are largely related to its location. GI is a collective property, not a private one. It can be registered by an organisation representing the interests of a group of people in practically all nations. Although the issue appears to be confined at first glance, it encompasses rural development, environmental sustainability, environmental consequences, consumer awareness, and many other topics. GIs are especially beneficial to agricultural product producers since they allow them to differentiate their products from common commodity items like rice, coffee, and tea, allowing them to get market access. The topic aims to study the rationale behind development of Geographical Indications and how Geographical Indications act as a tool of economic development. In terms of economic development, it is crucial to note that this development is the consequence of economic growth linked to higher living standards and some key variables in the population's economic and social structure, which encourages a more equitable distribution of income generated. The paper also focuses on social economic importance of Geographical Indications.

Keywords: Geographical Indication (GI), environment, economic development

Interplay between IPR & RTI with special reference to Patent Law in India: Un Unfolding

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Open government, accountability, transparency in administration and right to information are considered the foundational tenets of democracy. Right to Information Act, 2005 ensures transparency, accountability and public participation in the governance of the country. Every citizen of the India is authorized to seek information in relation to public and private authorities under the law. On another hand, Right to Information Act, 2005 exempts information related to IPR from being disclosed but not absolutely. Although, Paten Act, 1970 also provides information dispensation mechanism. This paper is to unfold interplay between information dispensation mechanisms under Right to Information Act, 2005 and Paten Act, 1970 and to suggest suitable information dispensation mechanism in relation to intellectual property.

Keywords: Disclosure of Information, Information Dispensation Mechanism, Patent Act, 1970, Right to Information 2005, Intellectual property

Examining the role of IPR'S in E-commerce Industry

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Over the decades E-Commerce has turned out to be a rapidly augmented business industry in the Indian economy. Electronic commerce (e-commerce) as a part of information technology became widely used business tool in the world trade as well as Indian economy in particular e-commerce is paradigm shift which provides various facilities to not only consumers but also to the sellers in form of availability of goods and services at lower buying and selling costs, wider choice and time saving. E-commerce is growing rapidly across the world. Intellectual property rights play a very vital role in the field of E-commerce industry. This abstract will also explain you how your favourite shopping websites are protected under Intellectual property rights for e-commerce. An intellectual property right in e-commerce is one of the extremely valuable constituents of e-commerce. IPR stands for intellectual property rights – These are the rights that enable a person to secure the recherché innovations and ideas that are yet to be executed or are in the due process of practical implementation. The person is then allowed to use his/her resources at their potential dispersal with complete or no or preferred discretion for a certain interval of time. Under the parasol of these rights; inventions, art work, literature and fiction work, symbols, images that can be efficaciously used to generate trade in e-commerce are included. It was the Paris Convention (1883) that brought upon the foci loci for the protection of Industrial property pertaining to these very vicarious rights. All the Intellectual property rights related matters are covered under the administration of World Intellectual property organization (WIPO). Despite its significant value in the market, most of the people have neglected the importance of IPR's and its connection with the e-commerce. E-commerce typically involves selling of products, goods and services based on intellectual rights and its licensing. In the digital market, today there are so many things that can be traded through e-commerce platform like music albums, photography, artistic work, literary works and many more things etc. IPR is very crucial in the protection of all these goods. The role of IPR in e-commerce is clearly visible in today's digital economy. Fair and ethical acquiescence of the digital practices and activities can only be achieved with the Effective Intellectual property rights that act as a watch dog in the digital market because e-commerce is a very dynamic and diversified field. An intellectual property right in e-commerce protects the businesses that are operating on online platforms.

Intellectual property rights help the e-commerce trading companies to safeguard and maintain their trade activities secrets. IP rights in any e-commerce activity that has undergone innovation allows the IPR holder to claim a share in the profits of the company operating online. However, the success of Intellectual property rights depends upon the effective implementation of IP rights.

Keywords: E-commerce, Digital platform, global economy, Indian economy, Internet, online

Sustainable strategies to condense post-consumer textile waste: A Review

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Tons of unsettled textile waste at the consumer end has drawn the attention of many fashion brands in the past decade. The low rate of recycling and lack of other effective alternatives to manage this waste have considerably added more post-consumer textile waste than recorded at landfills. Overconsumption of apparel and their swift disposal merely due to behavioural change to fashion has not only accumulated landfills but has elevated public health and environmental concerns. Fast fashion as it is called feeds on low-price manufacturing, recurrent consumption, short-lived garment use, and unethical work environment. Consumers are seen showing the least concern to the social and environmental impact of their purchase over economic benefits and instant satisfaction. In order to retain the earth's capacity to support life, many brands across countries are pushed to work towards a zero-waste target and introduce sustainable practices throughout the supply chain. This article reviews the literature on the approaches taken by different fashion brands in developed and developing countries to process consumer textile waste and how effective they have been to mitigate the environmental damages.

Keywords: Post-consumer textile waste, Fast fashion, Recycling, zero waste, Consumer behaviour

IPR and The Indian Fashion Industry: Challenges and Possibility

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The fashion industry is principally driven by creation and innovation. The connection that the Global fashion industry has with Intellectual Property Rights is well documented, however, in India, the comprehensive understanding of the link between fashion and IPR laws is still at a nascent stage. The big fashion houses are able to exercise control over their creations through the right choice of IPR laws but the local, smaller, and the emerging sector is more deserted in protecting their intellectual assets. Also, ignorance about IPR infringement among fashion firms and a lack of stringent reprimands from policymakers have provided the consumers with counterfeiting products, building confusion and devaluing creativity. This article is segmented into three major parts with an intention to shed light on the challenges encountered by small fashion firms, designers, fashion start-ups, and rural textile artisans with respect to protecting intellectual property. The initial segment will give a short insight into the IPR options like copyrights, design registration, patents, trademark, available for the fashion domain and their applicability, moving towards the specific challenges faced by the local design houses and craftsmen, and finally compiling the possibility of amendments required in IPR laws for the Indian fashion, apparel and handicraft sectors.

Keywords: Intellectual Property Rights, Indian Fashion Industry, Textile Crafts, Copyright, Patent, Trademarks

Media Usage of Urban and Rural in Nagaland

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The variance in adopting innovations can be seen through the consumption of media by Urban and Rural population. The behavior variable among the rural and urban consumers differs in the line of infrastructure, income, lifestyle and interaction. There have been ineffective and counterproductive outcomes in communication system due to the lack of understanding the complexity in social behavior of the end-user consumption pattern (Servaes, 2008). This paper uses qualitative method to examine the difference in use of media by the Urban and Rural population. The study will focus on Nagaland state located in the Northeast of India inhabited by rural population of 71.14% and urban population of 28.86%. Radio is one of the prominent-medium of mass communication for development with its diverse segments of programs and languages having considerable penetration in urban and rural areas. Advancement in technology may have brought out broad range of communication medium, yet in terms of accessibility for population that lacks access to information technologies, radio coverage is omnipresent. The study will examine the diffusion of innovation through Radio and enunciate the level of penetration of radio in rural and urban population.

Keywords: Radio, Diffusion of Innovation, Urban Rural Development, Development Communication

Tax on Transferring Intellectual Property Rights

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As a commonly known fact, Intellectual property rights are the rights acquired by a person while using his own intellect. These are not the tangible rights but are the intangible rights. The components of IPR include copyright, design, trademark, patent etc. These are considered as property or asset for the purpose of levy of taxation. The government is entitled to levy tax as per a predefined system of taxation. When the intellectual property is transferred either as sale, assignment or granted on licence, it invites levy of capital gain tax. In case of transfer of an asset Income tax is leviable for the income computed under the head 'Capital Gain' at the prescribed rate of taxation. It depends upon the period of holding of Intellectual property. The capital assets are divided into two categories: long term capital asset and short-term capital asset. Accordingly, the profit is categorised as long term and short-term capital gain. Within the Taxation Act, provisions are available to claim benefits of cost incurred on acquiring or improving the asset, this will ultimately reduce the tax liability of the person. Benefit of cost inflation index can also be claimed by the person to reduce tax liability. In this paper the doctrinal analysis of Income Tax Act, 1961 has been made with reference to taxation of capital gains on IPR.

