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Applications of Multifunctional Nanomaterials

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Chapter 3 - Rare earth doped BiFeO₃ multiferroic system: optical, dielectric, and magnetoelectric coupling properties and applicationsJincemon Cyriac^{1,3,5}, Nandakumar Kalarikkal⁴, Sunny Mathew⁵, Saji Augustine^{1,2}¹ Department of Physics, St. Thomas College, Kottayam, Kerala, India² Department of Physics, Deva Matha College, Kottayam, Kerala, India³ Department of Physics, Sree Narayana College, Chengannur, Alappuzha, Kerala, India⁴ International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India⁵ Department of Physics, Marian College Kuttikkanam (Autonomous), Peermade, Idukki, Kerala, India

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Abstract

This chapter describes the optical, dielectric, and magneto-electric coupling applications of undoped and rare Earth (RE=Eu³⁺) doped Bi_{1-x}Eu_xFeO₃ (x=0, 0.01, and 0.02) multiferroic systems, which are successfully synthesized by sol-gel method. Doping of rare-earth ions at the Bi³⁺ site reduced the crystallite size and the unit cell volume of the bismuth ferrite sample and was studied using X-ray diffraction analysis. It disrupted the cycloidal spin structure (with $\lambda \sim 70$ nm) of the BiFeO₃ system and enhanced the magnetic and multiferroic properties of the synthesized samples. The doping also enhanced the optical properties by reducing the band gap energy, which has a great application in the field of photovoltaic devices. This reveals the reduction of energy gap between the oxygen-2p valence band and the Iron-3d conduction band. Rare earth doping enhanced its dielectric properties since more space charges formed in the systems. The rare earth doping increases the dielectric constant (ϵ'), dielectric leakage (ϵ'') and the magneto electric coupling coefficient (α_B) of the prepared material. This suggests that the synthesized material is a good candidate for sensors, transducers, spintronics, and ferroelectric nonvolatile memory applications.



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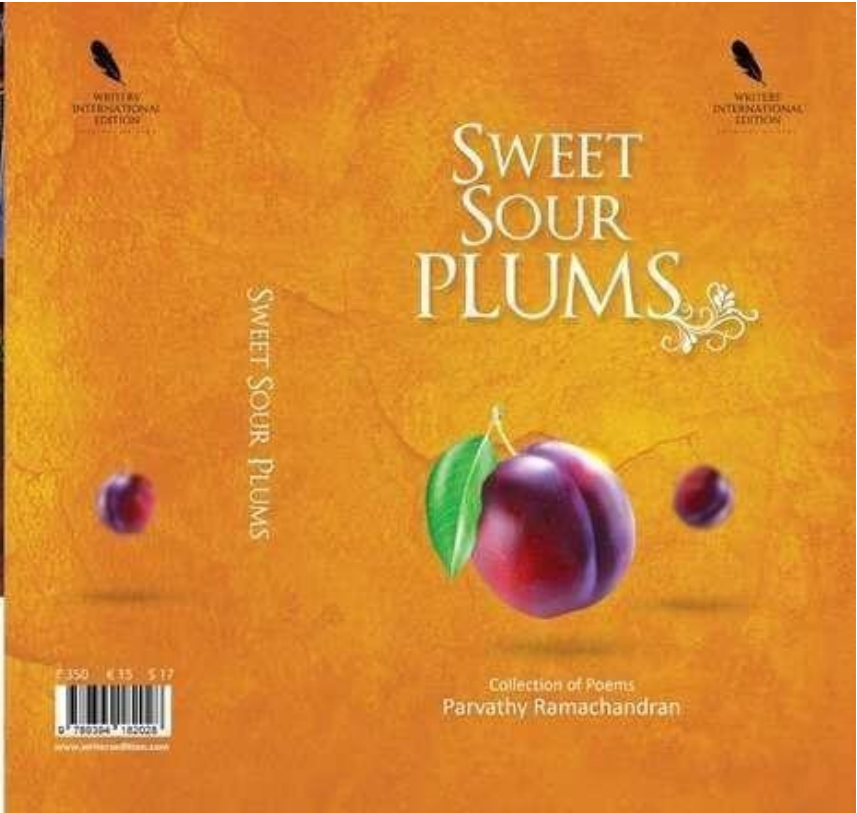


