



चौधरी महादेव प्रसाद महाविद्यालय C. M. P. DEGREE COLLEGE

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2019

An Integrated Transcriptomic, Proteomic, and Metabolomic Approach to Unravel the Molecular Mechanisms of Metal Stress Tolerance in Plants

Parul Parihar, Samiksha Singh, Rachana Singh, G. Rajashekar, P. Rathnagiri,
Rakesh K. Srivastava, Vijay Pratap Singh, P. Suprasanna,
Sheo Mohan Prasad, and P. B. Kavi Kishor

1 Introduction

Rapid rate of industrialization, urbanization, intensive agriculture, and mining has been causing widespread contamination of our soil and aquifer resources with heavy metals. This is a problem of paramount importance since metal pollution can lead to dangerous consequences by entering into the food chain (Rascio and Navari-Izzo 2011). Some of the metals may be required for plants as micronutrients (Cu, Fe, Mg, Mn, Ni, Zn) for normal growth and development, but many (Ag, As, Cd, Co, Cr, Hg, Pb, Sb, Se) may not be essential for plant growth or may have unknown functions in the plant systems (Rascio and Navari-Izzo 2011). But, if heavy metals are present in excess amount, they may hamper the metabolic pathways and disrupt the functions of enzymes (Hossain et al. 2012a, b, Ali et al. 2013). Enhanced levels of heavy metals generate reactive oxygen species (ROS) or non-free radical species

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© Springer Nature Switzerland AG 2019
S. Srivastava et al. (eds.), *Plant-Metal Interactions*,
https://doi.org/10.1007/978-3-030-20732-8_1

Vijay Pratap Singh

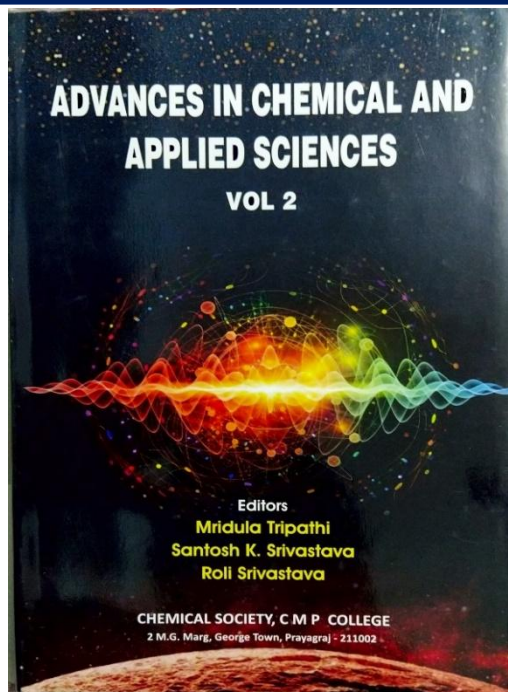


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Advances in Chemical and Applied Sciences - Vol 2

ISBN : 978-93-88018-17-3

Editors : Mridula Tripathi
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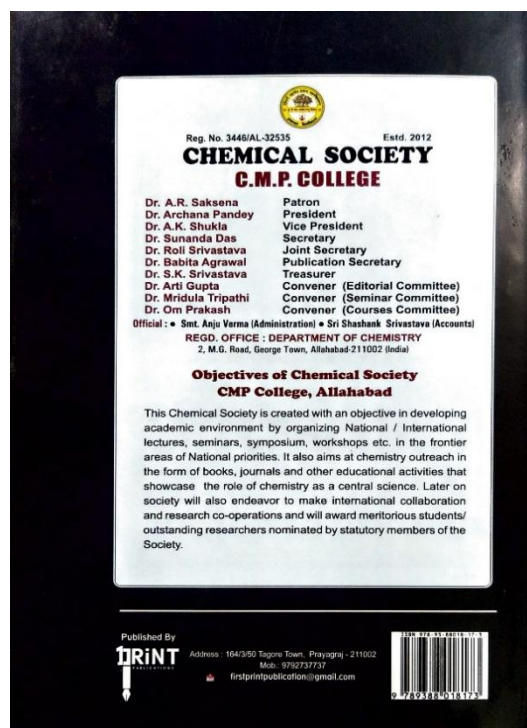
First Edition : 2019
Price : ₹ 600/-

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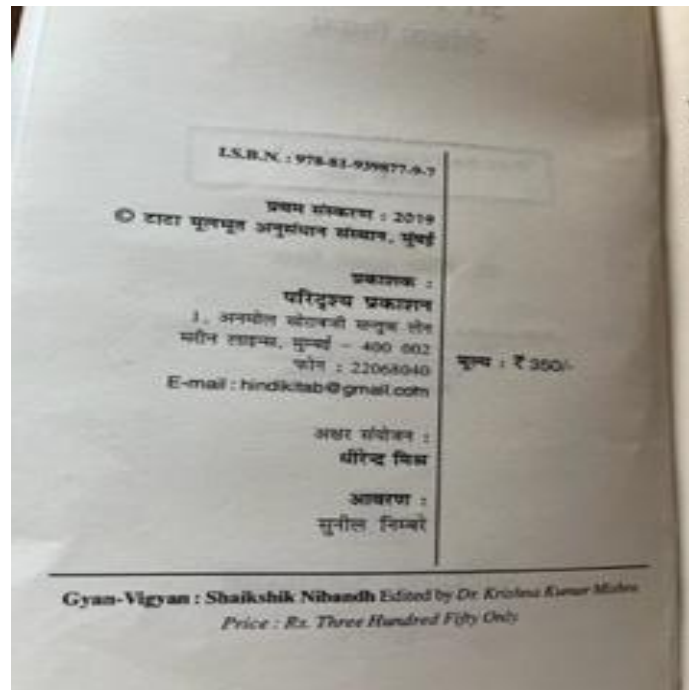
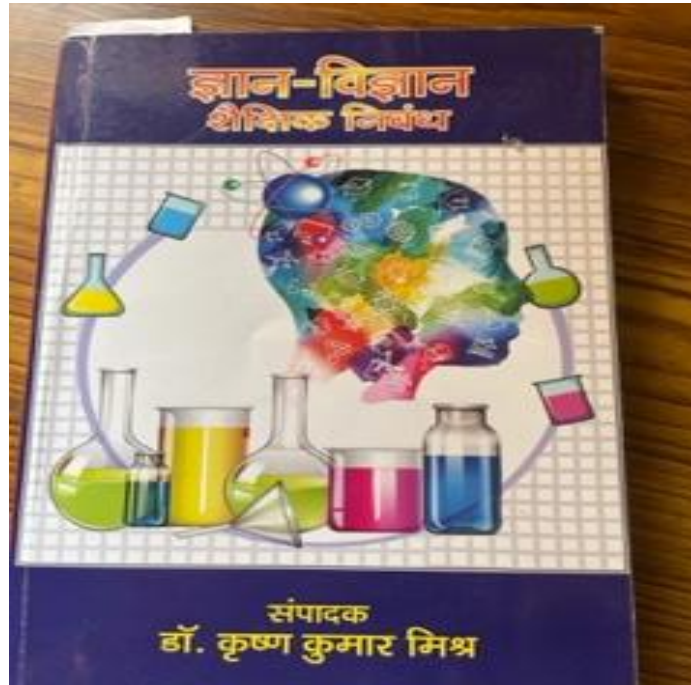


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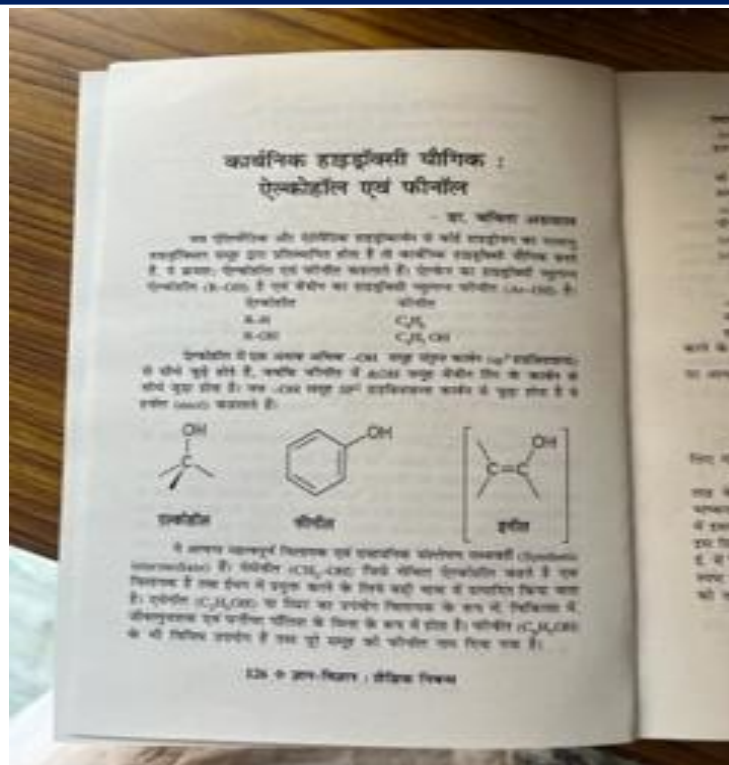


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Environmental Challenges & Issues in Present Scenario

Editors

Dr. Pravin Kumar Singh
Dr. Abhishek Srivastava
Dr. Vishal Srivastava
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(A Constituent P.G. College of Allahabad University)

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ISBN : 978-93-88018-18-0

© : Editors

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First Edition : 2019
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ENVIRONMENTAL CHALLENGES AND ISSUES IN PRESENT SCENARIO

Editors : Pravin K. Singh, Abhishek Srivastava,
Vishal Srivastava and Ranjeet Kumar
ISBN : 978-93-88018-18-0
Edition : 2019

Chapter - 1

Innovation in plantation

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Turning an idea into solution is innovation. Creativity is the ability to generate novel and useful idea and apply these useful ideas is innovation. Along this, relevancy is also necessary. Innovative ideas can be big or small, but it should be new and implementation of this new idea is innovation in real sense.

As far as plantation is concerned, it is because of the necessity of time just as to save earth. Plantation itself is capable of regulating the environment. Typical forests for instance, are unique in this regard which by their biomass and volume conserve most of our air, water, soil and fauna. If we could balance first conservation against consumption of natural resources, we would be able to restore the health of our degrading environment. Tree plantation helps in increasing the **Green Cover** which is very important to maintain ecological balance and equilibrium. The importance of tree plantation cannot be ignored any more. There is a close relationship between humans, animals and plants. If there had been no trees, the environment would have lost balance. The rainy season is the best time for plantation of trees. Although there is much debate on shrinking forest area, but government and non-government agencies are doing work to preserve forest with full dedication and hard work.

Since independence, India has consistently been under forest cover of roughly 20 percent and India's State of Forest Report 2017 (ISFR:2017) says the forest cover in India has surpassed the 20 percent mark and has reached to 21.54% while registering an increase of 0.21% or 6,778 sq.km compared to the last ISFR report, 2015, taking the total forest cover to 70,82,72 sq.km out of total geographical area of 32,87,459 sq.km.

To increase the green cover new methodologies with low cost are required. A new innovative method for tree plantation is through **seed balls** or **seed bombs**. A seed ball (or a seed bomb) is a seed that has been wrapped in a mixture of clay and compost and then dried. In other words, it is said that seed is pre-planted and can be sown by depositing the seed ball anywhere suitable for the species, keeping the seed safe until the proper germination time arises.

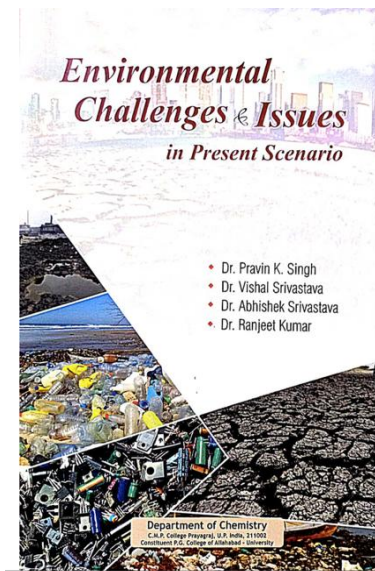


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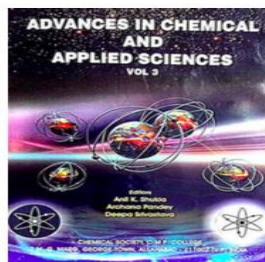
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First Edition : 2019
Price : ₹ 600/-

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Advances in Chemical and Applied Sciences - Vol 3

ISBN : 978-93-88018-19-7

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Editors : Anil K. Shukla, Anshu Pandey, Deepa Srivastava
Edition : 2020

Green Approaches for Synthesis of Quinazolinone

Vishal Srivastava

Introduction

Quinazoline derivatives, which belong to the N-containing heterocyclic compounds, have gained universal attention due to their widely used diverse biopharmaceutical functions, synthesis of pharmaceuticals, and their attractive field for the synthetic chemists due to their pharmacological activities. *N*-Methylquinazolinone occupy an important position in medicinal and pesticidal chemistry, presenting a wide range of bioactivities. Medicinal chemists synthesized a variety of quinazoline compounds with different biological activities by installing various active groups to the quinazoline moiety using divergent synthetic methods. It has been known that many secondary amine since the initial studies on *N*-Methylquinazolinone, quinazoline are well known as biologically active compounds. They have diverse such activities due to their broad range of pharmacological properties like antitumor, anti-inflammatory, anti-convulsant, anti-fibrotic, inhibitor of HIV-1 reverse transcriptase, inhibitor of P-450, and neuroleptic, anti-infectives, antiarrhythmics, blood platelet aggregating activity etc.

The synthetic work for the preparation of Quinazolinone can be classified into several groups: Microwave assisted solvent-free cyclizations, Ann reactions, Metal mediated reaction and Phase transfer catalysis reactions.

Microwave Assisted Solvent-Free Cyclizations

A one-pot microwave/ultrasonic K₂CO₃ catalyzed three component reaction of an substituted/unsubstituted acetoacetic acid, ethylamine, and a substituted/unsubstituted benzoic acid expeditiously and rapidly yields a 2-aryl-3-(*p*-chlorophenyl)-*N*-methylquinazolin-4-one as a novel Quinazolinone in excellent yield using microwave irradiation under solvent-free condition was synthesized. The application of MW irradiation in conjunction with the use of mineral supported reagents under solvent-free conditions in a one-pot reaction.