Keywords: Intellectual property rights, Income Tax Act, 1961, capital gain

Sustainable Planning Strategies for River Restoration: A case study of Musi River, Hyderabad City

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Sustainable Development is the need of the hour which can be achieved by balancing various Social, Physical and Economic factors. Rivers are an integral part of cities since ancient times and the research aim at restoration of these essential Physical features. The study comprises of analysis of the physical and hydrological features of the river and how it has changed through time and its impact on the river course. Identification of issues that are resulted due to rapid urbanization like untreated waste, dumping of Municipal Solid waste Solid waste, encroachment by surrounding areas is also studied. These studies are used to frame strategies that can help in the restoration of the river to its natural course and improve the river quality. A case study of the Musi River in Hyderabad has been undertaken and the Analysis is based on the pollutant sources which are causing the river degradation and identifying the gaps in the current infrastructure further, short term and long-term strategies are proposed for treating the sewage. The regulatory strategies for cleaning up the river and nalahs, various Environmentally friendly techniques and recommendations are provided according to the study.

Keywords: Sustainable Development, Solid waste, Musi River

Effect Of Multimedia on Achievement in Social Science at Secondary School Level

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This study examined the effect of multimedia on achievement in social science at secondary school level. The study adopted pre-test and post-test with reference to group i.e., control group and experimental group. The population of the study consists of 100 students selected from IX class at secondary school level affiliated to C.B.S.E. The experimental design was used. To measure the achievement, achievement test in social science was used as research tool. The study was delimited to IX class secondary school students affiliated to C.B.S.E only. Experimental group was taught social science with multimedia, the control group was taught social science through conventional method. The data was analysed with the assistance of statistics namely descriptive statistics, inferential statistics and graphical representation. The results of the data revealed that multimedia significantly enhance the achievement in social science of IX class students as compared to those taught with conventional method. It was recommended that more use of multimedia in classrooms significantly increase in academic achievement than conventional method. It produces effective and efficient teaching and learning process.

Keywords: Multimedia, Conventional Method, Achievement in Social Science, Experimental Group, Control Group, Secondary School Level

The Classroom Management Skill Among Pre-service and In-service Teachers, Their Challenges and Recommendations: Meta Analysis

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Classroom management skill is essential for a teacher to possess in order to promote active learning in the classroom. Classroom management skills aid to improve learning outcomes among pupils. Classroom management does not only involve discipline but teaching is a more essential element. Classroom management comprises a bundle of presumptions utilised in the organised classroom. It is embodied with formulated schedules, regulations and repercussions. Efficient classroom management enables the educators to keep engaging the pupils in the learning while in case of disorganised class it becomes difficult for the teacher to perform her tasks. A Teacher with strong classroom management skills creates consistency among his/her students, manages time and minimizes misbehaviour in the classroom. Several researches have shown effective classroom management leads to a Conducive environment for Academic achievement. The types of Classroom Management Style are: Authoritative, Authoritarian, Indulgent and Permissive. As per Baum rind (1971) the authoritative style uplift independent nature, is warming and supporting, controlling the environment with due explanation, and pupils are allowed to communicate their viewpoints. The authoritative style is the foremost form of classroom management style as it is the one of the most nearly related with apt student behaviour. As expressed by Martin and Baldwin (1993), three teacher classroom management styles can be discerned: interventionist, non-interventionist and interactionist. Both the teachers and students are most content when the classroom environment is created by a teacher who is interactionist. Student achievements are at its peak when the teachers exercise interactionist style and when the teachers are interventionists the student achievement is least. The objective behind this analysis is to find out that classroom management skills have been implemented by pre-service student teachers and in-service teachers in primary, secondary and some institutions of higher learning, their challenges and recommendations as suggested by various researchers. The analysis is drawn from 50 research Articles.

Keyword: Classroom management skill, pre- service and in- service teachers.

Ecological And Societal Advantages of Precast Concrete Technology

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Precast/prestressed concrete construction has been promoted over the past half-century on the premise of cost savings in materials and labour, increased product and craftsmanship quality, and construction speed. Contractors' familiar with precast technology have typically relied on this style of building with great success for solely economic reasons. However, in recent years, pre-cast concrete industry has taken on a whole new meaning in terms of its social and environmental implications.

Keywords: Precast Concrete Technology, ecology, environment

Investigation On Different Novel Methods of Preventing Foreign Object Debris

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FOD, foreign object debris is a forever bane for the aerospace industry. It always challenges the aviation sector by causing misfortune, accidents, casualties and creates harsh environment for operating. FODs include all the foreign substances that can cause damage to an aircraft such as damage to the aircraft parts, engine failure and personnel injury. Approximately, 200 cases of foreign object damage have been reported to the Aircraft Accident Investigation Bureau, India under DGCA from last one decade causing an enormous amount for the maintenance works. Based on Federal Aviation Authority (FAA), FOD is known as hazard element that can severely harm the aircraft, personnel, and aviation equipment. Foreign Object damage, on the whole occurs due to bird strikes, hail, ice, sandstorms, ash clouds etc. As FOD is a prominent concern for the field of aviation, it is foremost to realize the scenario and figuring out a course of action for the depletion of FOD. Here, in this state of affairs, this paper deal with the methods of preventing FOD from causing serious vandalization to the aviation industry.

Keywords: Foreign Object Debris, Federal Aviation Authority. Foreign Object damage

Patentable And Non-Patentable Inventions

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Patent is a form of intangible asset and a type of intellectual property that provides patent rights to an owner for a new product or process involving an inventive step and capable of industrial application. The patent rights are territorial in nature, and hence one needs to apply for a patent in each country based on the respective patent provisions in that country. To get a patent right, the three patentability criteria that one needs to satisfy in most of the countries are, novelty, non-obviousness, and industrial applicability. Apart from those criteria, one needs to check whether that invention can qualify as a patentable invention as per the patent provisions of that country. Most countries in their patent provisions provide a set of inventions that are not patentable. In India, section 3 and 4 of the Indian Patent Act 1970 deal with, what inventions are not patentable. The most common non-patentable invention objections by the Learned Examiner in the first examination report by the Indian patent office are inventions related to algorithms, mathematical methods, business methods, computer programs per se, abstract ideas, mere aggregation, or duplication of devices. The patent applicant should properly understand the nature of the invention and accordingly select a suitable intellectual property for protection. The patent application, especially patent claims, should be properly drafted after foreseeing the patentability criteria and non-patentable inventions in the country of protection.

Keywords: patentable, non-patentable, invention, patentability, Patent Act, India

Review On Liquid Propulsion Engine Patents

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Rockets have been powered using several propulsion systems over the decades. Majorly these have been classified on basis of the propellants used i.e., Solid Propulsion Systems, Liquid Propulsion Systems and Hybrid Propulsion Systems. But over the whole engineering timeline, the Liquid Propulsion Engines have been the most efficient with the best performance capabilities as compared to another engine available for the same mission. Throughout the development, liquid propulsion engine has seen its different types and different classification based on its operating capabilities. Engineers and Researchers across the globe designed new systems under liquid propulsion and patented them. In this paper, we explore those design and review them under set of performance and usefulness criteria. The science behind extraction of energy from a liquid engine is stated here for different types of engines designed until now. After comparison of different patent on basis of their operating cost and performance factors, a scrutiny of an ideal engine is explored with the help of raw data availed from these designs

Keywords: Solid Propulsion, Liquid Propulsion, Patent

Review On Past Developed Nuclear Reactor Patents

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A nuclear reactor, formerly known as an atomic pile, is a device used to initiate and control a fission nuclear chain reaction or nuclear fusion reaction. It is one of the processes in which pollution produced is very low if radioactive waste is neglected. The energy produced in this process is in heat, which is further converted into electricity by boiling water and running it on turbines. For the past 80 years, Reactors are under rapid development from the reactor made by Enrico fermi ‘Chicago pile – 1’ to the advanced 4th generation reactor. Soon after pile1, another reactor was established in the Manhattan project for the production of plutonium for nuclear weapons then first use of the reactor as a power plant was done in Idaho, they called it ‘Chicago pile 4’. In 1951 Soviet Union built the first civil purpose reactor power plant. After years of progress, we achieved stable, efficient reactors by learning from deadly mistakes like the Chernobyl blast of Pripyat of 1986. During these whole-time developments were made by many people like Fermi, Szilard, Walter Zinn, Albert Einstein, and many more. Today world has established around 440 nuclear power plants generating 10% of the world’s energy making it the 2nd largest electricity source of low carbon emission and 22 of them are present in India making around 6780 MW of energy. In the ongoing research, we are trying to achieve a stable fusion reaction in reactors. Fusion is a more efficient process than fission as waste generated is low and energy produced is very high. In this paper, we will be reviewing machine patents around the globe focusing on the nuclear reactor.

Keywords: Nuclear reactor, fission, fusion, atomic pile, radioactive.