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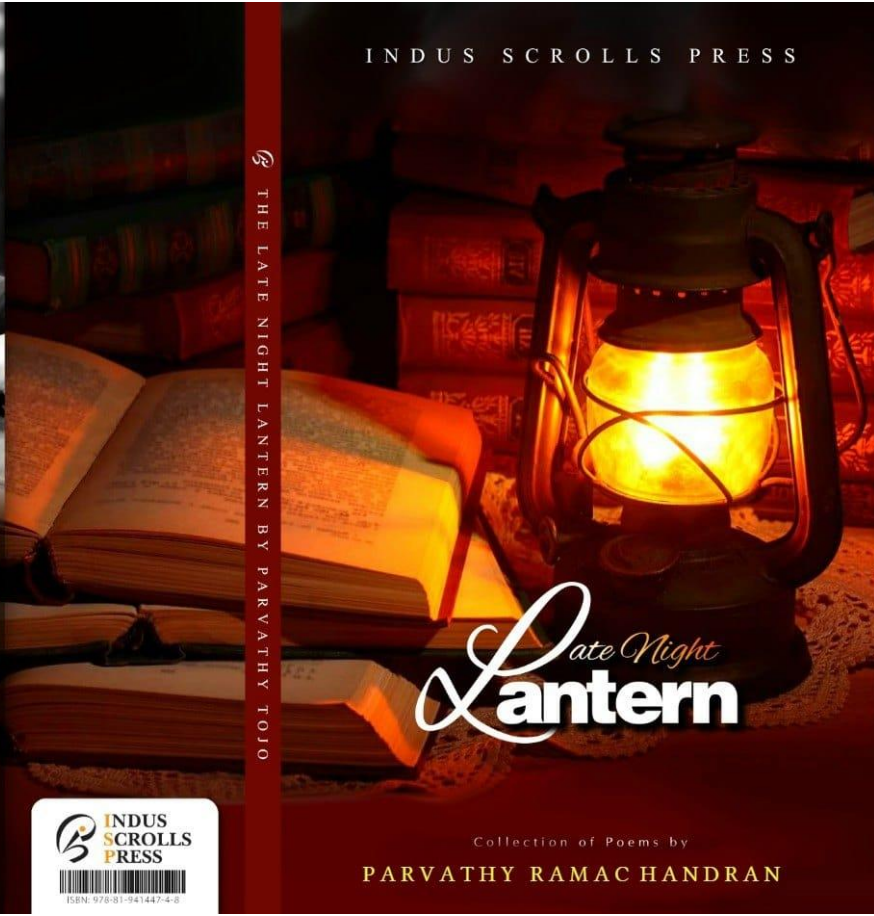


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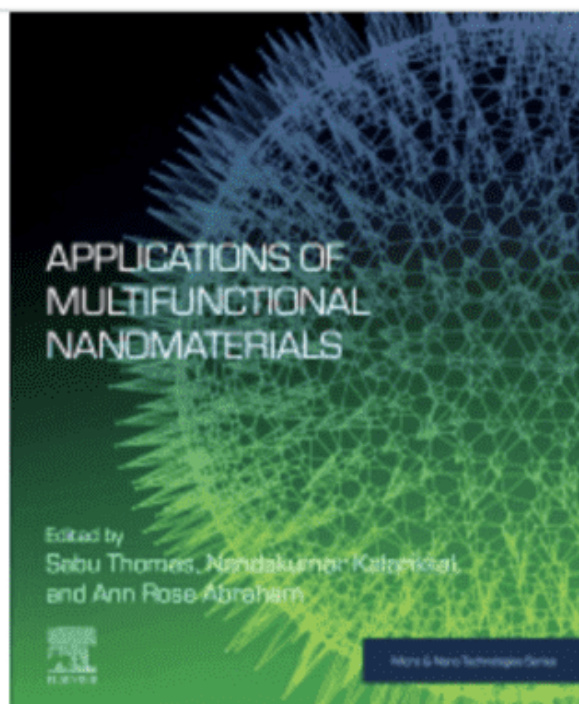


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A Study on Post Covid Era of Medical Tourism Sector of Kerala

Dr.A. Nishad, Assistant Professor, Department of Commerce, Sree Narayana College, Chengannur, Kerala, India.