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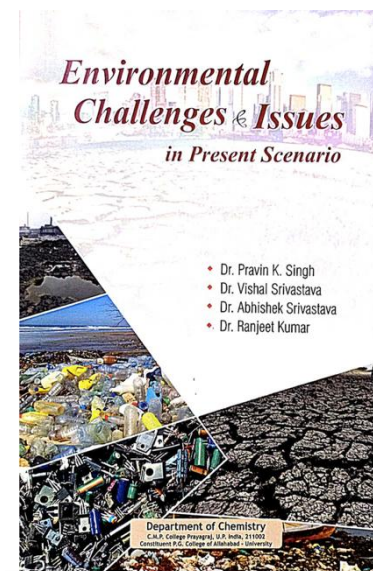


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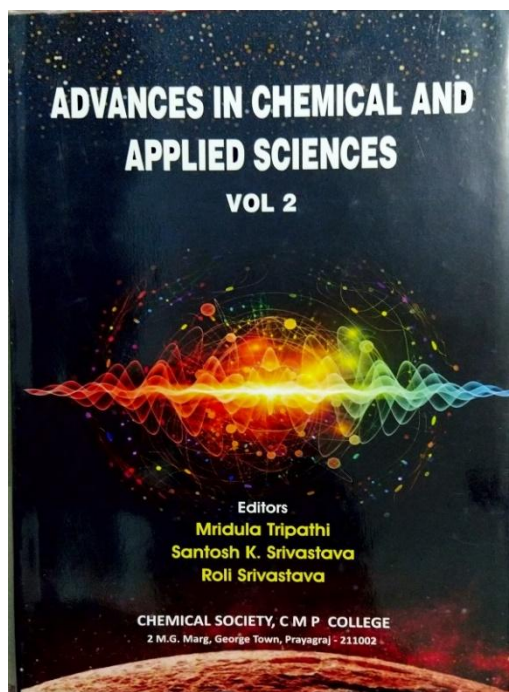
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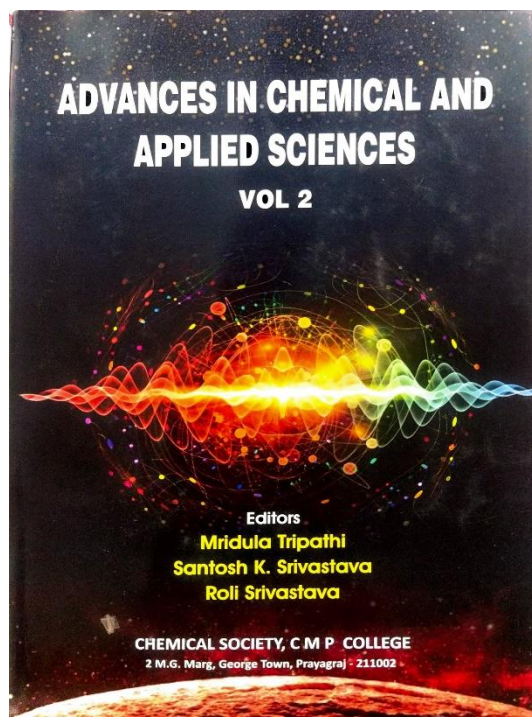

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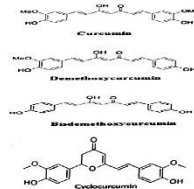
Advances in Chemical and Applied Sciences - Vol 2
Editors : *Mridula Tripathi*
Santosh K. Srivastava, Roli Srivastava
ISBN : 978-93-88018-17-3
Edition : 2019

Novel Methods Of Extraction of Curcumin

Archana Pandey* and Ashwani Sharma

Introduction

Turmeric (*Curcuma longa*) is cultivated everywhere specially in South and South east tropical Asia. The largest worldwide producer of turmeric is India. It belongs to ginger family. The characteristic yellow colour of turmeric is due to the presence of curcuminoids which are present in its rhizome. The major curcuminoids present in turmeric are - curcumin, demethoxycurcumin, bisdemethoxycurcumin, and cyclocurcumin.



Turmeric is used as dietary spice in India. It is very effective as anti-inflammatory, anti HIV, anticancer, antithrombosis, anti Alzheimer, antioxidant, antibacterial, antiviral, antitumor, anticarcinogenic, antimutagenic, anticoagulant, antifertility, antidiabetic, antifungal, antiprotozoal, antifibrotic, antivenom, antitumor, hypotensive, hypochlosteremic and hepatoprotective (Chatopadhyaya et al., 2014).

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Environmental Challenges & Issues in Present Scenario

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Environmental Challenges & Issues in Present Scenario

ISBN : 978-93-88018-18-0

© : Editors

Editors : Dr. Pravin Kumar Singh
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Dr. Vishal Srivastava
Dr. Ranjeet Kumar

First Edition : 2019
Price : ₹ 600/-

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Published & Printed by :

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 Vishal Srivastava and Ranjeet Kumar
 ISBN : 978-93-88018-18-0
 Edition : 2019

Chapter - 1

Innovation in plantation

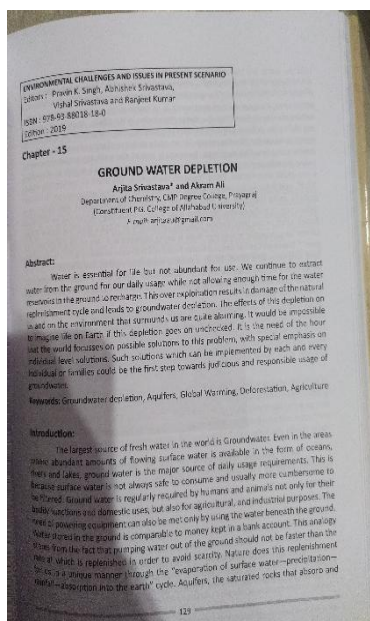
Archana Pandey* and Babita Agrawal
 Department of Chemistry, CMP Degree College, Prayagraj
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Turning an idea into solution is innovation. Creativity is the ability to generate novel and useful idea and apply these useful ideas is innovation. Along this, relevancy is also necessary. Innovative ideas can be big or small, but it should be new and implementation of this new idea is innovation in real sense.

As far as plantation is concerned, it is because of the necessity of time just as to save earth. Plantation itself is capable of regulating the environment. Typical forests for instance, are unique in this regard which by their biomass and volume conserve most of our air, water, soil and fauna. If we could balance first conservation against consumption of natural resources, we would be able to restore the health of our degrading environment. Tree plantation helps in increasing the **Green Cover** which is very important to maintain ecological balance and equilibrium. The importance of tree plantation cannot be ignored any more. There is a close relationship between humans, animals and plants. If there had been no trees, the environment would have lost balance. The rainy season is the best time for plantation of trees. Although there is much debate on shrinking forest area, but government and non-government agencies are doing work to preserve forest with full dedication and hard work.

Since independence, India has consistently been under forest cover of roughly 20 percent and India's State of Forest Report 2017 (ISFR:2017) says the forest cover in India has surpassed the 20 percent mark and has reached to 21.54% while registering an increase of 0.21% or 6,778 sq.km compared to the last ISFR report, 2015, taking the total forest cover to 70,82,72 sq.km out of total geographical area of 32,87,459 sq.km.

To increase the green cover new methodologies with low cost are required. A new innovative method for tree plantation is through **seed balls** or **seed bombs**. A seed ball (or a seed bomb) is a seed that has been wrapped in a mixture of clay and compost and then dried. In other words, it is said that seed is pre-planted and can be sown by depositing the seed ball anywhere suitable for the species, keeping the seed safe until the proper germination time arises.



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 ISBN : 978-93-88018-18-0
 Edition : 2019

Chapter - 15

GROUND WATER DEPLETION

Arjita Srivastava* and Akram Ali
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Abstract:

Water is essential for life but not abundant for us. We continue to extract water from the ground for our daily usage while not allowing enough time for the water resources in the ground to recharge. This over extraction results in damage of the natural replenishment cycle and leads to groundwater depletion. The effects of this depletion on us and on the environment that surrounds us are quite alarming. It would be impossible to imagine life on Earth if this depletion goes on unchecked. It is the need of the hour that the world focus on possible solutions to this problem, with special emphasis on low cost and rational level solutions. Such solutions which can be implemented by each and every individual or families could be the first step towards judicious and responsible usage of groundwater.

Keywords: Groundwater depletion, Aquifers, Global Warming, Deforestation, Agriculture

Introduction:

The largest source of fresh water in the world is Groundwater. Even in the areas where abundant amounts of flowing surface water is available in the form of oceans, rivers and lakes, ground water is the major source of daily usage requirements. This is because surface waters are not always safe to consume and usually more cumbersome to be stored. Ground water is regularly required by humans and animals not only for their drinking water but also for agricultural and industrial purposes. The water resources and domestic uses, but also for agricultural and industrial purposes. The water resources can also be met only by using the water beneath the ground. Water stored in the ground is comparable to money kept in a bank account. This savings is not available for our pressing water out of the ground should not be faster than the rate at which it is replenished in order to avoid scarcity. Nature does this replenishment in a slow manner through the "evaporation of surface water - precipitation - infiltration into the earth" cycle. Aquifers, the saturated rocks that absorb and

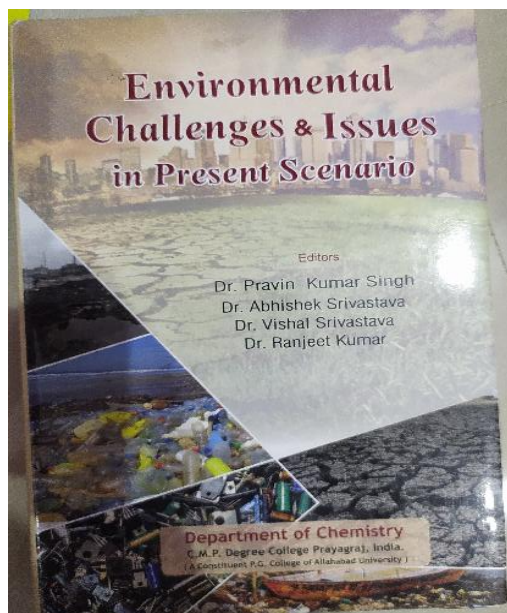


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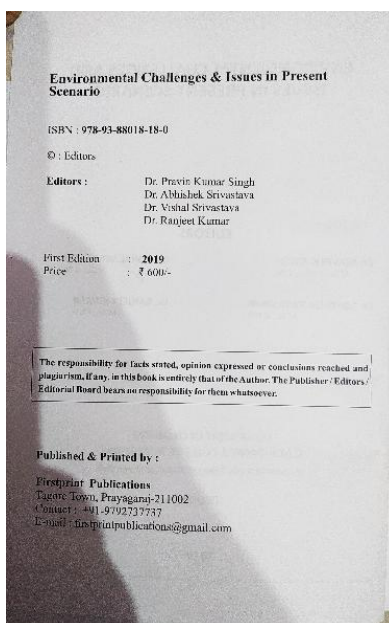


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Environmental Challenges & Issues in Present Scenario

ISBN : 978-93-88018-18-0

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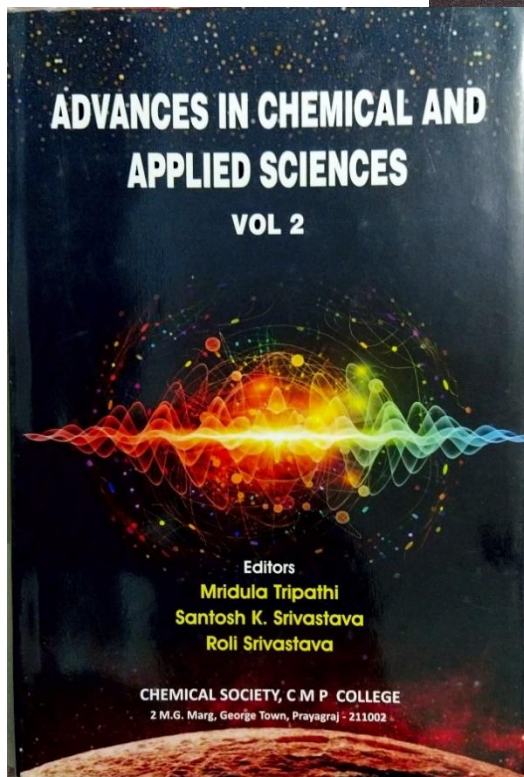
First Edition : 2019

Price : ₹ 600/-

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ADVANCES IN CHEMICAL AND APPLIED SCIENCES

VOL 2

Editors

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Roli Srivastava

CHEMICAL SOCIETY, C M P COLLEGE
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Advances in Chemical and Applied Sciences - Vol 2

ISBN : 978-93-88018-17-3

Editors : Mridula Tripathi
Santosh K. Srivastava
Roli Srivastava

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Price : ₹ 600/-

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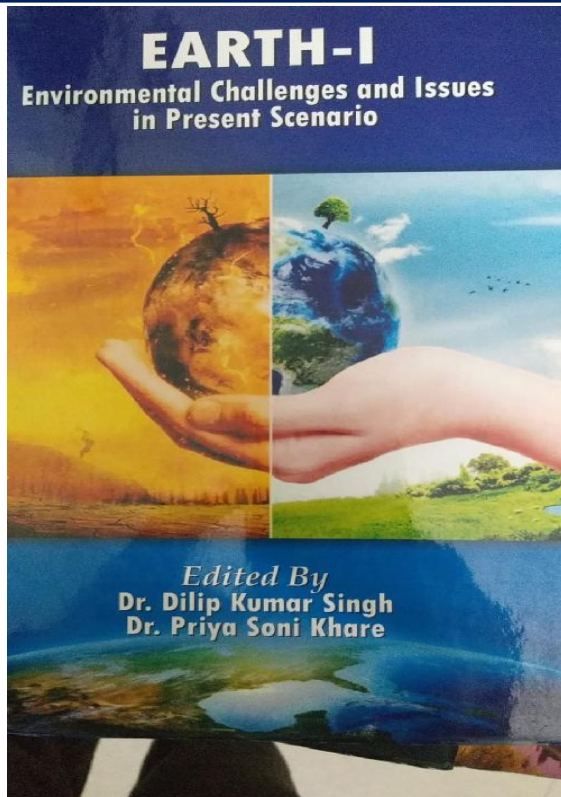


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ISBN : 978-81-942034-4-5

Publisher
Krishna Computer Sansthan
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Contact : +91-9450407739
Email : krishnacompusersansthan@gmail.com

EARTH-I
[Environmental Challenges and Issues in Present Scenario]