A comprehensive review on Recent Innovation in Drones and its Application

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Self-destruction is a mechanism that can cause an object to render itself inoperable or to destroy itself after a predefined set of circumstances have occurred. This mechanism is typically found in devices and systems where any malfunctions could endanger livestock and recently its application has seen a severe upsurge in various industries. Land mines, Military ships, Deep-sea oil drilling, Data storage etc. already use self-destruction to serve their missions. Lately, Drones are being pushed harder than ever to attain the greatest levels of dependability and safety. Aerospace industry is undergoing a significant shift in terms of scope and size. Whether it's a cruise missile, a rocket, or simply a basic data storage device, self-destruction mechanism is at the forefront of the Aerospace sector. Accepting the notion that drones can be programmed to self-destruct mode goes against Asimov's third law of robotics, which states that self-defence is required as long as no human is harmed and commands are followed, but not pertaining the same has a lot of applications which overpower a regular drone i.e. military operations, surveillance mapping, drone attacks on hostile installations, disposal of harmful chemicals or nuclear waste, formation of an antigen cloud over the places hit by infections etc. which shall be discussed in detail in this paper.

Keywords: Drones, Robotics, Data

Development and Validation of Cyberloafing Scale

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Teachers bear multitasking responsibilities on their shoulders. Amidst that personal usage of mobiles during working hours can lead them astray from their tasks. This study is done for development and validation Cyberloafing scale. The present study was done on three hundred university teachers of Punjab (India). A four-factor structure was explored through exploratory factor analysis (EFA) and further confirmed by the results of confirmatory factor analysis (CFA) having good model of fit. The scale is applicable on university teachers to assess their Cyberloafing Behaviour.

Keywords: Cyberloafing Scale, confirmatory factor analysis, exploratory factor analysis

Significance of Intellectual Property Law in Sports

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Intellectual property is a type of property that includes human creation. When human creates something with the application of mind, then there are certain rights that are given to a person to protect its creation. For a period of time, exclusive rights are given to creator over the use of creation. In most countries, intellectual property rights are strictly followed. Patents, copyrights, trademarks and trade secrets are some of the kinds of intellectual property rights. These rights are important for the country because it protects the ideas of human creation like research, innovation, and technology. The commercialization of sports means that commercialization covers production, distribution, marketing, sales, customer support and other functions. The sports business has developed at a fast speed over the course of the time due to huge popularity in specific sports in India. The form of gentleman's game cricket has been changed now into a business sport. Huge capital speculation is the requirement of this game these days so that benefits may come out of it. Due to huge investment of sports associations and clubs in sporting events, the protection of intellectual property is required to protect not only the interest of investors but also of sportspersons. If intellectual property rights are infringed, then, it can lead to damage to the goodwill resulting into massive commercial losses. This situation will ultimately affect the overall development of the sports industry. Hence, it is essential to protect and enforce intellectual property rights in the domain of sports so that a prosperous commercial ecosystem for sports can be created.

Keywords: Copyrights, Designs, Domain Name, Intellectual Property, Patents, Trade Marks, Trade Secrets, Sports

Study of drag impact on grid fins through Computational Fluid Dynamic (CFD) analysis

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Grid fins are control surfaces that are positioned perpendicular to the rocket body's surface and are controlled by actuators. These lattice-like structures are commonly employed for stability in rockets and missiles. It was created by the Russians in the 1950s and has been employed in various Soviet rockets since the 1970s; these grid fins provide greater stability than conventional planar fins. When compared to the latter alternative, the lower chord length of this lattice construction makes it less prone to stalling at higher angles. Shock waves are created at transonic speeds at the rear of the grid or the lattice structure of the fin, which chokes the flow of air through the lattice structure. This creates a tremendous amount of drag. To address these shortcomings, the industry has proposed a sweptback grid fin arrangement. We intend to analyse in depth the essential structural design of the lattice fins impacting the flow of free stream air using Computational Fluid Dynamic (CFD) Analysis by investigating it from multiple viewpoints in this work with already patented work in the market.

Keywords: Computational Fluid Dynamic (CFD), lattice, shock waves,

Protection Of Traditional Knowledge in India and Brazil: A Comparative Analysis

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Traditional knowledge holds lots of importance for people in many countries, specifically in southern countries of the world. It is preserved by the indigenous communities for ages and is a part and parcel of their ways of living life. However, this knowledge is also being used by developed countries and in most cases without giving any benefit to the original holders of such knowledge. This stealing of TK is known as ‘biopiracy’ and most of the diversity-enriched countries are affected by this problem. Brazil and India are also victims of biopiracy. Both countries, situated in the southern hemisphere, are super-rich in biodiversity and have always been the hotspot for the bio-piraters. Though both countries have their laws for the protection of TK, biopiracy is still persistent and is difficult to control. The authors in this paper have analysed the concept of biopiracy concerning India and Brazil. A comparative analysis of the laws in both countries has also been done along with the gap that exists.

Keywords: biopiracy, traditional knowledge, indigenous communities

Recent Developments in Metal Complexes of Gallic Acid and Its Therapeutic Use: A Patent Review

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Metal complexes in today's world are being used in many medicinal industry projects because of their efficiency in treating various life deficient disease such as carcinomas, infection control, anti-inflammatory and neurological disorders. These metal complexes are readily used as biomarkers or as therapeutic agents. This patent review covers the synthesis, characterization and therapeutic use of the metal complexes of gallic acid till date. The review gives insights about the types of metal complexes synthesized. The period of review is 2017-22.

Keywords: Gallic Acid, Patents, biomarkers

Lupeol: An Alternative Approach Towards Cancer Treatment

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Cancer is a broad word for a group of neoplastic illnesses defined by changes in a cell's structure that cause it to proliferate abnormally. There are about 200 cancers detected in human body. Each type of carcinoma has different indications and symptoms, as well as different treatments. Lupeol 280 mg/g dried leaves is a chemical component found in aloe leaves. Lupeol is a triterpene active in both food and medicine. Over the last decade, an unprecedented massive increase in involvement in triterpenes as a result of their cholesterol-lowering properties. The products based on triterpene are commercially over sold in the world due to its heavy demand of use. Fagarsterol another name for the chemical lupeol. It's found in foods like *Brassica oleracea var. capitata*, *Capsicum annuum Group*, *Fragaria*, *Olea europaea*, *Mangifera indica*, *Vitis vinifera*, *Aloe barbandesis miller*, Semal tree etc. Lupeol was already demonstrated to be an efficient curative and protective constituent for a wide range of disorders. It is an anti-carcinogenic and curative compound. Many developments have been so far with respective lupeol dosage formulation to increase bioavailability and pharmacological effect. This manuscript also provides deep inside of recent patents associated with lupeol in past decade.

Keywords: Cancer, Leukaemia, Lymphoma, Myeloma, Lupeol, Treatment

Advanced Oxidation Processes for Treatment of Wastewater

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Urbanization over the decades has resulted in the gradual depletion of water quality. As several industries (pharmaceuticals, textile, processed foods and many more) started developing, the wastewater has been continuously generated. Most common pollutants in wastewater are the organic compounds from different sources. These organic compounds are hard to be degraded only by the anaerobic bacteria as some of them are non-biodegradable. These can be very much persistent due to their molecular structures. In order to treat wastewater containing trace organic compounds (TrOCs), several advanced oxidation processes (AOPs) have been investigated. These are namely: Photocatalytic oxidation, Photolysis, Ozonation, Fenton oxidation etc. This review paper focuses on the implementation of different AOPs for the degradation of TrOCs. Each AOP follows some specific mechanism under certain conditions. Although, the mechanisms are different but the basic idea is the generation of reactive oxidation species (ROS) such as hydroxyl radicals and sulphate radicals etc. High efficiency, rapid oxidation rate and no secondary pollution are the advantages of AOPs. It has been observed that compared to using a single technique, various combinations of AOPs have resulted in better oxidation of the pollutants. This review includes how the ROS is generated and what is the degrading efficiency in each AOP. And what are the different factors that affect the oxidation rate.

Keywords: Wastewater, AOPs, ROs

Regulation of Non-Morphological Aspects of Plant Varieties

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There is a huge international demand for protecting plant varieties based on their traits. As of now morphological distinctiveness measures are prevalent in order to provide protection for plant varieties. New technologies such as gene-editing techniques are evolving rapidly, with no morphological distinctiveness. Such technologies are creating hurdles for the regulatory authorities. In many countries such as India and EU, there is no clarity on what method of identification should be accepted with regard to genotyping examination of plant varieties. These un-certainties are required to be clarified otherwise it will hamper agriculture innovation, international trade, product development, food security and sustainability. UPOV has recognized the use of DNA markers for determining DUS (Distinctiveness, Uniformity, and Stability) criteria. These molecular markers are characteristic specific which have their own different advantages. But, now, the advanced technologies such as Gene editing are tailored for VCU (value for cultivation and use) traits, which are morphologically same but their gene settings are altered and the desired quality is produced in a particular plant species which could've never existed if no alteration would have been made. Still, many plant variety protection (PVP) systems ignore them for technical examination of candidate variety to get registered.