ABSTRACT: Medical tourism is synonymy called health tourism and wellness tourism, is a factor that has risen from the fast growth of an industry where people from various countries are traveling to other countries to avail medical, cosmetic treatment, as well as surgical care while at the same time visiting, vacationing, and experiencing the uniqueness of the countries that they are visiting. The current COVID 19 crisis shows us that peoples in the countries had lost a necessary relation between humans and their habitats. Precisely considering the ecological health in which humans stays healthy only if they conduct their activities within the physical limits that guarantees the health of bionetworks. In many ways world health systems provides amainbase for the post-COVID19 development model. Afterward this COVID 19 situation all the countries of worldwide will be in a renovation stage in all the sectors. The extreme impact of this transformation is on the economy and businesses. This transformation will also have a major effect on tourism, especially Medical tourism. This is also a serious threat to medical tourism, which is integrally the practice of determining and encountering the unfamiliar; therefore, tourism will now be connected with a kind of unseen and slight fear by many people who have practiced isolation in these pandemic period. Remaining in home and taking continuous self-care may developed a more powerful routine choice than in the past, when it was considered going out and hang around in different geographies was better for human health. Travel restraints and social distancing will reduce the number of customers and make them more economical. At the same time, business investments will be severely limited. Considering the case of Kerala's medical tourism sector, majority of the tourist are from outside the country and this type of travel restrictions and impact on the economy will severely affect the future of Kerala's medical tourism sector. In post COVID 19 era, people all over the world are going to be in a situation that for fundamental and basic needs will be considered in their routine life and leisure activity like tourism and all will be considered after certain period only. This type of attitude changes also going to inversely affect development of Kerala's medical tourism.

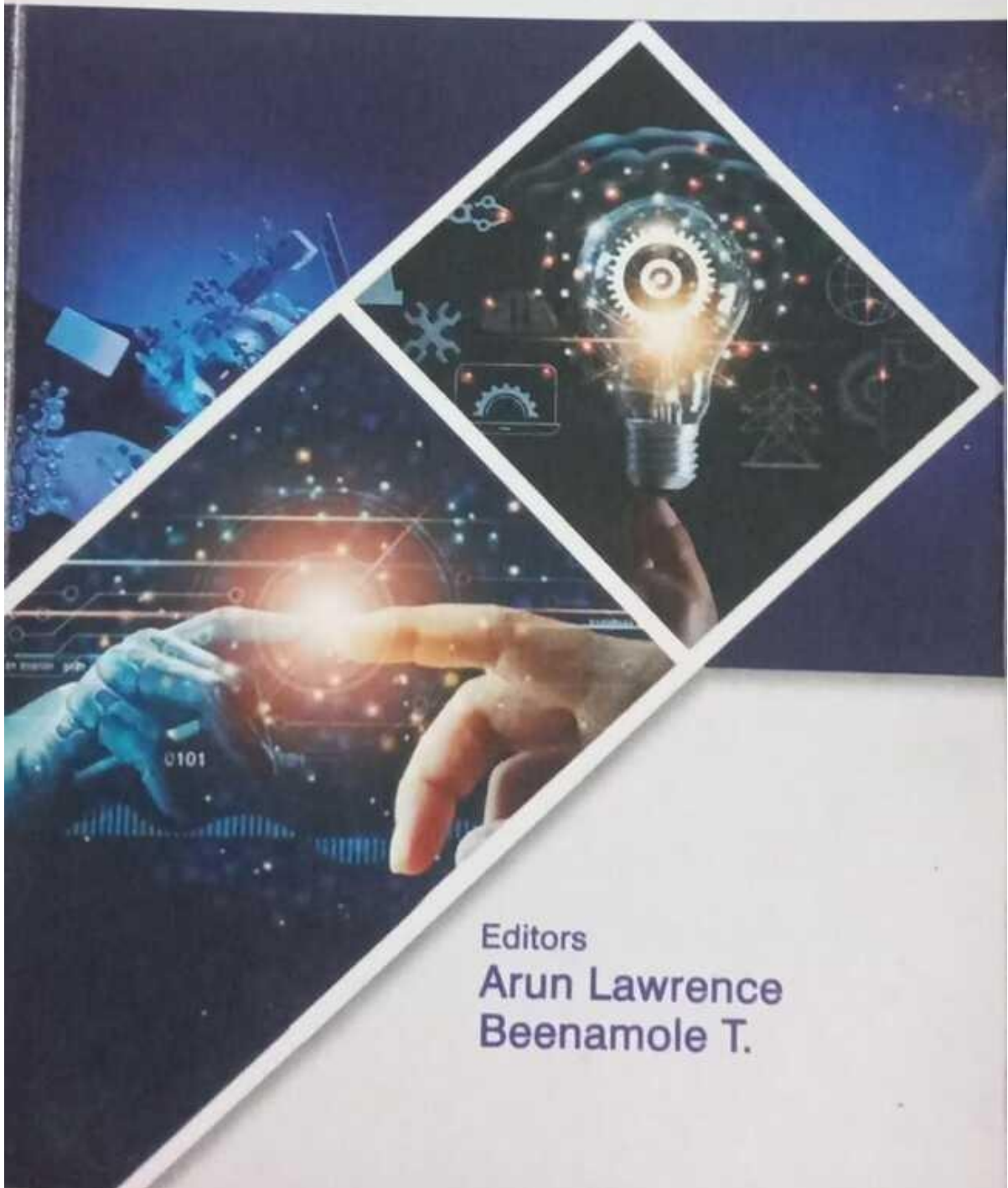
KEYWORDS: Medical tourism, Post Covid, Kerala.