Edited By
Dr. Dilip Kumar Singh
Dr. Priya Soni Khare

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First Edition : 2019

Price : 1099

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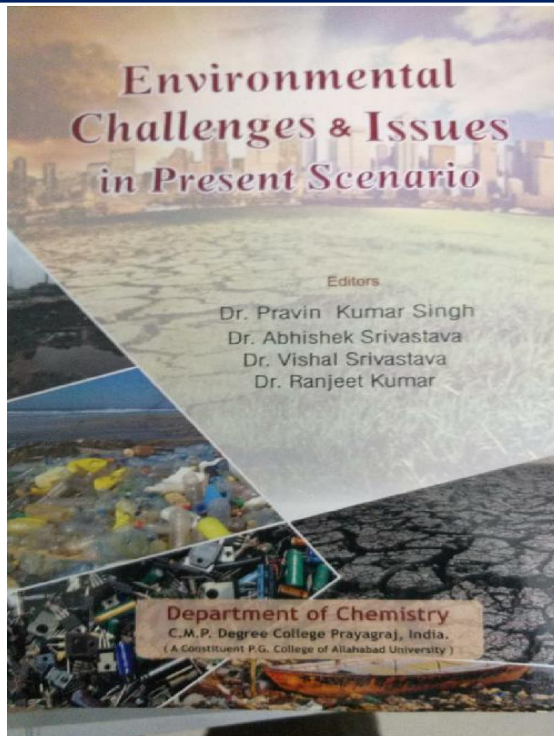


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Environmental Challenges & Issues in Present Scenario

ISBN : 978-93-88018-18-0

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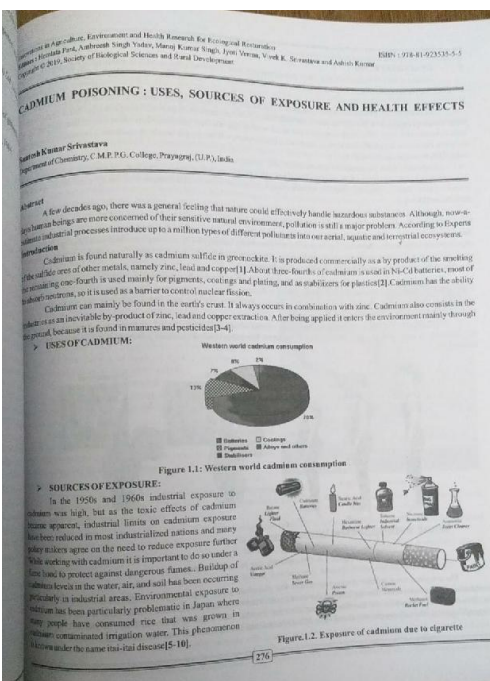
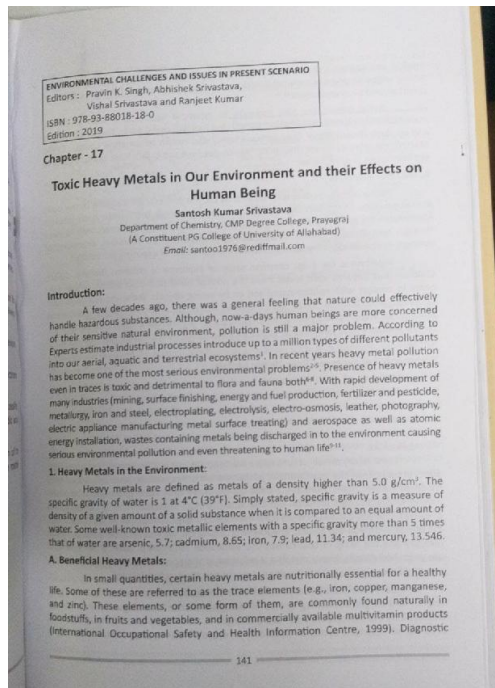
Editors : Dr. Pravin Kumar Singh
Dr. Abhishek Srivastava
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First Edition : 2019
Price : ₹ 600/-

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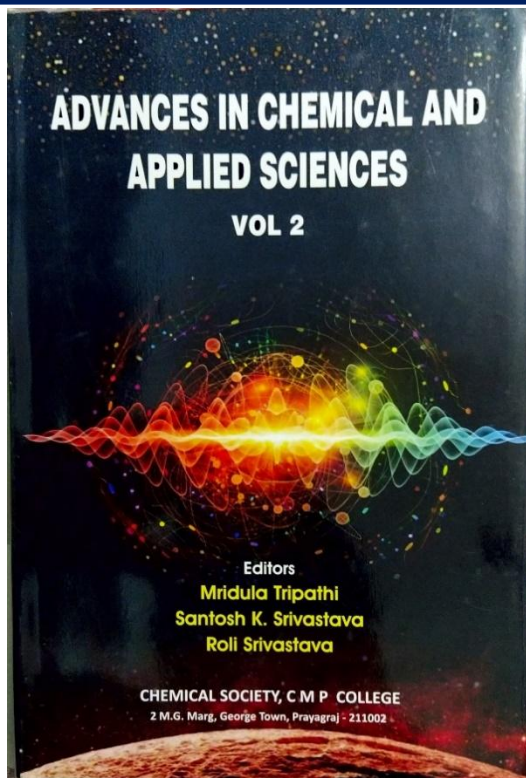


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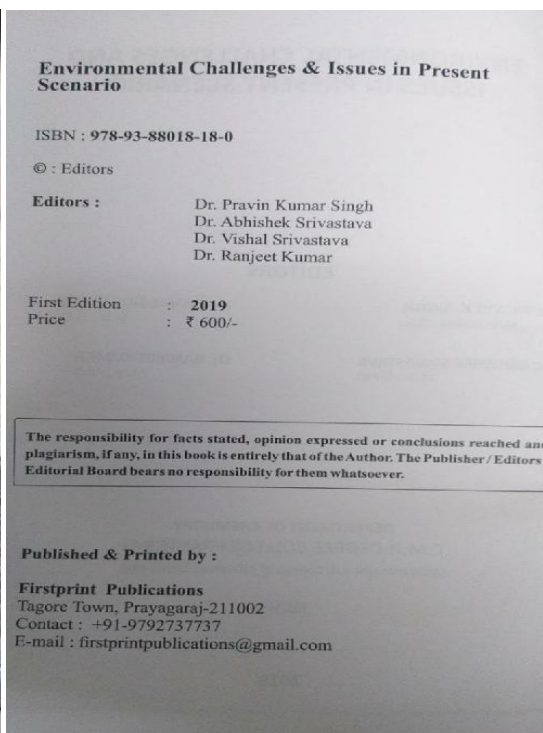
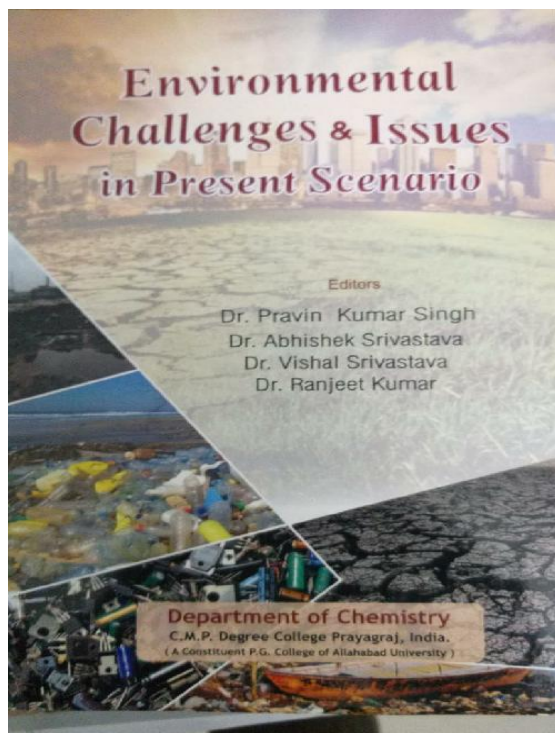
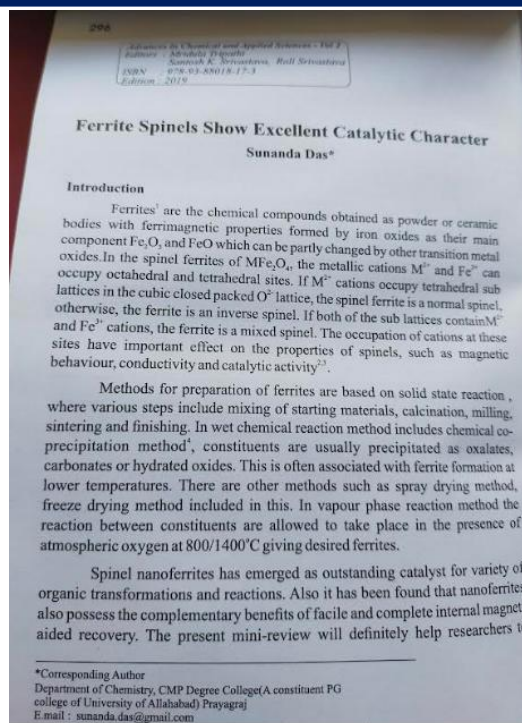


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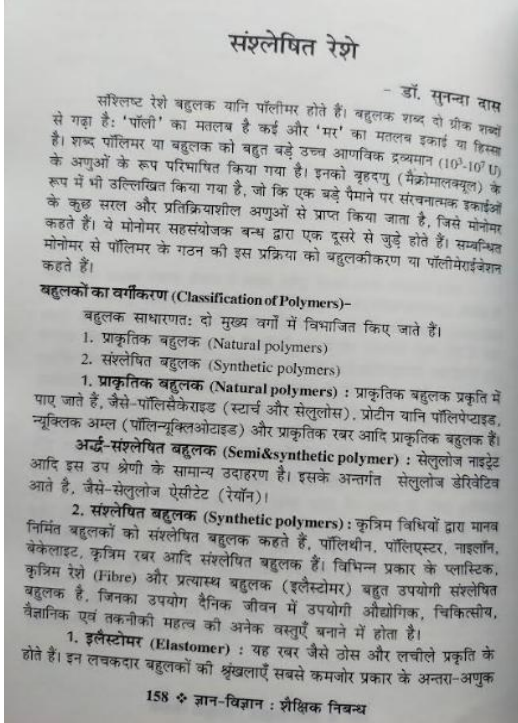
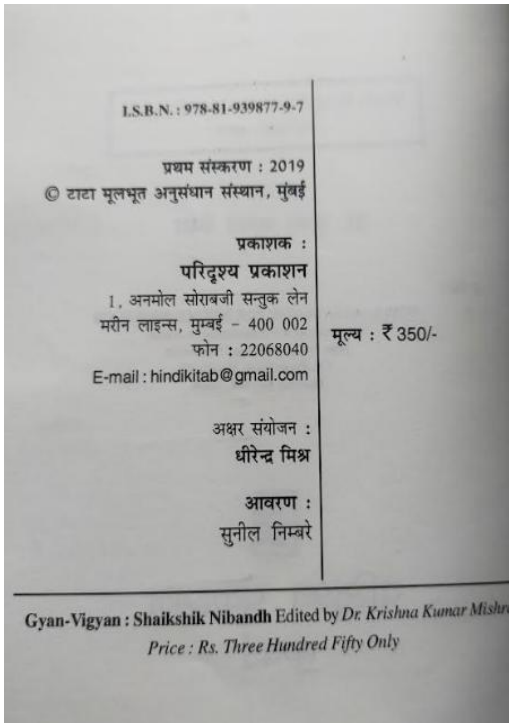
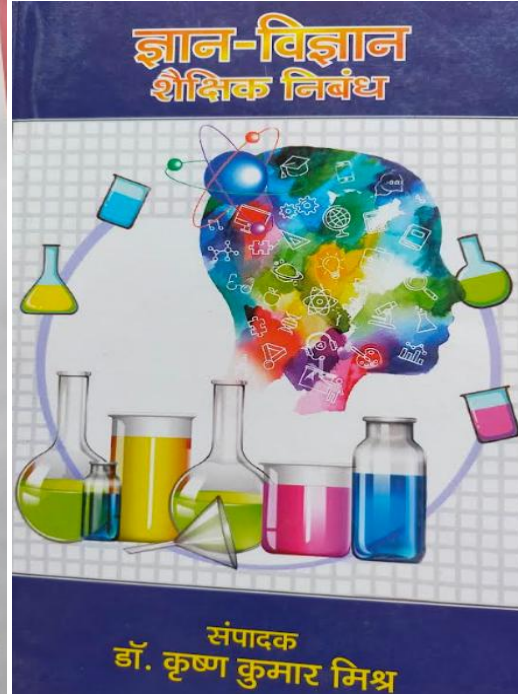
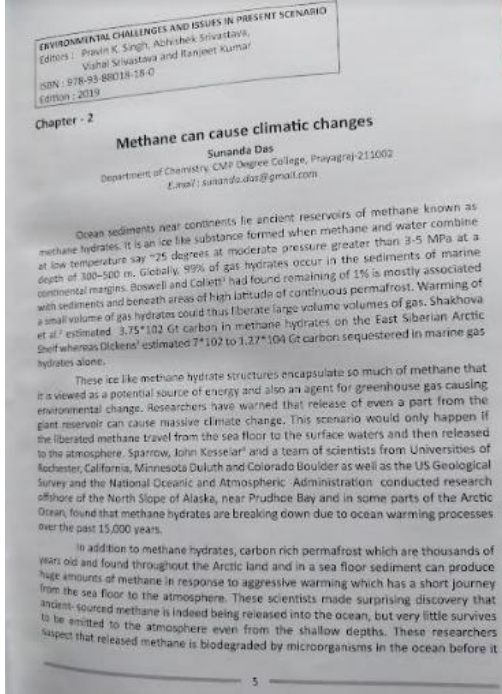


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Dr. Sunanda Das
Associate Professor

Spices have been used in many different ways. Since the ancient times, spices have been added to food to enhance flavour and improve their organoleptic properties. They have also been widely used as preservatives and medicine. They have been extensively studied in different countries because of the high antioxidant activity and their beneficial effects on human health. As part of our diet, spices, in addition to fruits and vegetables, could provide us with additional sources of natural antioxidants. Antioxidants from spices are a large group of bioactive compounds which consist of flavonoids, phenolic compounds, sulfur-containing compounds, tannins, alkaloids, phenolic diterpenes, and vitamins. These compounds demonstrate different antioxidant activities. For example, flavonoids have the ability to scavenge free radicals and can form complexes with catalytic metal ions rendering them inactive.



Star Anise



Flowers of star anise

Antioxidants can protect lipids and oils in food against oxidative degradation. When added to food, antioxidants control rancidity development, retard the formation of toxic oxidation products, maintain nutritional quality, and extend the shelf-life of products. Because of safety concerns, synthetic antioxidants are limited to be used as food preservatives. Natural antioxidants obtained from edible materials such as spices and herbs, have been of increasing interest.