In the current paper, we will be comparatively analysing Indian PVP system. By examining the different jurisdictions such as Australia, US and EU for finding out whether current Indian PVP regulatory system is sufficient to protect such high technological and VCU oriented plant varieties.

Keywords: Non-Morphological, DUS, PVP

Pyrrolidine derivatives as Antibacterial Agents, Current status and future prospects: A patent review

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Bacterial infections now exemplify serious worldwide health complications, with growing incidence and death. According to the most complete estimate of the worldwide impact of antimicrobial resistance to date, more than 1.2 million people – and potentially millions more – died in 2019 as a direct result of antibiotic-resistant bacterial illnesses. Most conventional antibacterial agents are resisted by bacterial pathogens as a result, the discovery of newer prospective therapy candidate(s) against the broad-spectrum bacteria is important. The majority of antibacterial medications have been linked to a variety of side effects and dangers, which include financial costs as well. Pyrrolidine derivatives have attracted a lot of attention from researchers who are hoping to develop new synthetic compounds that are devoid of severe flaws and downsides. To fill the research gap left behind, we review the synthesised compounds with active Pyrrolidine scaffolds, key discoveries in this area and most importantly the structure activity relationship (SAR) that effects the activity of the ring. We looked at the most important published documents in the relevant field from the last one decade.

Keywords: Pyrrolidine, SAR, Antibacterial Agents

Patenting of Pharmaceutical Solid-State Forms: A Review

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A patent is seen as a significant motivator for technological progress and innovation. Since it is an official document, it provides legal protection for the invention, the exclusive right to sell, use, develop, and/or manufacture the patented product and also the honor of being the first to do so. The pharmaceutical sector is a major player in patent system which contributes to roughly 80% of its revenue and also offers protection to the innovative approaches used by them. Out of several types of patents claims relevant to pharmaceutical industry, 'composition of matter' patents is the most sought after and considered valuable primary patent to protect the marketed drug. However, in the pharmaceutical industry, where drug inventors are under the pressure to reduce the cost of discovering and producing useful new drugs, they use evergreening or second-generation patents to extend the life of their monopoly on that drug beyond the terms of the patent. These patents are designed to protect a drug with some form of improvement or variation after its initial patent has expired. The second-generation patents can include different solid forms of the existing drugs such as polymorphs, solvates, salts, cocrystals, amorphous form. For the patent to be granted on these forms, certain criteria need to be fulfilled. This short review highlights regulatory prospects and patentability issues surrounding these pharmaceutical solid-state forms.

Keywords: Patents, Pharmaceutical, Polymorphs, Solvates, Cocrystals, Salts, Amorphous forms

Therapeutic Potential of *Pogostemon cablin* Herb-A Comprehensive Review

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Pogostemon cablin (*Pogostemon Patchouli* or Patchouli) is a plant known for its essential oil which is exceptionally valuable in perfumery because of its predominant scent. Patchouli plant is a commonly used medicinal herb in the Indian Ayurveda and Traditional Chinese Medicines. The literature on therapeutic potential of this herb was collected using a thorough, comprehensive search on non-patent and patent databases. Literature obtained was critically reviewed, with a focus on the therapeutic value of various compounds obtained from this herb, as well as its composition with other plants. In this review, patent publications on therapeutic activities of the *Pogostemon Patchouli* plant are described. Despite the vast number of review articles on non-patent literature, none of the article reviewed the patent literature. The significance of the patent literature lies in the fact that this is indicative of the new inventions/innovations related to that particular area. This current *Pogostemon cablin* literature analysis study will facilitate in bridging the gap between further exploring the potential of this plant through novel investigations.

Keywords: *Pogostemon cablin*, *Pogostemon Patchouli*, *Herba Pogostemonis*, Patchouli, anti-bacterial, anti-viral, anti-tumour, skin problems, anti-ulcerative, anti-gastritis and anti-Influenza

TRIPS-plus agreements and the increasing challenges to Public Health in developing countries: A Critical Analysis

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Doha Declaration had made provisions where developing nations could circumvent a few provisions of the TRIPS agreement to ensure the public health and promote access to public health. While the debate around the challenges posed by the TRIPS agreement to the objectives of public healthcare is subsisting despite the Doha declaration, several developed nations are undoing the various advances made for the promotion of public health through the stringent provisions which are termed TRIPS-plus terms. These stringent terms are being promoted by the developed countries through bilateral and regional trade agreements. The developed countries had earlier achieved a common standard for Intellectual Property Rights across the world through the TRIPS agreement and are now moving a step further through these agreements for stronger IPR protections. The bilateral agreement between a developed and a developing nation creates an unequal balance of power between the parties where the developing nation could be coerced into agreeing on the stringent Intellectual Property Rights provisions foregoing the privileges gained through the Doha Declaration. While the developing nations had collectively ensured their interests through the Doha Declaration, the same are being individually foregone through these bilateral agreements. There is a need for developing nations to form strategic regional and international alliances to counter the balance of power while dealing with developed countries. The authors through this paper aim at addressing the issues which could be posed by the imposition of these TRIPS-plus terms on public health in developing countries and the consequent denial of access to cheaper medicines.

Key Words: Intellectual Property Rights, TRIPS, Doha Declaration, public health, patents etc.

Getting Prepared for the Fresh COVID19 Wave:

Chemical Oxygen Generator for in a Resource Poor Settings

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Regular supply of pure oxygen is the need of the hour especially during the COVID pandemic. The cost of such oxygen supplies brings in an unwelcome burden on the national economy. There is a requirement to identify an alternate source of oxygen generation with readily available raw materials which can ensure its cost effectiveness and last mile oxygen availability through independent generation capabilities.

Chemical generation of oxygen has been the go-to technology for portable oxygen generation. However, it has been uneconomical for commercial applications. We have designed a chemical oxygen generator that does not require compressed gas & works on the principle that Sodium per carbonate (SPC), dissociates into sodium carbonate and hydrogen peroxide. Hydrogen peroxide interacts with catalyst MnO_2 and decomposes to produce oxygen. A cast iron tank with a reaction chamber at the bottom is fabricated where upper tank consists of water and space for storing gases. The flow of the water is regulated to control the speed of the reaction.

The chemical mixture of sodium percarbonate and manganese dioxide is tightly packed in a cloth bag. Oxygen release valve is kept at the top of the tank which is connected via a pipe to the standard oxygen flow meter to check the quantity of oxygen as well as the oxygen mask for the patient.

This equipment, has a definite potential to be the **game changing indigenous solution for production of oxygen** in the fight against COVID especially in remote and difficult to access areas as well as areas without electricity.

Keywords: Covid19, Oxygen generation, Chemical oxygen generator, Sodium percarbonate

A Prototype for Free-Choice Resistance Screening Against Storage Insects

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The use of standard and reliable screening methods is an important pre-requisite for an effective insect resistance breeding program in agriculture. Host plant resistance studies employ suitable screening techniques and vary *w.r.t.* different crops and insect pests. Resistance evaluation of seed samples against storage insect pests requires artificial infestation and the use of both free-choice and no-choice tests are recommended for better results. "Free-choice" test is mainly appropriate for eliminating highly susceptible samples from a large number, whereas "no-choice" test is suggested for confirming the resistance status of the selected samples from "free-choice" test. Using this prototype, 187 seed samples (Recombinant Inbred Lines, RILs) from a cross between two pulse crops (*Vigna radiata* and *Vigna umbellata*) were evaluated for their resistance against bruchid beetle (*Callosobruchus maculatus*), a serious stored insect attacking all the pulses. 90 samples were evaluated subsequently. Samples with more than 50 per cent seed damage were eliminated, whereas those with ≤ 50 per cent damage (47.06 % of the total samples) were subjected to the standard "no-choice" test for resistance verification. Samples were then grouped into five categories based on seed damage, as completely resistant (CR: 0%), resistant (R: 1-9%), moderately susceptible (MS: 10-69%), highly susceptible (HS: 70-99%) and completely susceptible (CS: 100%). For further insect resistance studies, it is anticipated that this prototype design (or concept) will be exploited for allied studies including field insect pests.