1. Introduction

India's Medical tourism is a major sources of income provider industrial sector and becomes the reason for lakhs of foreigners and citizens to visit tradition of the India and enjoy the treatment services of traditional culture. Kerala, India's one of the state which is full of well trained, educated and experienced medical service professionals and doctors. Advantages of availing medical tourism in Kerala include low costs, the availability of sophisticated medical technologies, and a growing needs o International quality standards, as well as the fact that foreign medical tourists are less likely to encounter a language related problem in Kerala. Many of the health care professionals have earned their professional degrees from reputed institutions in India and abroad and having more years of experience in the medial tourism field. Kerala's medical tourism industry is seen as one of the fastest growing and developing area in Today's developing India.

Kerala is considered as 'God's Own Country' as its slogan suggests, has established healthcare in India for tourists. The main points of Kerala in the area of medical tourism are traditional treatments as well as most modern medical treatments and the touring facilities. The major advantages are cost effectiveness and the better treatment facilities. Medical tourism in Kerala offers medicinal service packages with yoga, ayurvedic treatments, medication, allopathic

Disruptive Technology and Business: Emerging Challenges and Models



Editors
Arun Lawrence
Beenamole T.

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BUSINESS EDUCATION IN THE AGE OF DISRUPTIONS –A SPECIAL REFERENCE TO ENGINEERING GRADUATES IN TRIVANDRUM CITY