Natural antioxidants contained in spices help to reduce oxidative stress¹, which is caused by factors, such as gamma, UV, and X-ray radiation, psycho-emotional stress, polluted food, adverse environmental conditions, intensive physical exertion, smoking, alcoholism, and drug addiction. Chronic oxidative stress has been reported to lead to a variety of diseases,

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REPORT: SOCIAL RESPONSIBILITIES
Dr. Sunanda Das
Co-ordinator

Faculty members of the Chemistry Department are actively involved in the 'Social Responsibilities' of the society.

- In 2017, Dr. A. R. S. Saksena, Former Head, Chemistry Department donated a considerable sum of money for the construction of iron door for the store room in the Chemistry Department.
- Tree Plantation programme organised by the Chemistry Department on 4th and 5th July 2018. Teachers, students and ministerial staff of the Department were planted Saplings of variety of plants in the Chemistry Department Premises and outside the college.
- For economically weaker section, R.K. Memorial library has been started to provide books to underprivileged students. The library in the name of Dr. R.K. Srivastava (Former Head, Chemistry Department) has been started with the motto to provide books to the financially under privileged science students. Time to time contribution of books to the library was done by pooling money or donating books by the faculty members of the Chemistry Department. In the year 2018 each faculty member contributed Rs.1000/-. A total contributed amount of Rs. 22000/- was donated for purchasing books for this library on August 2018.
- The faculty members of Chemistry Department went to the Girls Home situated in Swaraj Bhawan, Allahabad. They met the 36 girls living there and had discussions with the office in-charge Mr. G.C. Ghosh and Col. Kak, Secretary of Managing Committee, regarding their facilities, day to day mess and studies. The girls were provided with some items of daily utilities (washing detergents).
- A tree plantation drive was conducted in the college premises by Chemistry Department on 20th August 2019.
- The faculty members of Chemistry Department paid a visit to the Old Age Home located in Tagore Town, Prayagraj. They spent some quality time with the people living there and listened to their wise words. A small contribution of Rs. 2500/- was done by the department to the office in-charge in order to meet some of their daily requirements.



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ODOR FREE KUMBH 2019
(PM's Swaccha Bharat Mission)
Dr. Sunanda Das
Co-ordinator

With 1.2 lakhs toilets in the Kumbh Mela area, there was strong emphasis on the cleanliness drive at 'Kumbh 2019' with a slogan 'Swaccha Kumbh - Divya Kumbh' by the District Administration on the initiative taken by Prime Minister Mr. Narendra Modi to make India clean under 'Swaccha Bharat Mission'.

Dr. Shivashaktivel, Assistant Professor from University of Bangalore along with his team and mela officials from 'Health and Sanitary Department' took charge and selected CMP College, Prayagraj for this purpose.

To execute this huge Project 20 post graduate students from science discipline chiefly from Chemistry (M.Sc.) were chosen to keep the entire immense mela area clean and odour free. Dr. Sunanda Das, Associate Professor, Department of Chemistry, CMP College was made co-ordinator to supervise the project from the end by the college.



For this sanitation service program students received training for complete 8 hrs and consecutively for two days to prepare 20.0 L of solution from ozonated water, 20 ml of peroxide solution and a very inexpensive catalyst. After training process was over, each sector (Mela area was divided into 20 sectors) was allotted with one chemist, one helper and a few cleaning staff. Preparation of 1500 litres of solution sometimes more the quantity per day was very challenging and tedious task but because of excellent team work it became easy and interesting in those adverse situations.

In the mela area a 'Transfer Station' (a dump yard for prepared solutions) was made to collect cleaning solutions prepared by chemists which was later given to the vendors for sprinkling at garbage disposal area and in the make shift toilets. These toilets were name as Bio-toilets. Many times more solution was provided to eliminate foul smell emanated from disposals on heavy mela days.

Due to extreme hard work of these chemists (students) mela was literally odour free and clean. This was highly appreciated by Chief Minister Yogi Adityanath ji, Prime Minister Shri Narendra Modiji, District Administration, Ministers and Chief Ministers from others States, delegates from Foreign Countries, Foreigners, Pilgrims, Sadhu's and Baba's from various

**CONCISE
INORGANIC
CHEMISTRY**

Dr. Deepa Srivastava



Aastha Publications, Allahabad

Published by :
Aastha Publication
C-792 G. T. B. Nagar, Kareli,
Allahabad - 211016

Edition: 2019-20

© Writer

ISBN : 978-93-82718-20-8

Price: ₹ 350.00

Computer Typing
Alpha Printers
Allahabad

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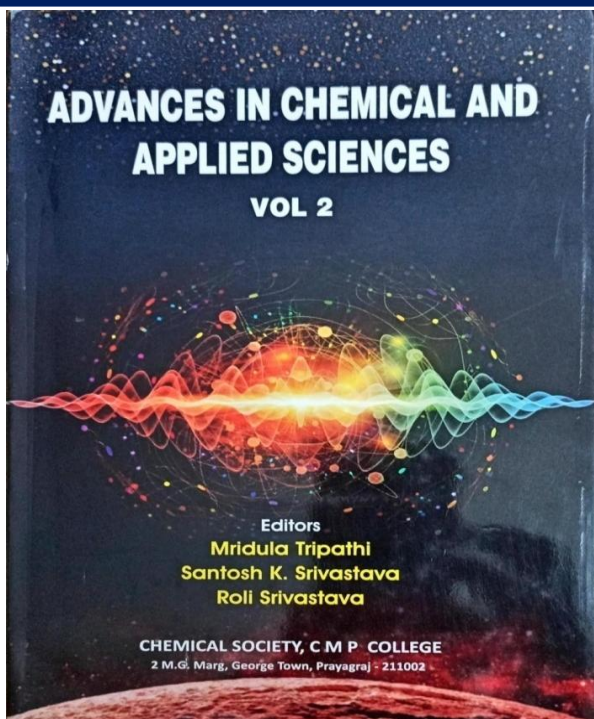


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Worldwide Circulation through Authorpress Global Network
First Published in 2020
by
Authorpress
Q-2A Hauz Khas Enclave, New Delhi-110 016 (India)
Phone: (0) 9818049852
E-mail: authorpressgroup@gmail.com
Website: www.authorpressbooks.com

Recent Advances in Chemistry and its Impact on Society
ISBN 978-93-90155-90-3

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Printed in India at Thomson Press (India) Limited

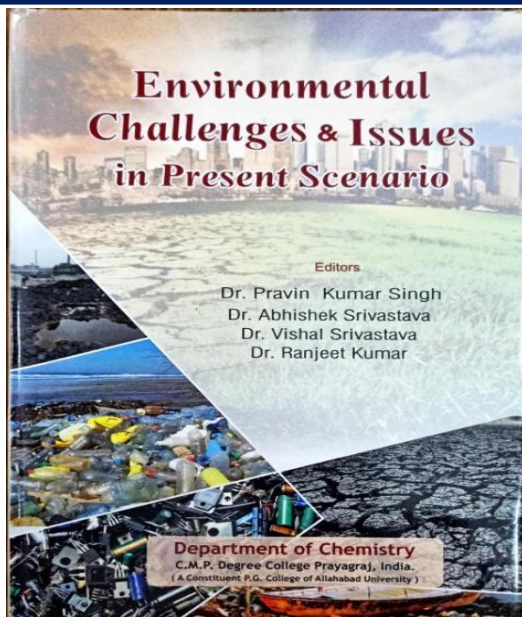


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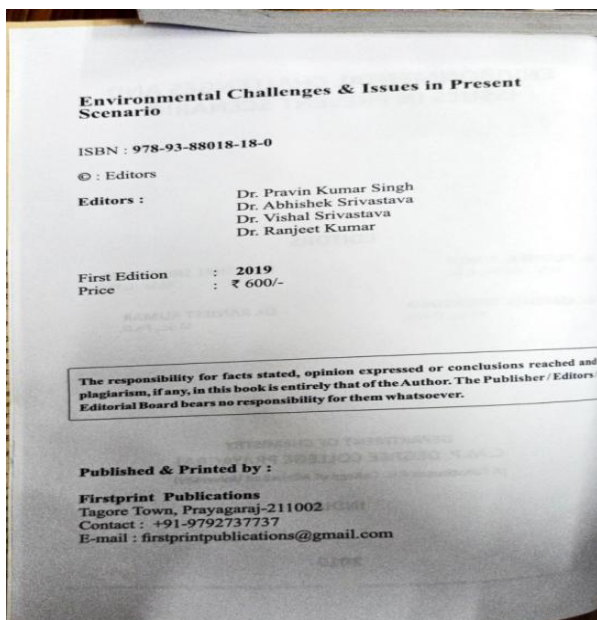
Environmental Challenges & Issues in Present Scenario

Editors

Dr. Pravin Kumar Singh
Dr. Abhishek Srivastava
Dr. Vishal Srivastava
Dr. Ranjeet Kumar

Department of Chemistry
C.M.P. Degree College Prayagraj, India.
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Environmental Challenges & Issues in Present Scenario

ISBN : 978-93-88018-18-0

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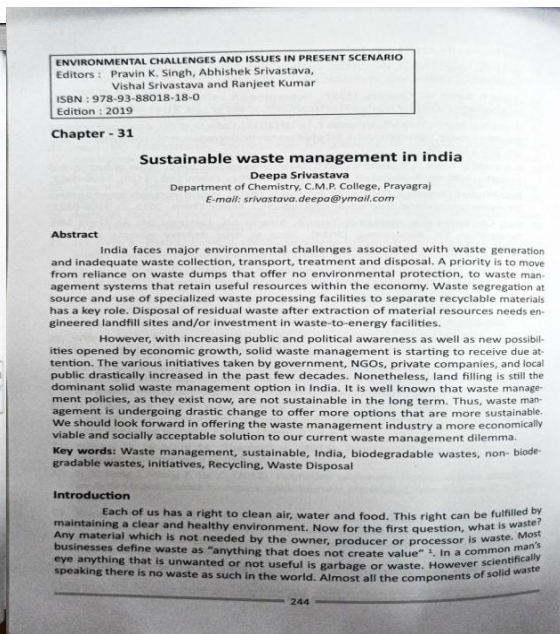
Editors : Dr. Pravin Kumar Singh
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First Edition : 2019
Price : ₹ 600/-

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Published & Printed by :

Firstprint Publications
Tagore Town, Prayagraj-211002
Contact : +91-9792737737
E-mail : firstprintpublications@gmail.com



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Vishal Srivastava and Ranjeet Kumar
ISBN : 978-93-88018-18-0
Edition : 2019

Chapter - 31

Sustainable waste management in india

Deepa Srivastava
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Abstract

India faces major environmental challenges associated with waste generation and inadequate waste collection, transport, treatment and disposal. A priority is to move from reliance on waste dumps that offer no environmental protection, to waste management systems that retain useful resources within the economy. Waste segregation at source and use of specialized waste processing facilities to separate recyclable materials has a key role. Disposal of residual waste after extraction of material resources needs engineered landfill sites and/or investment in waste-to-energy facilities.

However, with increasing public and political awareness as well as new possibilities opened by economic growth, solid waste management is starting to receive due attention. The various initiatives taken by government, NGOs, private companies, and local public drastically increased in the past few decades. Nonetheless, land filling is still the dominant solid waste management option in India. It is well known that waste management policies, as they exist now, are not sustainable in the long term. Thus, waste management is undergoing drastic change to offer more options that are more sustainable. We should look forward in offering the waste management industry a more economically viable and socially acceptable solution to our current waste management dilemma.

Key words: Waste management, sustainable, India, biodegradable wastes, non-biodegradable wastes, initiatives, Recycling, Waste Disposal

Introduction

Each of us has a right to clean air, water and food. This right can be fulfilled by maintaining a clear and healthy environment. Now for the first question, what is waste? Any material which is not needed by the owner, producer or processor is waste. Most businesses define waste as "anything that does not create value" ¹. In a common man's eye anything that is unwanted or not useful is garbage or waste. However scientifically speaking there is no waste as such in the world. Almost all the components of solid waste

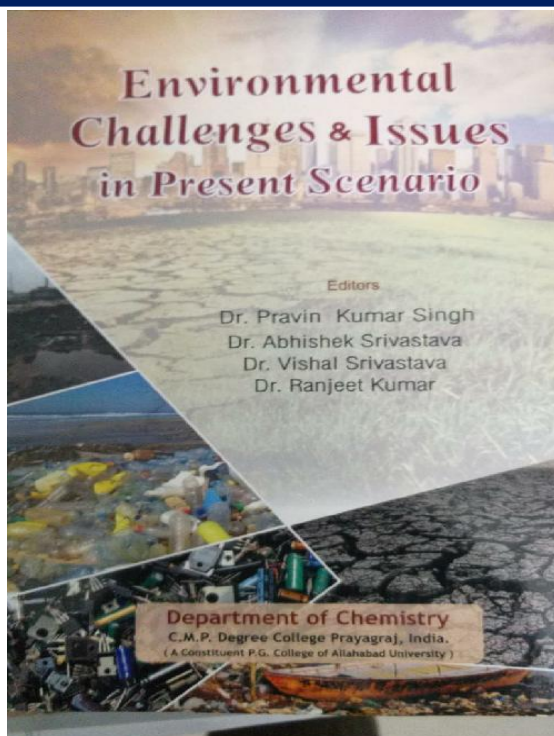


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ISBN : 978-93-88018-18-0
Edition : 2019

Chapter - 16

Role of Metal Organic Frameworks for Environmental Con- taminant Sensing

Deepanjali Pandey* and Monika Singh
Department of Chemistry, CMP College, Prayagraj
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Email: deepanjali.pandey.1@gmail.com

Introduction:

In the past decades, with the population boom and industry development, environmental pollution has become a serious problem for the ecosystem and public health. Many types of pollutants, e.g., water and air pollution of heavy metals, organic compounds, and toxic gases, are associated with health risks¹. Chromatography and its coupled techniques are the most widely used methods in determining environmental contaminants. However, chromatography-based techniques often require expensive equipment, complex pretreatment, and long test times. Thus, new sensing technologies, which possess the advantages of high sensitivity, rapid detection, ease of use, and suitability for in situ, real-time, and continuous monitoring of environmental pollutants, are highly needed.

A sensor is normally composed of a sensing unit and a transduction unit to translate the sensed information into another type of signal, e.g., an electrical or optical signal. The working principle of a sensor is based on its transduction mechanism, which is based on changes in the optical, electrical, photophysical, or mechanical properties of the sensing element in the sensor when it interacts with the analytes². In a sensor, important sensing characteristics include sensitivity, selectivity, response time, reusability, long-term stability, and cost. Hence, the selection and design of the sensing material employed in the sensor platform are key points with regard to sensor performance. To date, various micro- and nanomaterials with different characteristics have been employed in environmental monitoring sensors, including nanocarbon materials (carbon nanotube and graphene), metals and metal oxides, semiconducting materials, quantum dots, and polymers. The development of novel sensing materials with excellent properties greatly promotes sensor research and applications.