Keywords: Resistance screening, free-choice test, host plant resistance, bruchid beetle

Green Synthesis of Metal Oxide Nanoparticles

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Nowadays, green chemistry approach for the synthesis of nanoparticles is acquiring huge interest as they are less toxic, less polluting, comparably inexpensive and safe for human being and the environment. At present, most of the conventional methods are being used for the synthesis of nanoparticles are affecting the human health and environment. Majority of these methods are not only unsafe and expensive; they are consuming significant amount of energy as well. This review paper will mainly describe about the metal oxide nanoparticles (ZnO, TiO₂ etc) using various plant extracts (e.g., Azadirachta Indica, Lactobacillus Planta rum etc). They are inexpensive and biocompatible as well. Nanoparticles of TiO₂ has plethora of applications in numerous industries such as cosmetics, food additives and also it exhibits good photocatalytic activity. Nanoparticles of ZnO exhibit properties such as high catalytic activity, wound healing and has applications in biomedical field. AgO nanoparticles are used in sensors, photovoltaic cells, catalysis and in various other purpose.

Keywords: nanoparticles, Green synthesis, oxides

Analysis of COVID-19 Technology Transfers Through the Lens of TRIPS Interactions to Indian Law and Competition Policy

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The technology transfers have been the crux of development of Intellectual property rights as well as the competition regime across the globe. The rise of COVID-19 crisis in the world led to revisiting of the TRIPS understanding again to the developing countries. The present research explores the scenario of technology transfer during the times of pandemic (COVID-19) as a specific set of technology transfer which affects developed and developing countries in a distinct way. The present paper intends to clarify position of TRIPS agreement in view of technology transfers specifically in (COVID-19) pandemic situations. Secondly, this paper also addresses the problems of delay in negotiations while transferring technology within the existing TRIPS Agreement in order to find out the balance between Intellectual Property Rights and Access to Medicine during pandemic. Finally, present paper addresses the problems and recommendations for developing countries for their patent waiver through TRIPS implementation rapidly.

Keywords: COVID, TRIPS, Intellectual Property Rights

Role of Spiritual Intelligence on the Mental Health of learners in Digital Transformation of Education: A Review of Literature

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During COVID-19 pandemic, Schools shut across India as part of a national lockdown in March 2020. Due to which many schools, universities and colleges switched to online mode, to continue education as it plays a pivotal role in building the nation and is an essential right for young children and Adults. In the beginning, this change felt rather very enticing for the students with not having to rush for reaching the institutions and being in the comfort zone at homes. But this peace did not last for long. Technological advancements have dynamically altered the manner people use to live, learn and communicate. This digital transformation of education took a massive toll on the mental health of the students. The basic aim of education is to educate persons who receives and revert back to the society in a meaningful and constructive manner. To achieve the above aim, the students should possess the capability to generate inner synergy and build a socially relevant purpose in life i.e., Spiritual Intelligence. It is the intelligence that enhances potentialities, competencies and skills of the individual to become an achiever and emotionally intelligent to resolve the daily issues creatively and constructively in the dynamic situations. The current study is an effort to convey the role of spiritual intelligence on the mental health of the learners in the phase of digital transformation of education on the basis of literature reviewed.

Keywords: Spiritual Intelligence, Mental Health and Digital transformation.

Health Status of Women in Border Area of Jammu and Kashmir With Special Reference to Maternal and Reproductive Health

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To provide basic fundamental human right to every human being is considered to be as gender equality. Health refers to be complete social well-being of an individual. Women health is always being a matter of concern in every society especially maternal and reproductive health. There are social factors that lead to become more significant for the maternal health like age, income, education, geographical terrain, nutritional status and social class. Jammu and Kashmir, union territory to be going through political turmoil and insurgency that has put its marks on the health, particularly on women. The general health issues of women are aggravated further by the ongoing conflict in the state. However, in border areas women suffer a lot with respect to their health. They are not getting proper maternal and reproductive care which has to be needed. They face many serious challenges and almost bear discrimination in all indicators of health status and are easily vulnerable to any social change. Moreover, they experience restrictions on their mobility and social interaction, feel unsafe and discrimination because of turmoil. There is dearth of health infrastructure in border areas of Jammu and Kashmir. Notably, social circumstances play a vital role in deciding women's health like early marriages, consequences of anaemia, malnutrition, reproductive tract infections, menstrual and menopause challenges and so on further add to the women's woe. In response to that women lead to greater risk of mortality. Indeed, maternal mortality rate have become more alarming in border regions. To be concluded, it is said that health status of women is very poor and in a state of crisis. This work is based on secondary sources such as Books, Journals, Articles, Reports, and Census and Online sources. This Research Paper is striving to study the health status of women with the aim to illuminate the marginalization of women with respect to health in border areas of Jammu and Kashmir. The paper concludes recommendations are required to ensure equity, empowerment and inclusion of women for feasible improving health of women.

Keywords: Women, Reproductive Health, Turmoil, Border area, Health problems

Dehydrins: Stress Responsive Proteins in Wheat

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Dehydrins are well known for stress tolerant genes in plants but their structure and multitasking roles in plants are still unknown. In this study we have identified 50 dehydrin genes which encode for 50 different dehydrin proteins by analysing recently available wheat genome sequence from IWGSC. Identified proteins range from 9.65 kDa to 101.60 kDa. Nomenclature of proteins is done as TaDHN, Ta indicates Triticum aestivum while DHN indicated dehydrin following the molecular weight and chromosome number. Genome wide analysis has been done including domain analysis, phylogeny studies and gene structure analysis. While 37 TaDHNs are single domain proteins consist of single dehydrin domain, 13 other proteins have multiple domains which indicates towards constant diversity and multifunctionality of dehydrin genes. Subcellular localization of proteins was predicted, cytoplasm (36), secretory system (9) and nucleus (5). Gene structure analysis indicate that beside ORF, introns are also present in both 5' and 3' UTRs in almost all proteins. This study tends towards the function analysis of identified dehydrin proteins and future scopes tends towards their structural analysis and link between function and structure of specified proteins.

Keywords: Dehydrins, Wheat, Boiling Soluble Proteins, Dehydrin Proteins, Stress

Mathematical Modelling and Optimizing the Pneumatic Seed Sowing Device

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The agriculture sector is one of the most exploring fields and specially the research in advancement of the existing technologies and designing and developing of new technologies to solve the new and existing challenges has been one of the global requirements. Considering today's high agricultural demands and much need drastic growth in the agricultural productions, pneumatic seed sowing technologies can aid a lot in this sector easing the seed sowing and dispersion process making it easier, faster and efficient ultimately benefiting the crops yield. There are various pneumatic seed sowing devices designed, developed and brought into daily applications. However, considering the limited applications of the existing devices, this device has adjustable seeder's metering length with an adjustable dispersion nozzle which makes it capable of sowing seeds of different crops in compliance with desired seeding patterns and rates. The pneumatic sowing device works on creating the vacuum for sucking the seeds. The objective of the work is to design a virtual model, mathematically model it and optimize a pneumatic seed sowing device with adjustable dispersion nozzle, controlled sowing mechanism and controlled seeds dispersion rate.

Keywords: modelling, pneumatic, seed sowing

Mental Health of Students and Remote Learning

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This study manages the effect of Covid-19 on “mental health of students and remote learning”. Mental health was incorporated in the UN Sustainable Development Goals in September 2015. Sustainable expansion can't be accomplished without the consideration of mental health as a critical worldwide need. Mental health is quite difficult for worldwide advancement in itself, yet additionally impacts numerous other improvements focuses as a cross-cutting issue. A meta-investigation methodology was taken up for this review and applicable literature was visited to detain the concentrate of continued education during these unparalleled times. Institutions of higher education worldwide are affecting more and more towards E-Learning. Findings expose that student go through Depression, Anxiety, Stress and bad mental health due to this COVID-19 situation. There is need to concern about the mental health of students and aside from resources, staff readiness, confidence, student’s accessibility and inspiration play important capacity in ICT integrated learning. This paper additionally proposes online and remote learning as a necessity in times this COVID-19 pandemic.

Keywords: COVID-19, Pandemic, Sustainable Development, Mental Health, Technology, Online Teaching and Remote Learning

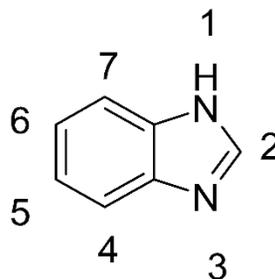
A Patent Review: Synthesis and Gigantic Pharmacological Properties of Benzimidazole Scaffold

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Throughout recent years, nitrogenous heterocyclic molecules have gained tremendous attention from medicinal chemists. Benzimidazole scaffolds appear to be prominent among the potential heterocyclic drugs. It is composed of imidazole (5 membered ring) assimilated with benzene (6 membered ring). There are a large number of pharmacological actions exhibited by benzimidazole and its derivatives including antifungal, antiprotozoal, antiulcer, anti-inflammatory, antiviral, antidiabetic, anticancer, anthelmintic, analgesic, antiulcer and anticonvulsant. Patent applications demonstrating a diversity of pharmacological activities of benzimidazole derivatives have been published in recent years. Many of these submissions have included the list of novel derivatives that had been designed by different substitutions on the benzimidazole core nucleus. A large amount of work is going on as well researchers focusing on this N-heterocyclic skeleton in drug development. The properties of the benzimidazole scaffold are dynamic to the synthetic strategy in the current drug discovery and design system. A summary of the pharmacological of benzimidazole derivatives described in recent patent history is included in this comprehensive review.