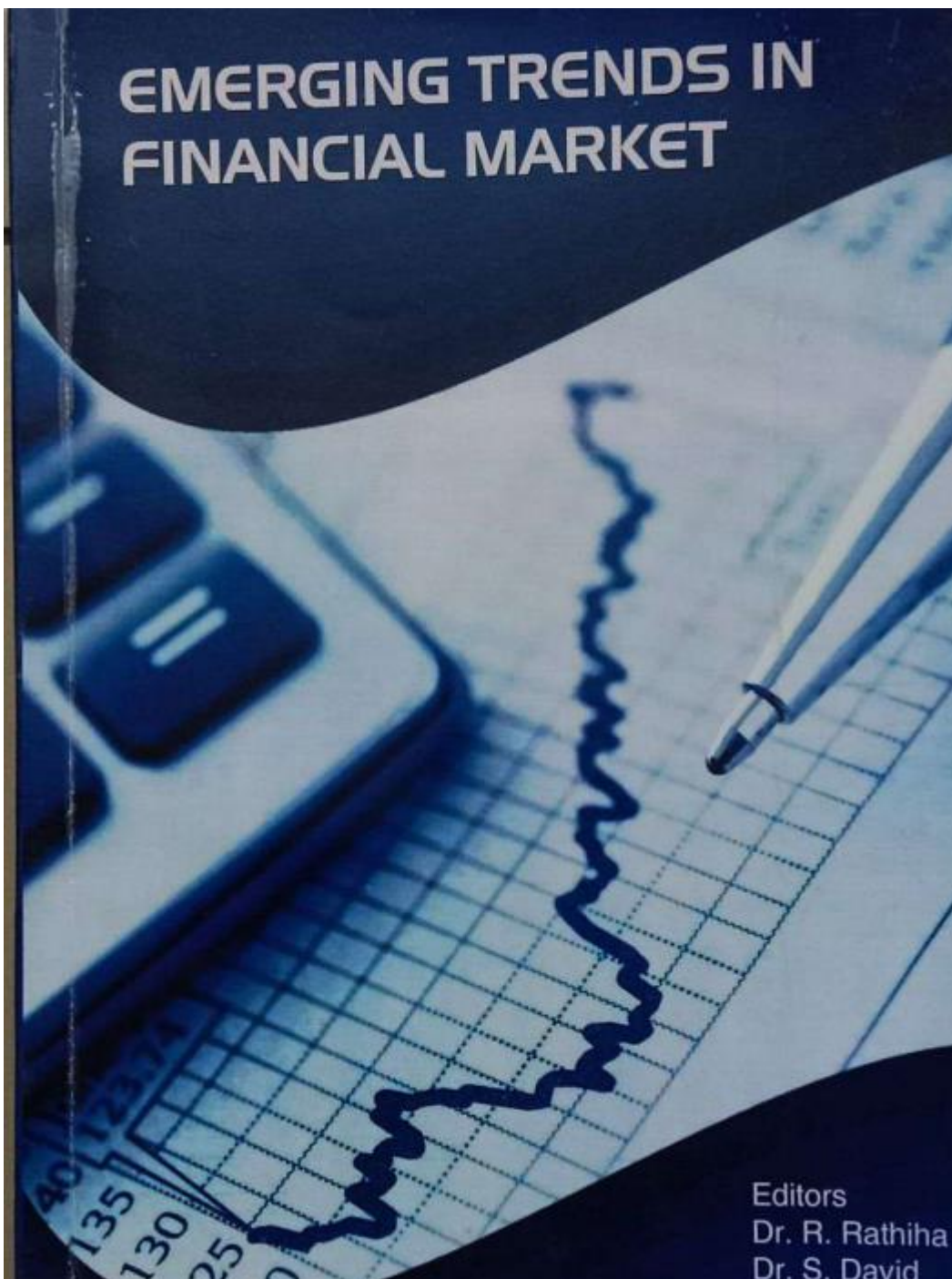
Dr Nishad A.

Introduction

India's current economic crisis has resulted in shockingly high jobless rates due to the current disruptive pandemic situation. The business education sector is not immune to the pandemic, and it is grappling with severe learning and teaching issues. The covid-19 pandemic had a significant impact on people's lives and economies around the world. They are posing several issues for the individual, public, and business institutions. Globally, massive quarantines have been imposed, effectively halting most human contact, a phenomenon known as social distance. However, social distancing entails a reduction in human physical interaction. Business schools are fixed with a slew of severe short-term issues that could jeopardize their very existence.

Because of the significantly higher number of students studying business at both the undergraduate and postgraduate levels than other disciplines, and because of the expected value in the business degrees, which generally carry higher forces than other courses, this has been a serious concern for business academics. A possible decrease in students who are not interested in continuing their study after completing their engineering degree studies has highlighted the importance of motivation in running a firm, prompting some to wonder if teaching can help this motivation arise. Others, on the other hand, believe that special entrepreneurship education can help generate entrepreneurial motivation. As more people turn to online learning, blended and more accessible types of education may become more popular, helping to foster lifelong learning. Despite the fact that

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A STUDY ON FINANCIAL INCLUSION IN INDIA

Dr. Nishad A.