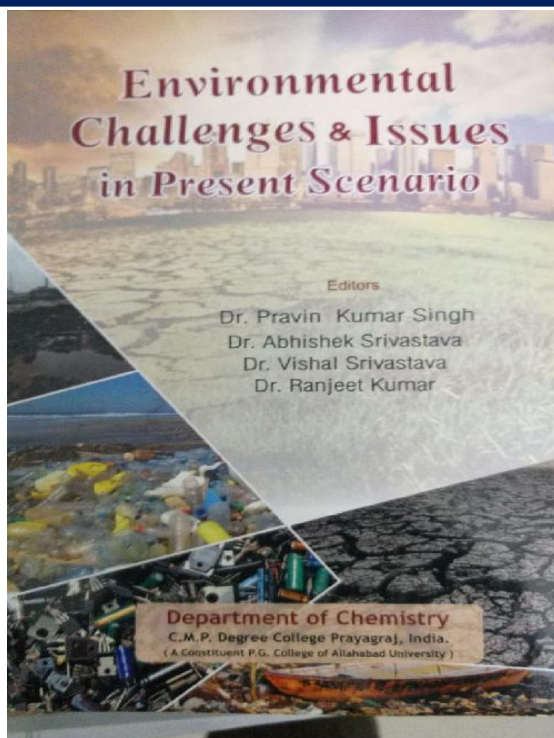


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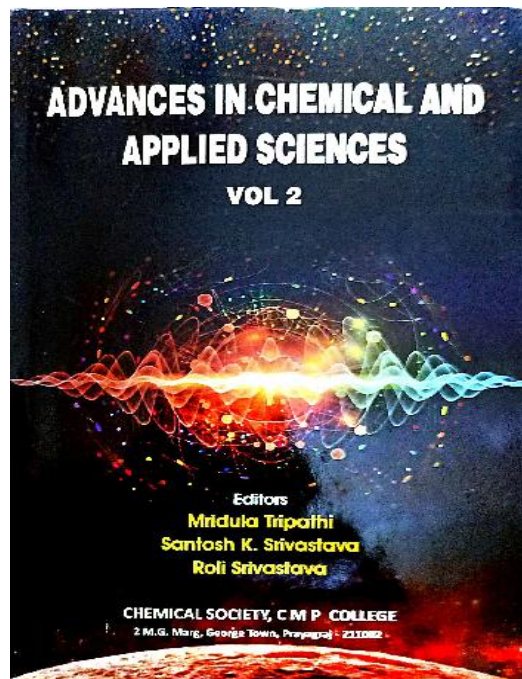


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Advances in Chemical and Applied Sciences - Vol 2

ISBN : 978-93-88018-17-3

Editors : Mridula Tripathi
Santosh K. Srivastava
Roli Srivastava

Associate Editors : A. K. Saha
Archana Pandey
Suzanda Das
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First Edition : 2019
Price : ₹ 600/-

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Advances in Chemical and Applied Sciences - Vol 2
Editors : Mridula Tripathi
Santosh K. Srivastava, Roli Srivastava
ISBN : 978-93-88018-17-3
Edition - 2019

Ultra Cold Atoms and Molecules Monika Singh*

Abstract

The present topic discusses the impact of the development of lasers on Ultracold atoms and molecules and their applications. Physicist Satyendra Nath Bose and Albert Einstein in 1924 proposed that atoms could be chilled to a point so they can join together in a single quantum state. After a brief historical review of laser cooling and making of ultra cold atoms and Bose-Einstein condensation, we present important applications of ultra cold atoms, including time and frequency metrology, atom interferometry and inertial sensors, atom lasers, simulation of condensed matter systems, production and study of strongly correlated systems, and production of ultracold molecules. Keywords: Doppler cooling, magnetic -optical trap, —Bose-Einstein condensate, ultra cold atoms

Introduction

As we hear the word ATOM OR MOLECULE we know ATOM "is the smallest individual particle comprising of electron, proton and neutron". Here, this chapter deals with "COLD ATOM OR MOLECULES". The word "Ultracold atoms" are the atoms that are maintained at temperatures close to 0 kelvins (absolute zero), typically below temperatures of some tens of microkelvins (μK). At these temperatures the atom's quantum-mechanical properties become important. Several other Nobel Prize in physics is related to the development of the techniques to manipulate quantum properties of individual atoms (e.g. 1995-1997, 2001, 2005, 2012, 2017).

Invention of these new kind of atoms depends on the interactions of a diffuse gas with a laser field. Evidence for radiation pressure, force due to light on atoms, shown by Lebedev, and Nichols and Hull in 1901 and later in 1933, Otto Frisch demonstrated the deflection of individual sodium particles by light

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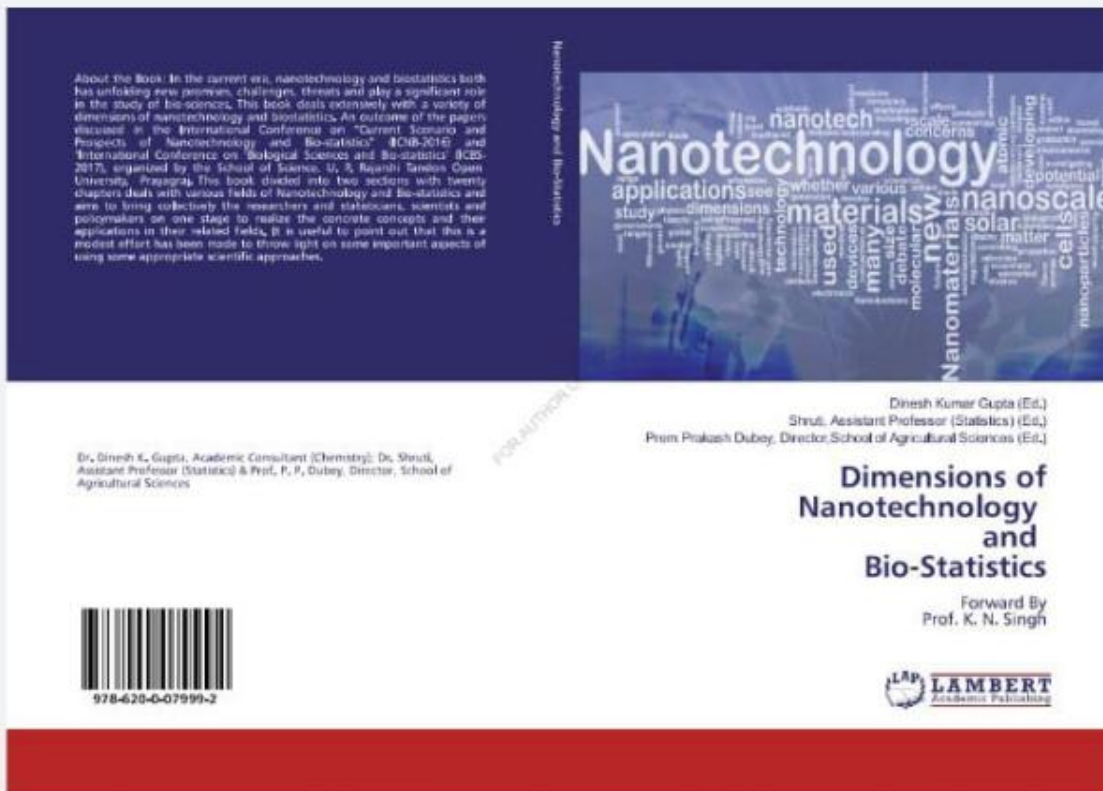


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Bioinspired Nanomaterials: Synthesis and Applications

Dharmveer Singh, Monika Singh, Shalini Verma & Vijay Krishna

Introduction

The rapid increase in nanotechnology has led to draw great attention to adopt greener and eco-friendly process for development of nanomaterials [1]. In this context, the bio-inspired material, developed by biomimetic routes, found to be most environmentally benign material. The bio-inspired materials are the synthesis materials whose structure, properties or functioning pattern have inspired widely as to mimic natural or living materials [2]. The bio-inspired nanomaterials with hierarchical structures will be developed by biomimetic routes has vast applications. The bio-inspired nanomaterials have hierarchical self-assembly structure due to strategy of organic templates which is in synthesis of bio-inspired materials. The properties of self-assembly organic templates allowed to controlled organization of the organic/biogenic interface of material with desirable properties [3]. The organic macromolecules were used as templates that create chemical and morphological diversity in the inorganic phase.

The building blocks of the natural organic macromolecules such as mineral, protein, and polysaccharide provide the template architecture were used for chemical and morphological diversity in the inorganic phase [4]. Thus, the biomimetic inorganic-organic composites that are obtained by the interaction between inorganic and biomolecules under specific pH and temperature change is the example of bioinspired materials [5]. The bio-inspired materials have been developed by using simple, facile and eco-friendly techniques. There are number of nanomaterials synthesis the nanomaterials by biogenic routes which have specific shape and size. The special features such as specific size, shape, orientation, organization, surface charge and surface chemical composition make it advanced materials for number of applications [6]. The bio-inspired materials have unique aspect because they utilize their structure and orientations and also generate hard surface layers to accommodate the increased deformation. It is similar to the human made hard materials such as ceramics. In addition, highly porous materials are also synthesized that have light weight and columns like an cancellous bone or bamboo [7]. The bio-inspired materials combined with desirable properties of

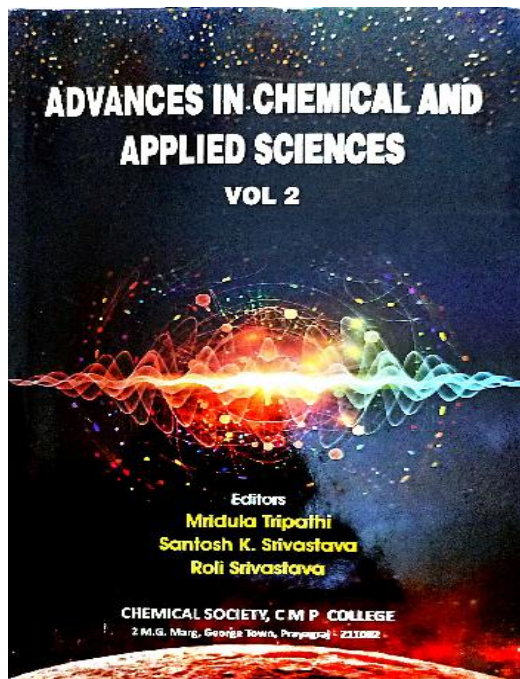


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ISBN : 978-93-88018-17-3

Editors : Mridula Tripathi
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Roli Srivastava

Associate Editors : A. K. Sankh
Archana Pandey
Suzana Das
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Ashok Kumar Ranjan
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First Edition : 2019
Price : ₹ 6000/-

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Published & Printed by :

Firstprint Publications
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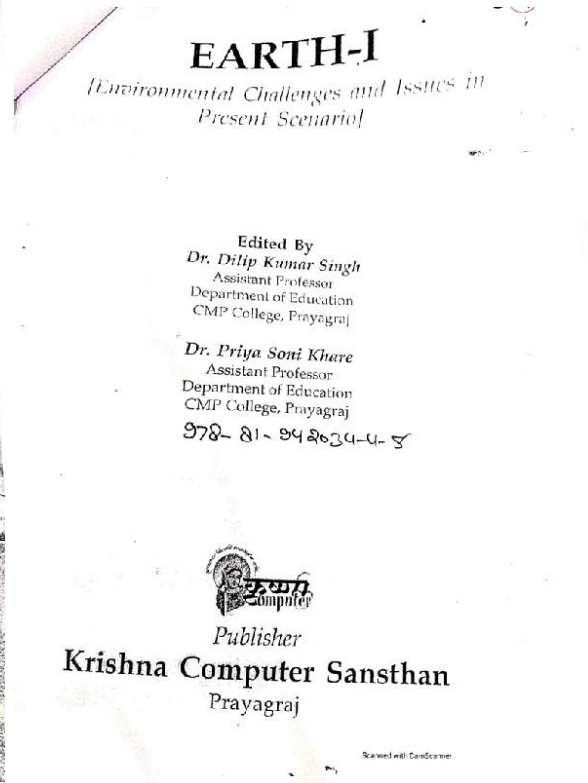
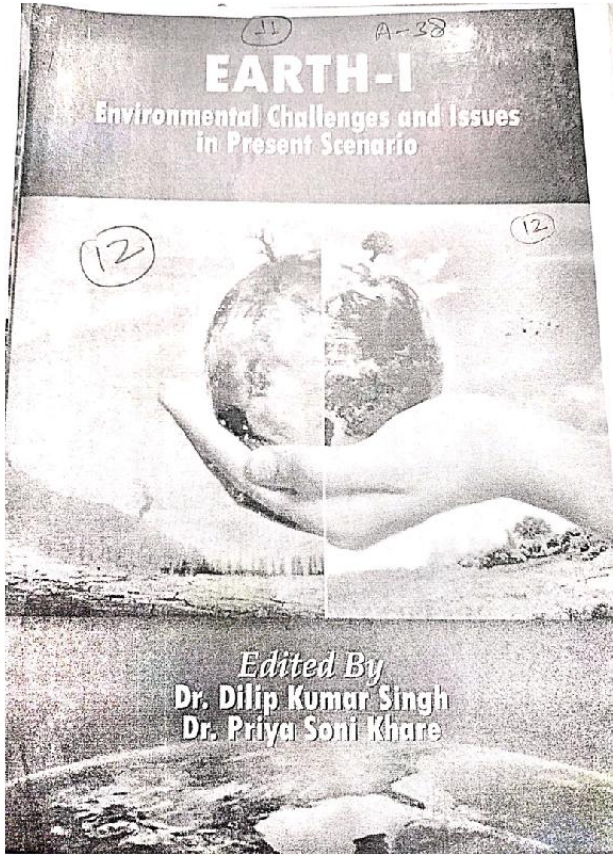