Keywords: pharmacology, Benzimide, antifungul



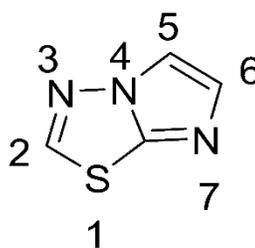
Therapeutic Charisma of Imidazo [2,1-b] [1,3,4]-Thiadiazole Analogues: A Patent Review

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In the early 1950s, imidazo [2,1-b] [1,3,4] thiadiazole was discovered, containing 4 heteroatoms such as 3 nitrogen atoms and 1 sulfur atom assimilated in two 5 membered rings. In the former decennium, this nucleus has focused significantly under consideration for the development of newer compounds due to its biological importance. It has been reported that these derivatives have multifarious pharmacological activities including anticonvulsant, antitubercular, cardiotonic, anti-inflammatory, diuretic, antibacterial and anticancer. In recent years, new patent applications escalating diverse pharmacological activities of these derivatives were published. Many of these submissions have been added to the list of new analogues designed by core pharmacophore modification. These analogues were discovered to inhibit several receptors and enzymes selectively. These compounds could be used as potential leads. In this review, we describe in detail the versatility of these derivatives throughout the recent patent literature.

Keywords: thiadiazole, imidazo, diuretic



Nanomaterials-Based Methods for Wastewater Treatment

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Water is one of the essential natural resources available on earth. All the living beings require water for their survival. Although 71% of earth surface is made of water, but availability of clean drinking water is very less. Nowadays most of the fresh water are polluted. Not only India, but other countries are also suffering from the same problem. Water pollution is the contamination of natural water bodies due to various chemical, physical, radioactive and pathogenic microbial substances. Rise in water pollution can lead to ecosystem unbalance, species mortality, decrease in availability of drinking water, and ecosystem unbalance. Water borne diseases are increasing day by day. Hence, water pollution is a major issue for the whole world. Researchers are trying to purify polluted water to make them suitable for drinking. Use of various nanotechnology-based methods has unlocked several doors for wastewater purification. Nanomaterials have the potential to purify wastewater with high efficiency. This review paper aims to present different methods of wastewater purification with the help of nanoparticles. Different type of nanomaterials (nanomembranes, nano adsorbents, nano photocatalysts, nano metal-oxides) can remove different types of impurities (containing metal toxin substance, different organic and inorganic impurities, bacterial impurities and many more) very effectively from polluted water. Nanomaterials based water purification methods are eco-friendly but they require more energy and more investment for their large-scale application. New water purification methods should be cost effective, flexible and effective for commercialization. This review paper describes various challenges and issues related to nanomaterials assisted wastewater treatment.

Keywords: nanomaterials, wastewater, commercialization

Oral Insulin Delivery: A Patent Review

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Insulin, on oral administration, is very troublesome because of its limited bioavailability. The evolution of oral insulin delivery formulations is greatly desired for non-invasive therapy by overcoming its low bioavailability, GIT enzymatic deactivation, poor lipophilicity, and low stability. Different approaches have been proposed to boost oral insulin bioavailability in insulin delivery systems and emerging effective therapies by using nanoparticle formulation, nana capsid, modified chitosan particles, polydopamine microcapsules, and drug delivery devices. The present review includes patents and patent applications that were published between 2014 to present.

Keywords: Insulin, GIT, non-invasive therapy

Improving Oral Bioavailability of Poorly Water-Soluble Herbal Drugs Using Self-Nano Emulsifying Drug Delivery System for Colon Cancer: A Review

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Colon cancer is one of the most common cancers worldwide. This has an equal impact on men and women. Cancer affects the colon, which is the last component of the gastrointestinal tract which is responsible for the absorption of water and minerals from food debris. The oral route is the simplest and most practical method of drug administration. More than 40% of novel chemical entities have low aqueous solubility, which results in poor oral medication delivery. Low irregular bioavailability is a key issue in oral medication formulation. One of the most difficult things in drug formulation is increasing drug bioavailability. Many BCS (biopharmaceutics classification system) class IV medications have been deemed a promising platform for oral delivery by self-nanoemulsifying drug delivery systems (SNEDDS). In this review paper, the self-nano emulsifying drug delivery system (SNEDDS) has a number of benefits for herbal drugs, including improved solubility and bioavailability, toxicity control, pharmacological activity, stability, improved tissue macrophage distribution, sustained delivery, and protection from physical and chemical degradation. As a result, nanosized modern drug delivery systems for herbal drugs have a promising future for improving activity and solving herbal drug-related problems. The conversion of liquid SNEDDS to solid oral dose forms or solid SNEDDS can improve patient compliance, reduce the issues that come with liquid SNEDDS filled in capsules and improves the stability of SNEDDS much further. SNEDDS stands apart from other solubility enhancement approaches due to its biodegradable chemicals and ease of large-scale manufacturing, as well as a variety of 'drug-targeting potential.

Keywords: Cancer, Colon Cancer, Poor Bioavailability, Novel Drug Delivery System, Nano-emulsion, SNEDDS

Patent Landscaping in Bio-Medical Waste Treatment

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Disposal of Bio-Medical Waste (BMW) has become an intensive field for researcher's attention with development of many innovative health care applications amidst the COVID pandemic. However, the BMW treatment has to be linked with social, economic and environmental needs by targeting the sustainable development. With this consideration, the paper contributes in reviewing the patent documents related to the various methods of BMW treatment involving the renewable solar energy. Further, a patent landscape is prepared to reveal scientific, technological, and business trends in BMW treatment methods. As per the PATSTAT 2021 spring database, the importance of BMW treatment can be witnessed from the significant improvement in filed patent application from 3.8% in 2010 to 12% in 2018. However, the shortfall after 2018 indicates the need of innovation for the new entrants to enter in this field. The technological trend is identified by analysing the most practical method in disposing BMW with respect to the greater number of published patents. According to the jurisdiction analysis, it is noticed that China has the maximum number of patents in the area for the past one decade. Finally, the statistical analysis is carried out in recognizing the potential players in the BMW management field.

Keywords: Patent landscaping, COVID, waste treatment

Review on Nanocrystal Formulation Innovations and Their Patented Work

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Nanocrystals are atom aggregates that form a "cluster" and are less than 1 μm in diameter. The typical size ranges from 10 to 400 nanometres. The industrially relevant technologies of milling and high-pressure homogenization, as well as recent breakthroughs in the development of these procedures for nanocrystal formation, are highlighted in this review. The study contains the most recent information and innovations for antisolvent precipitation, supercritical fluid technology, emulsion method, Impinging Jet Crystallization, and spray drying, as well as other traditional nanocrystal preparation methods. We also write about the brand names of nanocrystal marketed formulations. We created this review in such a way that it covers all nanocrystal formulation methods as well as recent breakthroughs with patent research.

Keywords: Nanocrystals, Innovations, Patent, Formulations

Effect of Ashwagandha Based Food Products on Mental Health: A Patent Based Review

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Due to a hectic schedule and stressful lifestyle, mental health disorders and neurological ailments are a significant concern all over the world, with over one billion sufferers. Modern medicine treats neurological disorders symptomatically, which is expensive and has a lot of undesirable side effects. Adopting a balanced diet, exercising, and managing stress, on the other hand, is the cornerstones of optimal mental and physical health. As a result, physicians are increasingly turning to plant-based diets for a dependable and long-lasting treatment that is both cost effective and has a lower incidence of side effects. The present study describes the nutritive and medicinal properties of Ashwagandha (*Withania Somnifera*), with an emphasis on their approach to improving food product qualities and their position in brain-related illnesses. To the best of our knowledge, there are only a few review publications on the commercial use of Ashwagandha in dietary supplement development. The current evaluation contains patent data from the last ten years for examination and analysis.

Keywords: Ashwagandha, Bioactive compounds, Brain-related disorders, Dietary supplements, Functional foods, Nutritious diet.