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ABSTRACT

The financial market has been drastically changing after liberalization and has been offering various opportunities for a financial specialist as well as for the corporate. Today financial administrations are becoming more open, money related market offers a heap of items with perplexing components and administrations, leaving many individuals not well furnished to adapt up to the complex monetary needs. The economies around the globe have progressively viewed as money related education as a key column for the improvement of their monetary framework. The financial education has grown a great deal from its pre-liberalization starting to the present day conditions of the post-liberalization corporate line. Since India is moving towards becoming a developed nation from being a developing country. So in this, the commitment of each and every area of society is required rich and poor, urban and rural. For this money related unsustainability, individuals must be made monetarily inclusive so they all contribute being developed. Here, the banks help a considerable measure in accomplishing this through different schemes. They act as mediators or brokers amongst Government and individuals. Thus, the exploration is basic to evaluate that up to what degree they have been fruitful and what should be done in such manner. To accomplish greater financial inclusion money related incorporation, monetary administrations should contact the needy individuals of the socially excluded groups and areas.

Financial literacy has received expanded consideration since the worldwide monetary crisis and the literature confirms that it is connected with an individual financial management. In parallel, monetary instruction programs have developed in popularity and an expanding number of nations are creating national financial training systems and making more interests in related projects. Literature has recently emphasized the relationship between financial literacy and numerical and mathematical ability, from one viewpoint, and risk diversification, retirement funds, investment portfolios on the other.

Keywords: Financial Inclusion, Finance, Risk, Development

Money related Planning of an individual assumes a vital part in general monetary development. The individual monetary administration is an element of uninitiated scale financial aspects and manages the issues that a resident of any creating nation faces. In the previous decade, the advance and development of India are noteworthy and amazing without a doubt yet it has a long method for concerns and there is a need to concentrate on individual financial administration characteristics. People when all is said in done to satisfy their little monetary prerequisites or desire often borrow from companions, family or moneylender for a here and now. They don't have mindfulness and information on down to earth grounds to ensure themselves by getting to different financial administrations given by banks and different organizations. In exhibit evolving situation, people are more worry about security, the well-being of stores, low exchange cost, advantageous working time, least printed material, visit stores, quick and simple access to credit and when to prepare their financial assets as far as wage, reserve funds, and speculations.

Government and workers used to assume an imperative part in overseeing ventures yet now

their part have been lessened fundamentally and people's obligation has been expanded to deal with their own particular accounts towards secured financial future. In this competitive environment, range and complexity of products are expanding step by step and learning of individual money related administration will help them to achieve their financial objectives and necessities. Financial markets have turned out to be more complex therefore monetary training is important to guarantee adequate levels of speculators and purchase assurance and also the smooth working of the money related markets. Money related education can assume an imperative part in outfitting the shoppers with the data, key information, and abilities to assess their choices and empowers them to understand the implications of alternative financial decisions. The present investigation takes into accounts the different measurements of financial education and individual money related administration in India.

Importance Of Financial Inclusion

The importance of financial inclusion is seen as a policy priority in many countries a widely recognized in the policy circle. An

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HUMAN RESOURCE MANAGEMENT AND THE EFFECT OF AI - NEW TRENDS AND PRACTICES

Dr. A. Nishad

Assistant Professor, Dept. of Commerce
Sree Narayana College, Chengannur, Kerala

Abstract

Human Resource Management is a blend of three unique implications portraying works. Individual alludes the expert labourers of an organisation. Resources connect with confined or lacking resources. Authority refers to how to oversee and permit powerful utilization of that limited resource to such an extent that the organization satisfies the expected target. The administration of human resources is in this way implied for the most ideal utilization of the expert staff that anyone could hope to find and the effective utilization of experienced employees inside the organization. HR office are going into advanced upheaval by utilizing different techniques to improve on their work through enormous information utilization, artificial intelligence and distributed computing. The vast majority of the organizations utilized artificial intelligence today. Artificial intelligence can assume a significant part in human resource management. The utilization of Artificial Intelligence in HRM will change the functioning style and smooth running of the division as there could be no greater human and machine-based intelligence meeting place than our human resources department. The impact of Artificial Intelligence (AI) on enrolling, training, development and representative efficiency in employees. While AI is as of now hugely affecting this field, an exceptionally new improvement in the human resource (HR) climate, the paper ponders the effects top to bottom. HR experts might involve different AI innovations and resources for the enlisting, determination, planning, training, execution the board, rewards and grant the executives of all HR functions.