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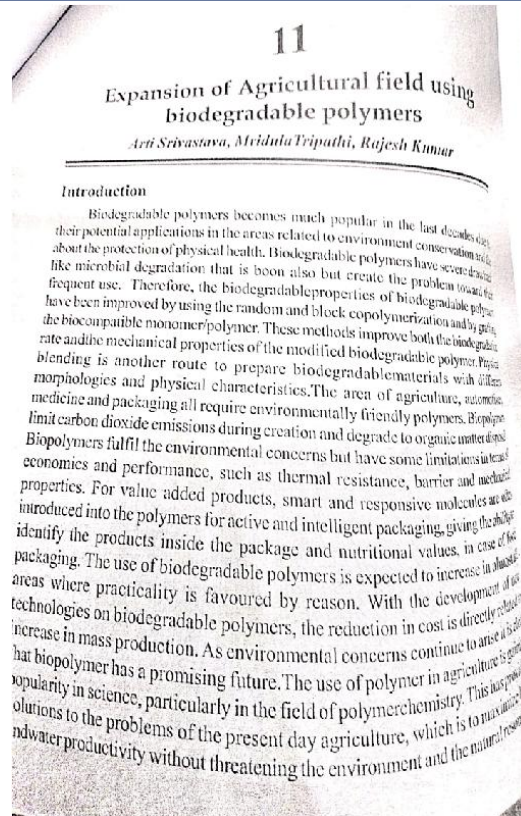


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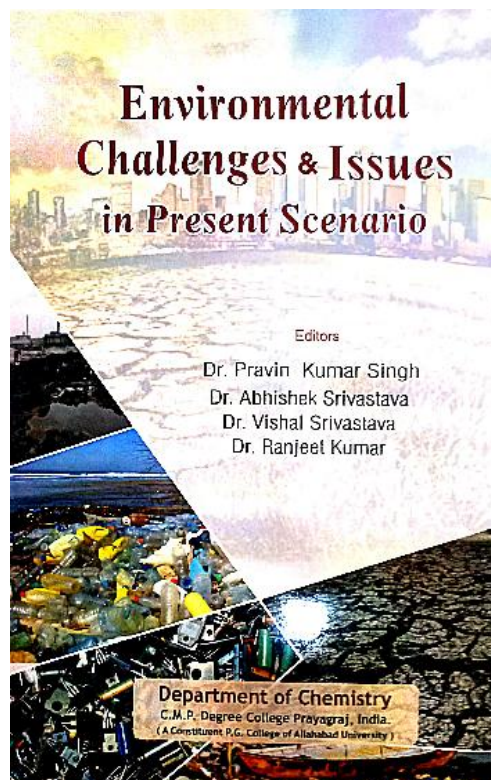


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Price : ₹ 600/-

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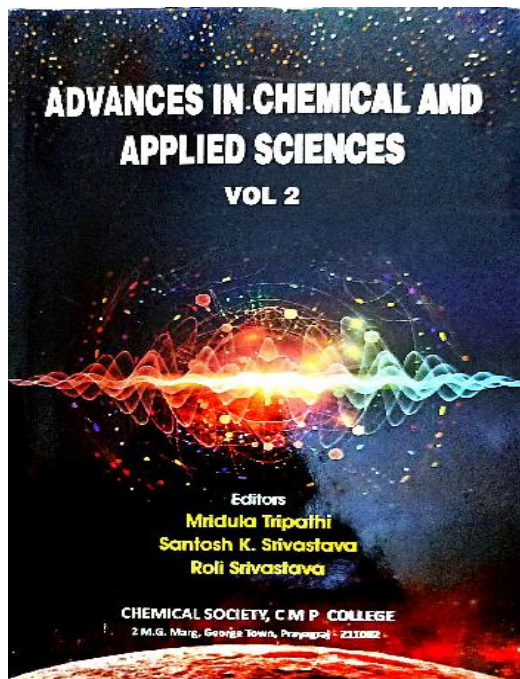


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Advances in Chemical and Applied Sciences - Vol 2
 Editors : Anshulika Tripathi
 Suresh K. Srivastava, Rishi Srivastava
 ISBN : 978-82-888116-17-3
 Edition : 2019

Antioxidant

Praveen Tripathi* and Dharmendra Kumar Sahu

Introduction

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The relative importance and interactions between these different antioxidants is a very complex question, with the various antioxidant

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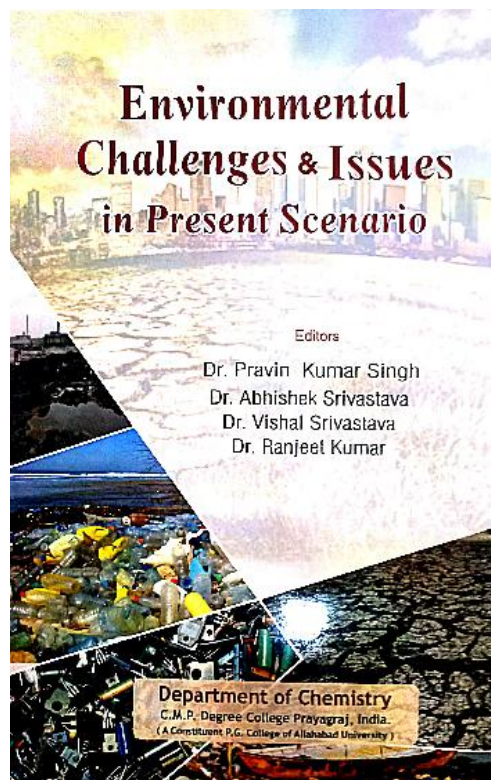


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Editors : Pravin K. Singh, Abhishek Srivastava,
Mridula Srivastava and Ranjeet Kumar
ISBN : 978-93-88218-18-0
Edition : 2019

Chapter - 21

Thermal Pollution

Praveen Tripathi

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Introduction:

Thermal pollution is the degradation of water quality by any process that change ambient water temperature. A common cause of thermal pollution is the use of water as a coolant by power plants and industrial manufacturers. Other causes of thermal pollution include soil erosion. This will elevate water and expose it to sunlight. When water rises as a coolant is returned to the natural environment at a higher temperature, the sudden change in temperature decreases oxygen supply and affects ecosystem composition. Fish and other organisms adapted to particular temperature range can be killed by an abrupt change in water temperature (either a rapid increase or decrease) known as "Thermal Shock".

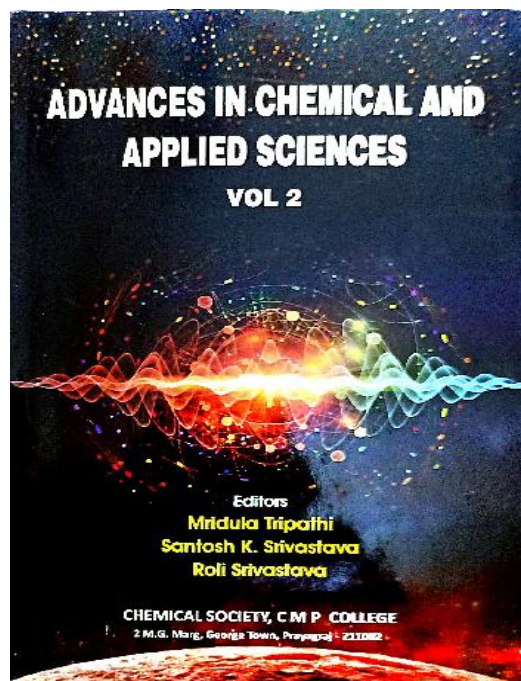
Some sources of Thermal Pollution are:

1. Coal - fired power plant
2. Nuclear Power Plant
3. Industrial Effluents
4. Domestic Sewage
5. Hydro-electric power
6. Thermal Power Plant

Ecological effects:

Elevated temperature decreases the level of dissolved oxygen. This can harm aquatic animals such as fish, amphibians and other aquatic organisms. Thermal pollution may also increase the metabolic rate of aquatic animals, as enzyme activity, resulting in these organisms consuming more food in a shorter time than if their environment were not changed. An increased metabolic rate may result in fewer resources, the more adapted organisms moving in may have an advantage over organisms that are not used to the warmer temperature. As a result, food chains of the old and new environments may be compromised. Some fish species will avoid stream segments or coastal areas adjacent to a thermal discharge. High temperature limits oxygen dispersion into slower waters contributing to anaerobic conditions. This can lead to increased bacteria levels when there is ample food supply. Many aquatic species will fail to reproduce at elevated temperatures.

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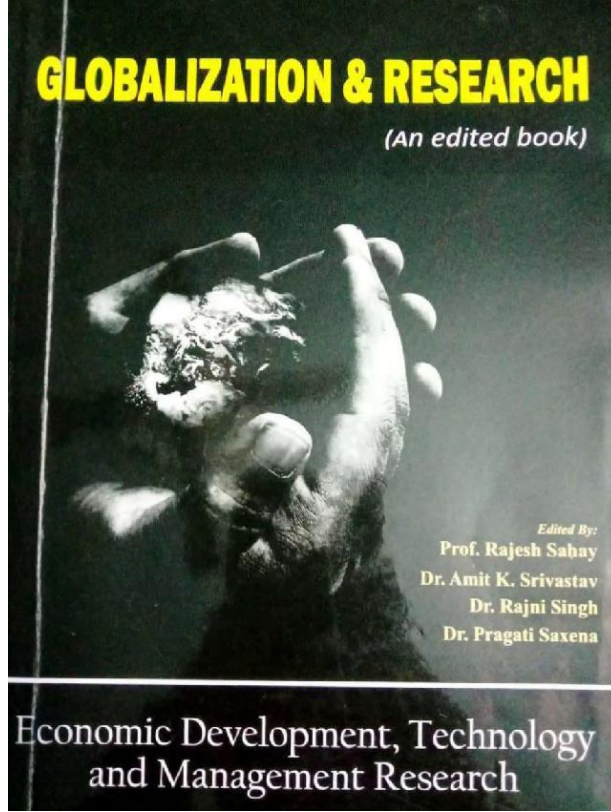


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Chapter 24

Correlates of Job Satisfaction and Occupational Stress among Degree College Teachers

¹Dr. Abha Singh, ²Dr. Dilip Kumar Singh

ABSTRACT

The most fundamental way to improve the quality of education is through the improvement in teacher performance; therefore, it is required to identify the factors influencing teacher's competence. The effectiveness of the teacher becomes vital to face the emerging challenges of globalization and liberalization on the one side, and mushrooming of the educational institutions on the other side. Only the effective teachers can explore the hidden capacities of the students and mold their behavior into desirable directions. An effective teacher proves himself as an instrument to meet the desired goals of education. Who are an effective teacher and what are his attributes are important to be known, so as to make educational programme successful. Hence, a proper and systematic study in this respect is very essential. In this study field survey method of Descriptive research was used. The population of the present study has been defined as the Teachers of different aided and self-financed degree college teachers of district Prayagraj. Multistage Random sampling was used for study. The Sample comprised 100 degree college teachers, 50 each from aided and self-financed degree college teachers of district Prayagraj. To know the Job Satisfaction a 'Job Satisfaction Scale' constructed and standardized by S.P. Gupta and Occupational stress a 'Occupational Stress Scale' constructed and standardized by K.S. Misra was used. Pearson's Product Moment correlation was used to analyze the data. Job Satisfaction is not related to the Occupational Stress of total teachers and Male teachers of self-financed Degree College. But in case female teachers Job Satisfaction is negatively related to the Occupational Stress.

Keywords

Job Satisfaction, Occupational Stress, Teachers, Prayagraj

Chapter ID:- IC-IGEDTMS/2019/A-24

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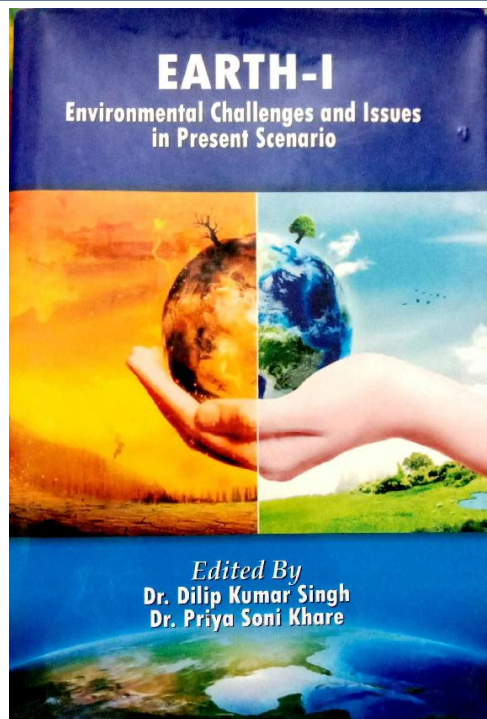


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Publisher

Krishna Computer Sansthan
Prayagraj

ISBN : 978-81-942034-4-5

Publisher
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First Edition : 2019

Price : 1099

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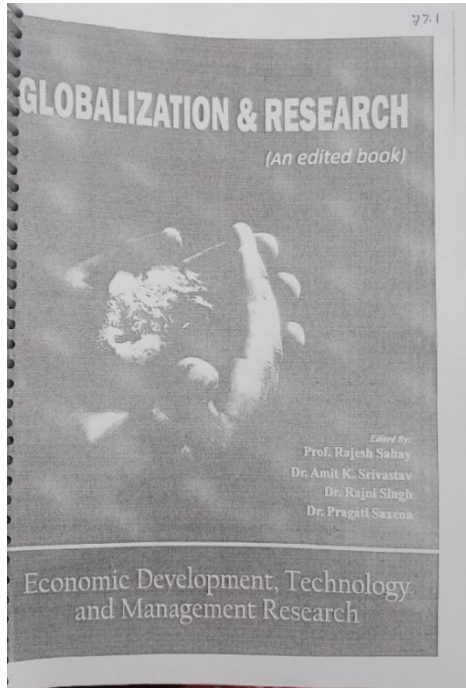