Recently Development in Silver Nanoparticles Utilized for Cancer Treatment and Diagnosis: A Patent Review

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Nano-theranostics is a young but rapidly expanding science that incorporates elements of therapy and diagnostics in a unique tiny area of research. The potential to combine diagnostic and therapeutic abilities inside a complete unit opens up interesting possibilities for innovative biomedicine research. Silver-based nanoparticles, for instance, are widely utilized as pharmacological and biomedical imaging molecules, and hence offer a lot of potential for the development of versatile targeted therapy compositions. We evaluate major innovations based on silver nano theranostics technologies in this review paper, with an emphasis on cancer treatment implications. We review the application of polymer nanoparticles in the delivery as therapeutics agents and diagnosis for last five years i.e., from 2017-2022.

Keywords: nanoparticles, nano-theranostics, polymer

Sustainable Development and Mental Health of The Students During Covid-19 Pandemic Situations

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Sustainable development means that the financial improvement that is directed without consumption of regular asset. The public's consciousness of different maintainability challenges all over the planet has additionally expanded, and furthermore the vast majority are knowledgeable in them. The mix of the idea of sustainable advancement in administration instruction will help in the production of a manageable trend in the general public, empowering every human being to begin acting mindfully and add to the favourable social change. Psychological well-being as a condition of fruitful exhibition for the duration of the existence course demonstrating physical, intellectual and socioemotional capacities that bring about gainful exercises esteemed critical by one's interpersonal organization, fulfilling social associations and the ability to transcend moderate psychosocial and biological issues. The COVID-19 pandemic has constrained numerous schools, colleges, and working environments into lockdown, moving figuring out how to remote and online settings. This paper is focussed on online community oriented remote learning, yet recognizes that different types of remote learning are rehearsed and furthermore talked about the impact of remote learning on mental health of the students. By improving the mental health of the students, we can increase the pace of sustainable development.

Keywords: COVID 19, sustainable development, psychology

Framework For Delineation of Planning Boundary for Hyderabad 2041

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With the Hyderabad's growing urbanization and growth, urban planning has become increasingly important. This plan is made at multiple levels to combine a broad area with a small region so that development can take place at the same time. development plan is one such plan that lays out the norms and principles for current and future growth. It guides orderly development that promotes the health, safety, welfare, and convenience of a people. it organizes the complicated interaction between urban and rural land uses. A balanced growth of a metropolitan area requires the development of both the central core and the periphery, which, if not correctly considered in relation to its circle of influence, will result in imbalance and undermine long-term planning goals. To reduce that imbalance a planning boundary should be delineated and development take place inside the planning boundary. Selected parameters for delineation of planning boundary are administrative boundaries, physical features, morphological urban areas, functional urban areas, large urban regions, economic and social category's these components help us to delineate local planning area for future development.

Keyword: Balanced growth, functional urban areas, metropolitan area, morphological urban areas, periphery, urbanization, urban planning.

Aconitum laeve Royle: A potential anticancer agent against Ehrlich ascites Carcinoma in Albino Mice

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This study evaluate the anticancer activity of Aconitum laeve Royle (CEAL) from chloroform extract under eight parameters of three group of mice and with mice Ehrlich carcinoma control. Experimental: This activity evaluated against Ehrlich carcinoma control cells (EAC 107 cells/mouse) in mice at the dose of 200 & 400mg/kg the body weight. Results: The experiment conducted for twelve days which decreases the viable cell count and percentage inhibition of cell count whereas increase the percentage life span, non-viable cell count, RBC count, and haemoglobin level. Conclusion: This study revealed that the patient got immediate therapy, monotherapy and the CEAL has pronounced anticancer activity against Ehrlich ascites Carcinoma mice.

Keyword: Albino mice, inhibition, uracil, carcinoma.

Socio economic condition of Park Circus and surrounding Slums area in Kolkata Municipality

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In today's world, urbanization is first and foremost expanding; it is defined as the proportion of urban population to total population. Rapid urbanization has occurred in India. It occurred because of rural-to-urban migration and a lack of employment opportunities in rural areas. After 1941, the rate of urbanization accelerated, with the percentage of people living in urban areas reaching 31.16 percent in 2011. (Census of India). In India, urbanization is the process of population concentration in mega cities and class 1 cities. The best example of fictitious urbanization is Indian urbanization, which is defined as a huge metropolis with no functioning infrastructure. Most of the migrant population in India arrived in the border states after independence, and West Bengal is one of them. Kolkata, like other cities, is experiencing rapid urban growth, which is accompanied by misery, poverty, unemployment, employment, exploitation, the rapid growth of slums, and a decline in the quality of life. Wards 60, 61, 64, and 65 of the Kolkata Municipal Corporation were chosen for the park circus slum. Despite the implementation of government policy, the area's socioeconomic situation has not improved significantly.

Keywords: Distress, Migration, Suppositious, Slum, Deprivation,

Water purification using plant extract: A Patent Based Review

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The availability of drinking water has become global need nowadays. So to purify water many chemical methods are researched using plant extracts. Traditionally plants like Tulsi were used to remove some impurities from drinking water. Researches were done on many plants. By literature review it was absorbed many plant extracts can be used to purify water. Aprioritization system was Derived to select the most suitable extracts, which took into account criteria such as availability, purification potential, yield and cost of extraction. The present review discusses about the patented technologies which are available for purification of water. The review covers technologies available in last five years.

Keywords: Water purification, phytochemicals, Plant extracts, water impurities, Patent based review

Contribution of SWAYAM-MOOCs towards Sustainable Development: A Pilot Study

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World leaders, scientists, and transnational organizations like the United Nations agree it's time for a change. Sustainable development was a term adopted by the United Nations (UN) in 2015. It encompasses global private and public projects that aim to end poverty, protect planet earth, and ensure all people can live in health and prosperity. Seventeen Sustainable Development Goals that need to be achieved by 2030 are being identified by UN and its partners. Every country is heading towards it with their own plan. Countries are SWAYAM is an indigenous platform of MOOCs in India initiated by the Government in July, 2017 to commit towards access, quality and equality of education at all the levels that clearly point towards the democratization of higher education. It is one of the many education reforms by government to provide sustainable development to Education. Most of the MOOCs based studies in the Indian context reported their effectiveness in higher education. The purpose of this research paper is to explore the potential impact of SWAYAM MOOCs in democratization of higher to head towards Sustainable development. Additionally, the paper discusses the possibility of refinement of the survey tool to get accurate results in the comprehensive study. It is basically a survey based descriptive study. Three questionnaires, each for one stakeholder were constructed by researchers to get their perceptions on the effectiveness of these courses. 100 Participants, 11 Instructors and 2 Providers participated in this study. Analysis of the questionnaires points towards the fact that participants were satisfied with the role of SWAYAM to democratize higher education but instructors and providers were not that satisfied. Though all the three stakeholders agreed that there is still a need of improvement in all the aspects of SWAYAM MOOCs. This pilot survey reported the positive impact of these courses and indicated that removal, modification and addition of some questions are needed before conducting a similar study at large scale. Also, there is need to broaden the definition of Providers to get their satisfactory participation.

Keywords: Democratization of Education, Digital India, MOOC, Pilot study, Sustainable Development, SWAYAM

A Study On “The Impact of Non-Motorized Transport In A City”

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Non- motorized transport refers to use any mode of transportation that does not depend upon the use of an engine or a motor to move that can be walking, cycling, handcarts, animal-drawn carriages. This paper is about Walking and bicycling investments are becoming more important in establishing balanced transportation systems and supporting communities. As communities across the United States consider revitalising their non-motorized transportation networks, transportation planners and decision-makers are increasingly eager to assess the effects of these investments. Many communities start new infrastructure programmes with pilot projects to test their efficacy before implementing them on a larger scale. As a result, it is critical to provide a technical resource for communities to evaluate the various types of outcomes from nonmotorized transportation programmes. The use of non-motorized transport (NMT) has many health benefits as well as environmental benefits. After being so important element of urban transportation system, NMT is all too often overlooked as a viable mobility option in favor of more capital- and infrastructure-intensive modes of transportation.

Keywords: Non-Motorized transport, pilot project, sustainable, planner, accessibility, communities

Dimensional Analysis of Spiritual Intelligence Scale with Respect to Gender and Locale

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The present study intended to measure the difference in the construct spiritual intelligence and its dimensions in subjects ranging from 19-55 years from the state of Punjab. Total sample subjects of the study were 271 out of which there were 163 females and 54 males. Self-developed questionnaire based on the principles developed by Zohar (2000) was used in the study to gather the data using simple random sampling technique. The study found that Dimension 12 (Sense of Vocation) with respect to Gender has significant predictive role of Spiritual Intelligence on all of its dimensions (D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12) with respect to Gender at both 0.05 and 0.01 level of significance and Dimension 7 (Field Independence) with respect to Locale has significant predictive role of Spiritual Intelligence on all of its dimensions (D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12) with respect to Locale at both 0.05 and 0.01 level of significance. Further educational implications are discussed.