Keywords: Human Resource, Artificial Intelligence, Machine Learning

Introduction

HRM is concerned about the human part of an interaction. For Human Resource Management need to develop the abilities and support their commitment to the venture to accomplish establishment's objectives. Regardless of its structure, a majority rules system, education, and social activity should be kept up with. Manageable HRM, work fulfilment, and occupation performs. Besides, the motivation behind the review is to research the impact on representative development and worker adaptability, fundamental parts of reasonable HRM in working on the general degree of job satisfaction, of different adaptabilities, authoritative, work time and working environment adaptability. Also, the impact on the general job satisfaction of individual as well as representative adaptability was evaluated utilizing parallel calculated relapse models. Human resource the board is commonly described as a combination of conduct and decisions to lay out and

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डॉ. वी. श्रीरजिनी

आधुनिक मानव की दृष्टि केवल अर्थ और लाभ पर केन्द्रित है। मानवीय संवेदनाओं से विहीन मनुष्यों में न आपसी प्रेम है और न प्रकृति-प्रेम। समकालीन कवि इस परिवेश से अत्यन्त दुःखी हैं। इसलिए वे कविताओं के जरिए प्रकृति में होने वाले अत्याचारों तथा शोषण के प्रति गहरा दुःख एवं आशंका प्रकट करते हैं। वे अपना प्रतिरोध भी दर्ज करते हैं।

आदिवासी प्रकृति की गोद में जन्मा एवं पला हुआ है लेकिन उन्हें विकास के नाम पर ज़मीनों, जंगलों, संसाधनों एवं गाँवों से बेदखल किया जा रहा है। वे अपनी परम्पराओं, जीवन शैली और जीवन के लिए आर्थिक संसाधनों और उसके नियन्त्रित उपभोग की महत्ता समझते हैं। समकालीन आदिवासी कवि उन्हें मनुष्य एवं प्रकृति के असन्तुलित अवस्था की ओर सचेत करते हैं। निर्मला पुतुल आदिवासियों से कई सवाल करती हैं—

“कुल्हाड़ियों के वार सहते/किसी पेड़ की हिलती टहनियों में
दिखाई पड़े हैं तुम्हें/बचाव के लिए पुकारते हज़ारों हज़ार हाथ?
सुना है कभी/रात के सन्नाटे में/अन्धेरे में मुँह ढाँप
किस कदर रोती हैं नदियाँ/भाग-दौड़ की ज़िन्दगी से
थोड़ा-सा वक्त चुराकर/बतियात है कभी

कभी शिकायत न करने वाली/गुमसुम बूढ़ी पृथ्वी से उसका दुख?”¹

समस्त मानव जाति धरती पर हो रहे जलवायु परिवर्तन के लिए ज़िम्मेदार है। हम जैसे-जैसे विकास के सोपना चढ़ रहे हैं, पृथ्वी पर नये-नये खतरे उत्पन्न हो रहे हैं। अधिकारियों और ठेकेदारों ने मिलकर जंगल को लाभ की वस्तु बना दिया है। अल्पलाभ के लिए मनुष्य सम्पूर्ण

Chapter 4

Cellulose Based Green Adsorbents for Pollutant Removal from Wastewater



Anitha George Varghese, Sherey Annie Paul, and M. S. Latha

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Abstract Water pollution is a major problem affecting people across the world. Heavy metals and dyes are major pollutants that pose potential threat to the health of humans and ecosystems. Several treatment technologies are available to reduce the pollutant concentration in water and wastewater. However, many of these processes are costly, have high energy requirements and generate toxic sludge and wastes that need to be carefully disposed. Addressing these problems invoked the need for green methods that are more efficient, cost effective and environment friendly for water purification. Adsorption is regarded as a green, clean and versatile method for wastewater treatment. Cellulose based materials attained considerable

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