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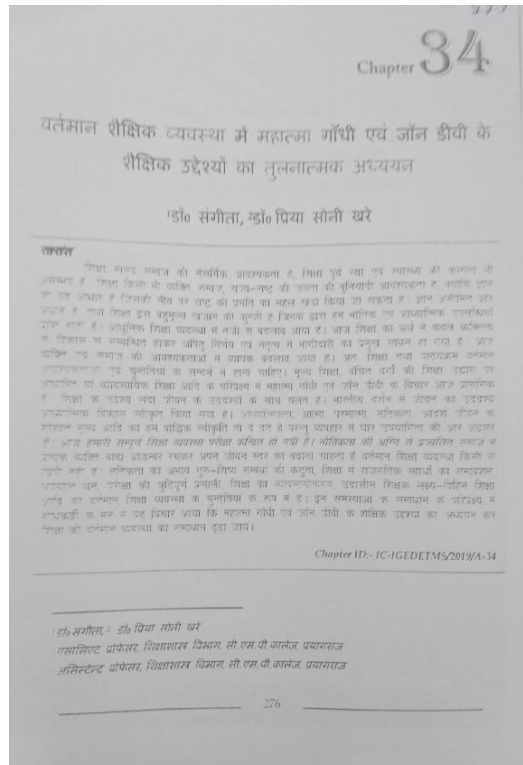
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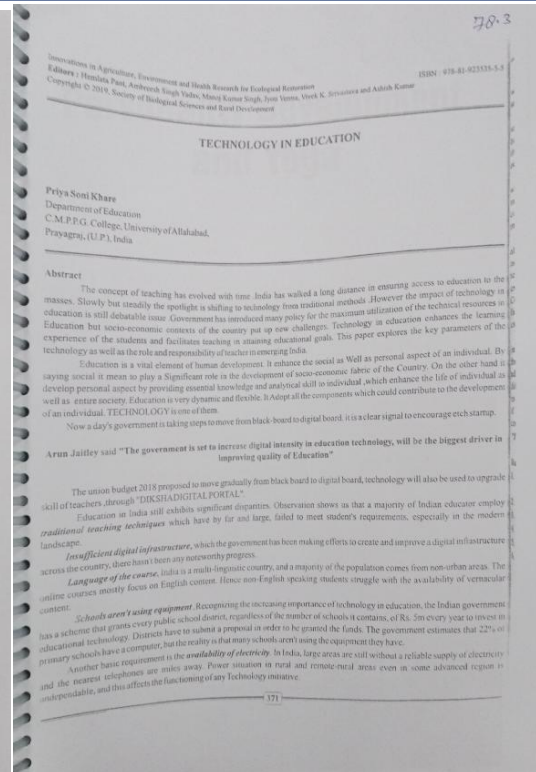
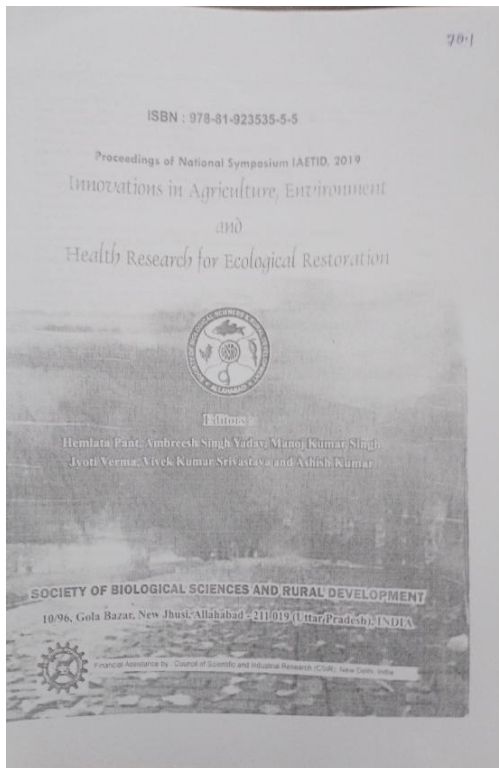


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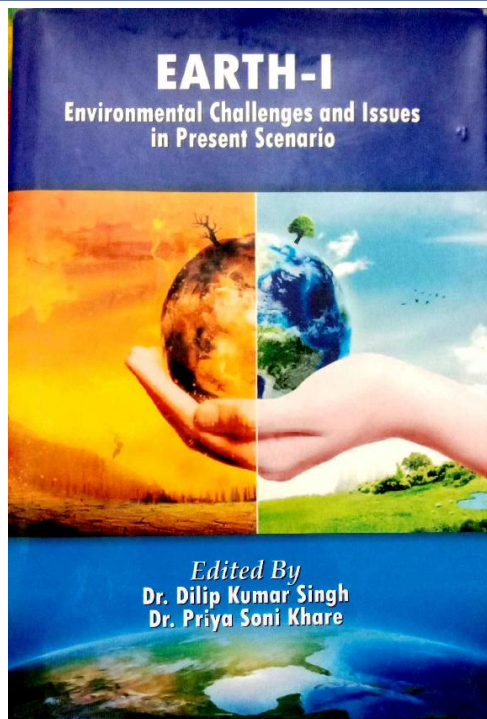


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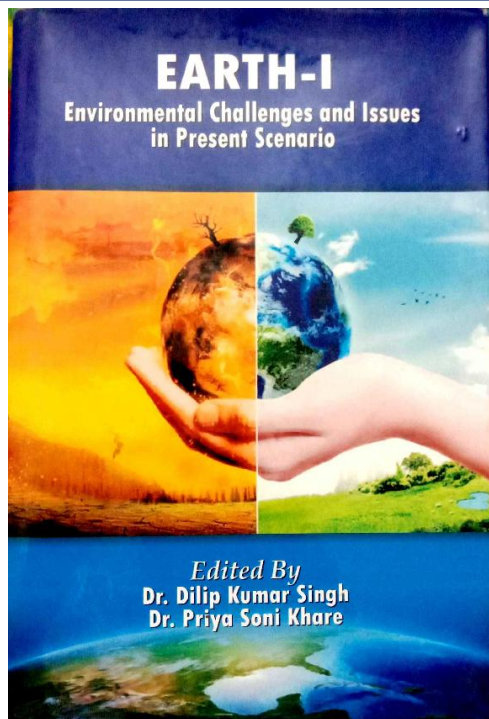


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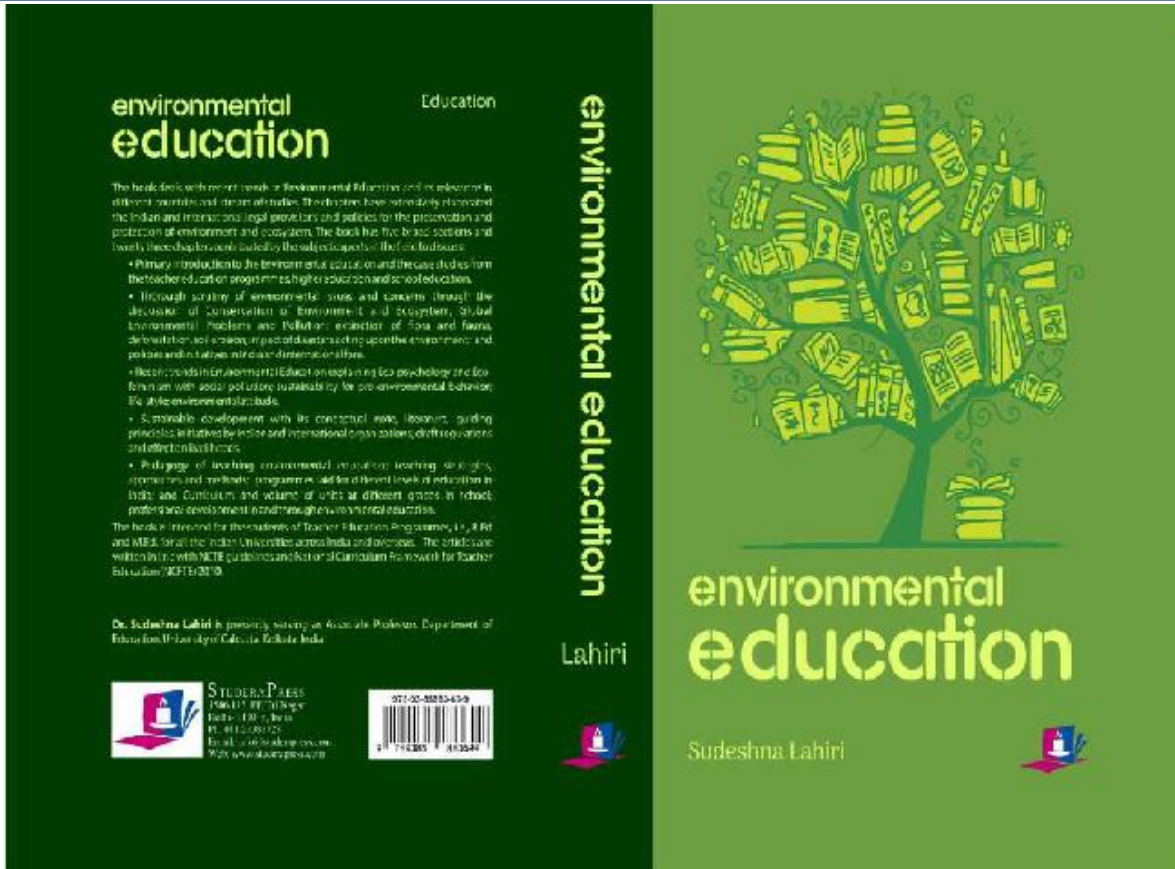


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The book deals with recent trends in Environmental Education and its relevance in different countries and Indian realities. It also studies how differently perceived the Indian and international legal provisions and policies for the preservation and protection of environment and ecosystem. The book has five broad sections and twenty three chapters, each headed by the subject experts of the field.

- Primary introduction to the environmental education and the case studies from the teacher education programme, higher education and school education.
- Through scrutiny of environmental issues and concerns through the discussion of conservation of environment and ecosystem, Global Environmental Problems and Pollution; extraction of flora and fauna, deforestation, e-waste, impact of climate change on the environment and policies and initiatives to ease climate change.
- Research in Environmental Education explaining the psychology and the formation with social pollution, sustainability for pro-environmental behavior, the role of environmentalists.
- Sustainable development with its conceptual maps, Research, guiding principles in formal, non-formal and informal education, different approaches and their effectiveness.
- Pedagogical teaching environmental education: teaching strategies, approaches and methods, programmes and formal levels of education in India and Curriculum and volume of units at different grades in school, professional development of teachers through various international standards.

The book is intended for the students of Teacher Education Programme, U.G. Ed and M.Ed. for all the Indian Universities across India and overseas. The article is also written in line with NCTE guidelines and National Curriculum Framework for Teacher Education (2021).

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STUDENTS PRESS
PUBLISHERS
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M. 41108122
Email: cmppress@gmail.com
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ISBN 978-93-85883-69-9

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Studera Press
1586/113, FF, Tri Nagar, Delhi – 110 035, India
Tel: 011-27383728
E-mail: info@studerapress.com
Website: www.studerapress.com

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Latest trends in Environmental Education on emerging fields, psychology and the relationship with social pollution, sustainability for pro-environmental behaviour, life cycle environmental attitude.

Sustainable development with its conceptual note, literature, guiding principles in India and international organizations, their regulations and related tasks.

Designing of teaching environmental education, teaching strategies, approaches, methods, programmes for different levels of education in India and Curriculum and outline of tasks at different grades in school, professional development and through environmental education.

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ISBN 978-93-85883-69-9

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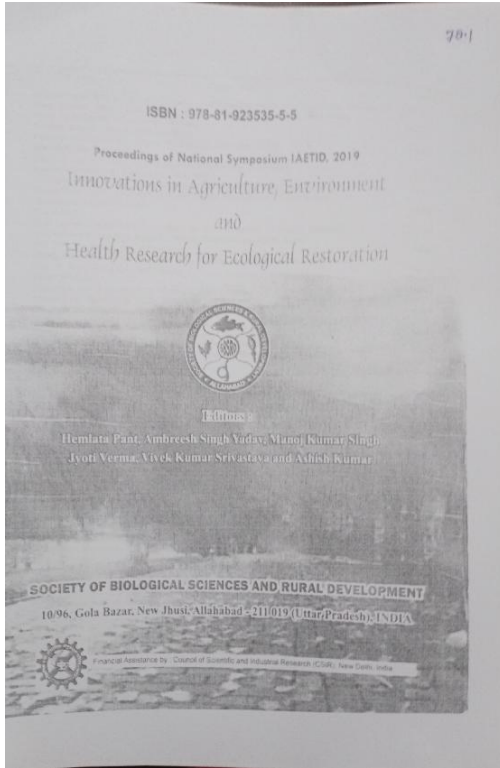


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ISBN : 978-81-923535-5-5

Proceedings of National Symposium IAETID, 2019
Innovations in Agriculture, Environment
and
Health Research for Ecological Restoration

Hemlata Pant, Ambresh Singh Yadav, Manoj Kumar Singh,
Jyoti Verma, Vivek Kumar Srivastava and Ashish Kumar

SOCIETY OF BIOLOGICAL SCIENCES AND RURAL DEVELOPMENT
10/96, Gola Bazar, New Jhansi, Allahabad - 211019 (Uttar Pradesh), INDIA

Financial Assistance by : Council of Scientific and Industrial Research (CSIR), New Delhi, India

70-1

ENVIRONMENTAL PROTECTION THROUGH COMMUNICATION-AN ANALYTICAL STUDY

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CMP College, University of Allahabad (A Central University),
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Abstract
'World Society Formation' is not considered a priori to be a change for the better. It must, for the time being, remain an open question whether progress towards a more peaceful and just world is part of the development of a world society. From this perspective, world society is seen as a worldmarket society, in which the freedom of action of individual States to take decisions on political, social and cultural questions is being eroded by the increasingly transnational effects of processes determined by non-territorial economic actors. This paper focuses upon the problem of raising environmental awareness and environmental communication in the context of NGOs and GOs. By focusing, as it does, on the relationship between the self and the natural environment, paper discusses the difficulties that exist, such as the students' and public awareness to the natural world. Such possibilities refer to the environmental communication and awareness of the personal and wider significance of different ideas of NGOs and GOs. The development of environmental communication and awareness are discussed in this paper.

Introduction
Non-formal education is as important as formal education in the dissemination of the knowledge on environmental issues. This is best achieved through environmental movements, mainly the Non-Governmental Organizations (NGOs) and in some cases, Governmental Organizations (GOs) working at the district, taluk and village levels. The NGOs in Uttar Pradesh have played a vital role in imparting awareness on several such issues relating to environmental and development, and in mobilizing people to take up such oriented programmes by employing a variety of techniques and methods. They not only sow the seeds of public awareness but also challenge environmentally harmful developments, models and show alternative paths, thus serving as effective agencies for environmental communication in several areas. They have now become part of a worldwide force of vital importance for safeguarding our planet. Moreover recognition of common interest among them has led to the formation of networks for communication and coordinated action thereby persuading relevant governments to act in favour of maintaining a quality environment. Several of the recommended actions needed for protecting the environment in the future represent opportunities for NGOs. For example, advocating suitable energy strategies based on conservation and fuel saved plantation is an important task. Regarding the critical question of ensuring food production, a number of concrete actions are strongly recommended, especially in the area of land use policies, soil loss, conservation of genetic resources and water management all of which provide massive opportunities for NGO involvement.