Keywords: Spiritual intelligence, Dimensions, Gender and Locale.

Identification of Indicators to measure Water Scarcity for Coastal Cities of India

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Abstract

In more and more regions of the world, water shortage has become a major stumbling block to socioeconomic progress and a threat to livelihood. Water scarcity research has gotten a lot of political and public interest since the late 1980s. With disproportionate availability of fresh water with respect to human population, water scarcity has come up to become a major concern for various coastal cities, reason being drying up of reservoirs due to delayed or inadequate rainfall. Lack of appropriate infrastructure and failure in harvesting rainwater has also contributed in the shortfall. In order to quantify the scarcity of water in coastal cities of India this paper aims to study various indicators of water scarcity used across the world to apprehend major characteristics - water availability, population count and per capita water usage being the crucial aspects of these indicators considering water quality is maintained as per standards. Popularly used indicators will be studied to redefine indicators keeping in mind the desalinated water and derived list of indicators will be listed. Multiple indicators will be finalised as an exclusive solution for water scarcity measurement to be utilized as a tool in informed decision making.

Keywords: Water scarcity, Water scarcity indicators, Index, Coastal cities

Study of emotional intelligence in relation to attitude towards e-learning

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Abstract

The present study was investigated to explore “Emotional intelligence and attitude towards e-learning among prospective teachers”. The study is based on descriptive research design and selected 191 prospective teachers from private and public institutes of Himachal Pradesh with the help of purposive sampling. Two different tools were used for the purpose of data collection -Test of e-Learning Related Attitudes (TeLRA) scale which was developed by D. H. Kisanga and G. Ireson (2016), and Trait Emotional Intelligence Questionnaire (TEIQue) scale has been developed by K. V. Petrides (2016). It is established, after statistical analysis of the data, that there is no difference in the level of emotional intelligence and attitude towards e-learning among prospective teachers in relation to year of study and type of institute. Further, the results revealed that emotional intelligence is positively correlated with attitude towards e-learning.

Key words: Emotions, emotional intelligence, learning, e-learning

Coastal Development and Vulnerability in Perspective of Regulatory Framework

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Abstract

A resource for the beginning of a civilization, that helped sapiens survive and develop, stand vulnerable today. India has a shoreline of 7500 km approx. that has protected us and eased our needs and routines. Its vulnerability has been proved to be alarming the Indian government from the past few decades. Many of the coastal disasters in India are caused by natural disasters than the damage caused by development. Flash flood, cyclones and landslides are few which stand particularly common for Western Ghats. According to the ADB (Asian development Bank, 1966) and ICMAM (The integrated Coastal and Marine Area management Project directorate, 1998) reports, about 1,500 km or 26% of the mainland coast has been facing major erosion issues.

In terms of coastal economy, 30% of Indian population is dependent on the coast, apart from playing vital by virtue of its resources, productive habits and rich biodiversity. The main aim of the research is to explore factors that makes coast vulnerable and analyze the coastal norms with respect to the coastal development projects in India.

This paper elucidates the disaster western ghats are prone to with reference to history the ghats have, with the preventive mitigation measures government have been working on for the security of life and property of the dwellers. This paper would further discuss a wide variety of significant relationships between social, demographic, political and project level issues and factors at the same time compiling and reasoning regulatory frame work which has been shaping our Western Ghats for over a decade now.

Keywords: Coastal development, Vulnerable, Western ghats, ADB, ICMAM, Coastal Erosion, Regulatory framework.

Patent Rights Amid a Pandemic

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Abstract

The covid-19 pandemic has brought deeper intellectual property rights issues concerning the technology that could be deployed to fight the pandemic. In a world classified into developed and underdeveloped nations, where a great disparity is found in wealth, education, technology, and resources to do research, the patent rights over vaccines and other drugs have prompted the nations to enter into a legal debate. The recognition and enforcement of patent rights propel the minds to break the existing limits of intellect and bring forth new inventions. Patents grant exclusivity in manufacturing rights by preventing any fraudulent imitation. Thus, thereby they protect not only the hard work done by the inventors but also the financial investment which is put into such research. But, in case of a global health emergency like this pandemic will granting monopoly upon medical technology be just and fair considering the disparity in wealth among the nations and the scale of loss of lives. The author of this paper shall, through his research, endeavor to find out the existence of any legal possibility of patent waivers, especially for vaccines, amid global health emergencies like Covid-19. If the answer to it is yes then, an endeavor shall be made to discern the feasibility of patent waivers in the sense will such a waiver be beneficial to the public.

The author in his research shall deploy doctrinal modes of research since he aims to ascertain the legality of such a waiver.

Keywords: COVID-19, Patent rights, IPR,

Potential Role of *Tinospora cordifolia* (Giloy) in Functional Foods: A Review

Shama Kakkar, Dr. Runjhun Tandon, Dr. Nitin Tandon, Nishit Kohli

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Abstract

Since antiquity, plants have been reported to cure and prevent diseases. Giloy (*Tinospora Cordifolia* L.) is herbaceous perennial that has been increasingly popular in recent decades. It can treat various ailments, including hyperglycaemia, indigestion, jaundice, urine infections, skin disorders, prolonged diarrhea, and dysentery. This herb has exhibited impressive potential as a source of biopharmaceuticals to treat a spectrum of disorders. In comparison to its medicinal properties, its nutritional properties are less well-known. Therefore, this review will shed light on the purpose of its use in various functional foods. This analysis will show that this is satisfactory for the pharmaceutical industry and a miracle for the food industry, as it can be used as a natural preservative and nutritive.

Keywords: Functional Foods, Giloy, Immunity Booster, Nutritive agent, *Tinospora cordifolia*.

Design Innovation in Handicrafts- A step towards Sustainable Development

Megha Dua

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Abstract

The traditional Handicrafts of India have a long history and carry a cultural value. The wave of globalisation which left its severe impact on the world economy led to the creation of a design oriented and creative thinking approach. The study aims to explore the prospects of sustainable development of the traditional handicrafts from the point of design innovation. Creativity and development of novel designs has become a Design Innovation in Handicrafts- A step towards Sustainable Development indispensable part of the development of the traditional craft industries. Countries all over the world are facing a threat of safeguarding the environment. The application of designs and other intelligent methods to the art of designing the traditional crafts which not only help to improve the design efficiency but also the design quality of products. Taken from the point of view of design, sustainability is an activity which helps in the solution of many problems related to cultural identity and bring to life the cultures of the community.

Keywords: Design, innovation, handicrafts, sustainability, India, development.

Role of Cyclohexanone Selenosemicarbazone in Biological Field

Rinku Malhi

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Abstract

Selenosemicarbazones are schiff bases characterized by the presence of selenium and azomethine nitrogen offering a ready co-ordination site due to the presence of a lone pair of electrons on these donor atoms. Hydrazine hydrate will be treated with KSeCN and cyclohexanone in acidic medium to form cyclohexanone selenosemicarbazone, which on reaction with aldehydes or ketones can form respective selenosemicarbazone. Anti-tubercular activity of the compound is also investigated.

Keywords: cyclohexanone selenosemicarbazone, anti-tubercular activity

Cotbot: An Autonomous Robot to Detect Diseased Leaves in Plants using Convolutional Neural Networks

Devata Sai Rama Krishna Gupta, PatibandlaSiddardha, Karanam Venkata Vineeth, Nandini, Panakanapali Guru

Teja Reddy, Nitin Kumar

Lovely Professional University, Phagwara, Punjab, India

Abstract

This robot performs a variety of agricultural tasks for cotton farms in order to minimize the labor load of farmers and increase the efficiency and accuracy of work. It performs primary functions of agriculture for checking moisture and its leaf disease detection. In addition to being autonomous, the robot has the ability to switch the moisture sensor to disease detection when necessary. Introducing these Cotbots in Agricultural sector in the developing countries like India would be a huge benefit. Cotbot helps the farmers to automate the slow, tiresome and mundane tasks which would have become a burden to the farmer. By using image detection and processing the robot can identify seeds accurately in a shorter timeframe. With an attachment of soil moisture sensor, the Cotbot can also measure moisture in the surrounding of the plant or tree at the same time.

Keywords: Labor, cotbots, Convolutional Neural Networks

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