Diversity of Environmental Movements
The environmental movement in Uttar Pradesh comprises a rich and diverse variety of ideas, actions and philosophies. The NGOs range from small clubs in schools and villages, which encourage and assist in the campaign for the dissemination of knowledge to larger organizations like the Irrigation Department of Uttar Pradesh that deal with a wide variety of environmental issues and challenge the present developmental models. Even within the larger organizations, many smaller and new groups have been developed. Today some of the most active environmental groups are those with little name or recognition. Uniting the members of this local social movement is always a concern for the future of a healthy environment in the State. Despite this common bond, interest within the movement varies widely. Some organizations focus their energies on protecting forests. Others concern themselves with the plight of endangered species. Still other promote clean, renewable energy sources or ways to use resources such as water and energy with greater efficiency and so on. While some organizations focus on every issue, there are others that focus only on a single issue. Some

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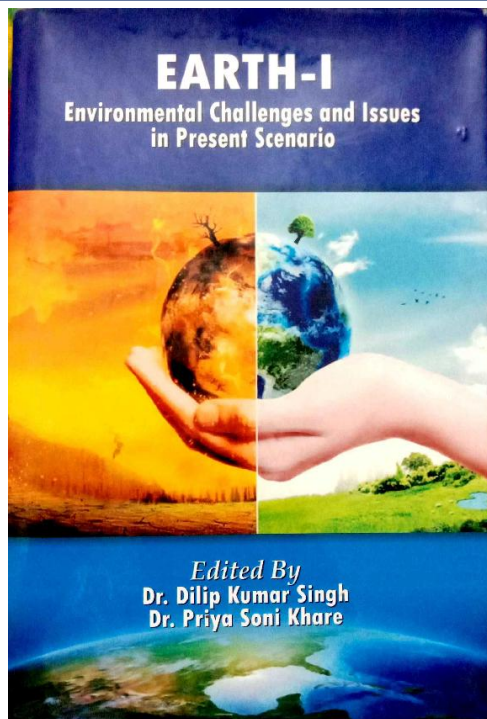


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EARTH-I

[Environmental Challenges and Issues in Present Scenario]

Edited By
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CMP College, Prayagraj

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Assistant Professor
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Publisher

Krishna Computer Sansthan
Prayagraj

ISBN : 978-81-942034-4-5

Publisher
Krishna Computer Sansthan
63/59, Mori, Daraganj, Prayagraj 211006 (U.P.)
Contact : +91-9450407739
Email : krishnacompetersansthan@gmail.com

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© : Editor

First Edition : 2019

Price : 1099

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Page Setting
Brahmanand Mishra

Printed by :
Infinity Imaging System
New Delhi



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रमेश चन्द्र यादव

१६ ऋषिकुल प्रकाशन
प्रयागराज

First Published: 2019

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ISBN - 978-81-935779-8-1

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Printed by

Chandrakala Universal Pvt.Ltd.

42/7 J.L.N. Road, Prayagraj

Email: bookchandrakala@gmail.com

Mobile: 9452883643

Published &

Rishikul Prakashan

102/42/6 J.L.N. Road, Prayagraj

Allahabad Email:

rishikulprakashan@gmail.com

Mobile: 9452883643



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 **KAAV**
PUBLICATIONS
MAYUR VIHAR PHASE 3, DELHI - 110096

Published By:
KAAV PUBLICATIONS (The International Publisher)
303, 3rd Floor, Plot No- 7, Aggarwal Plaza, I.S.C - 1,
Mixed Housing Complex, Mayur Vihar Phase 3, DELHI- 110096
Email Id: kavpublications@gmail.com, submit@kavpublications.org

© Editors Prof. Rajesh Sahay, Dr. Amit K. Srivastav, Dr. Rajni Singh, Dr. Pragati Saxena

Kaav ID: KAAV/BP/A-214-19
Printed By: Amit Printers, Noida
First Edition: 2019
Price: INR 497/- US\$ 90
ISBN: 978-93-88996-20-4

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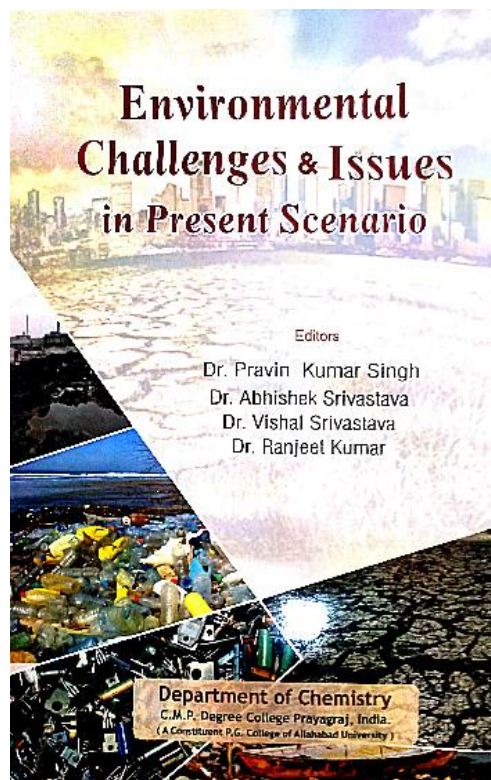


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Environmental Challenges & Issues in Present Scenario

ISBN : 978-93-88018-18-0

© : Editors

Editors : Dr. Pravin Kumar Singh
Dr. Abhishek Srivastava
Dr. Vishal Srivastava
Dr. Ranjeet Kumar

First Edition : 2019
Price : ₹ 600/-

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Published & Printed by :

Firstprint Publications
Tagore Town, Prayagraj-211002
Contact : 491-9792737737
E-mail : firstprintpublications@gmail.com



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ENVIRONMENTAL CHALLENGES AND ISSUES IN PRESENT SCENARIO

Editors : Pravin K. Singh, Abhishek Srivastava,
Vishal Srivastava and Ranjeet Kumar

ISBN : 978-93-88018-18-0

Edition : 2019

Chapter - 3

Attitude of Kalpvasi towards Environmental Awareness in Kumbh Mela

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Kumbh Mela is the world's largest religious gathering and is the most peaceful gathering on the earth. The Prayagraj Kumbh Mela has deep philosophical and spiritual significance for Hindus. It is commonly believed that those who take a holy dip in the sacred water of rivers—Ganga, Yamuna and Saraswati at Prayagraj, get rid of all sins and attain liberation. The place where all the three rivers join each other is called Sangam.

As per the religious texts, it is believed that the tradition of long-term Kalpvasi is practised only in Prayag. According to Vedas, a 'Kalp' is a period equal to the total number of years in the four yugas — Satyug, Tretayug, Dwaparyug and Kalyug. All the four yugas add up to several lakhs of years. It is said that by observing Kalpvasi, one can overcome the sins and escapes the cycle of janma and karma. As per the rituals, during each day of the Magh Mela, a Kalpvasi has to take a dip at the Ganga on sunrise praying to the rising sun and take meal once a day. After observing 12 Kalpvasi, the person has to perform Shyaya Daan (donate his/her bed and all his belongings).

All the natural gifts that are found in abundance and makes us survive are offered by the environment and if we attempt to damage it, it is nothing but suicidal. Of course, there is an increasing awareness among people regarding the damage caused through air pollution, deforestation, depletion of ozone and so on. This tempo has to be carried through to our future generations too. Environment is a broad term; it includes not only physical or material aspects but psychological, social and cultural aspects as well. Thus, environment consists of material and non-material surroundings of human beings. Nature provides a limited freedom to man for conducting his exploitation activities. Man is a part of nature and hence cannot exert control over nature on the basis of his free-will. When he tries to break the laws of nature he is bound to face the serious consequences. In the world, the healthy existence of human society is getting worse. Humans, in their overzealous attempts to develop the world around them, have set in motion the process of its deterioration. Today, we hear of environment problems such as pollution, acid rain, ozone depletion and the greenhouse effect. Pollution issue is a global issue that needs



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Quality Concern in Higher Education

Dr. Dilip Kumar Singh

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Higher education is a powerful tool to build modern, value-based, knowledge-based, culture-based, and peaceful society which can lead the country towards becoming super power in the world. It is also considered one of the important and strong tools for the development of any country. Primary education is necessary for creating base, while, higher education is extremely important for providing cutting edge. Higher education contributes to the growth of nation by providing specialized knowledge and skill manpower. Education, both formal and informal plays an increasingly vital role in promoting economic solidarity, social cohesion, individual growth, sustainable development, and a culture of peace and world citizenship. Whereas our views about the way we live, learn, work and think about work have changed, the acquisition of knowledge and skills provided by a traditional formal educational setup do not correspond. A new paradigm that is developmental, human-centered, environmentally sound, and all inclusive must evolve, so as to prepare learners to be contributors to knowledge and not just mere recipients of knowledge. Knowledge is the driving force in the rapidly changing global economy and society. Quantity and quality of highly specialized human resources determine their competence in the global market. It is now well recognized that the growth of the global economy has increased opportunities for countries with good levels of education and vice versa. Therefore, education one of the best investments a developing nation like India can make to progress in every dimension.

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Development of Indian education has been marked by several important policy decisions. Significant milestones were the Indian government's initial paying attention towards developing awareness for education, which resulted in goal and Five-Year progress of Indian education. Education policy which began in 1968 was modified in 1985 and further revised in 1992. All these policy initiatives were determined by two important committees, namely, the Sarkaria and Radhakrishnan Commission (set up in 1978) which in fact led to the establishment of the university grants commission, followed by a very remarkable report by D.S. Kothari, which ultimately laid down the policy of 1968 and 1986 and later developments. This report, which laid down the foundation for our higher education policy in fact, has a couple of goals, one of them obviously relates to 'quality education'. But the important goals that our higher education policy set before us include, as far as possible a maximum access to the higher education. That the important goals that our higher education policy set before us include, as far as possible a maximum access to the higher education. The quality of the students to the higher education, the quality of the teacher and quality of teacher become very important while expanding the access to higher education. The deprived section of society also getting an equal access to higher education and that while expanding the higher education we also promote a relevant education, which may be value based education, education that promotes innovation, creativity and other virtues. So these three goals improving the access, improving the quality, and improving the equal access are the key objectives that determined our education policy of higher education today. The term 'quality' has come as an important, more facilitating, more interesting, in the early which make the teaching more facilitating, more interesting, in the early there were 500s hardly with 25 Universities. Now the figure is close to 600 universities. There were about 700 colleges in the early 50s. Now there are 19,000 colleges today. There were 15,000 teachers in the colleges and universities in the early 50s and today there are five lakh teachers in the universities and colleges. There were couple of thousand students in the early 50s and today there are about 1.40 crore students from undergraduate and postgraduate.

The consequences of this development are the manifold increase in the colleges, in universities and schools, and as a result increase in access to higher education to a large number of students. Education has become

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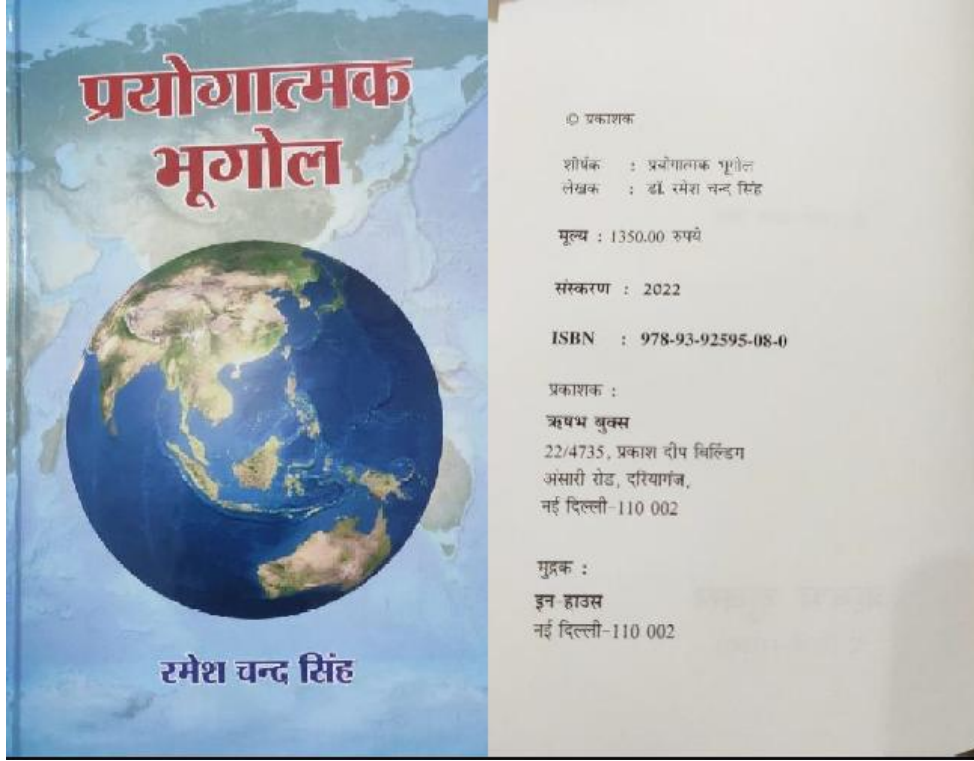


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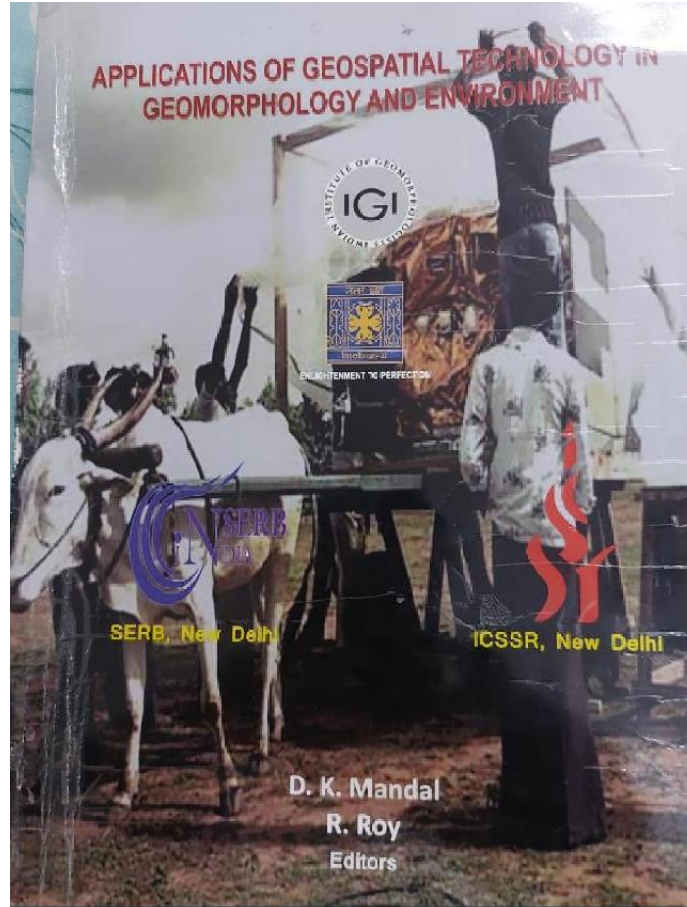


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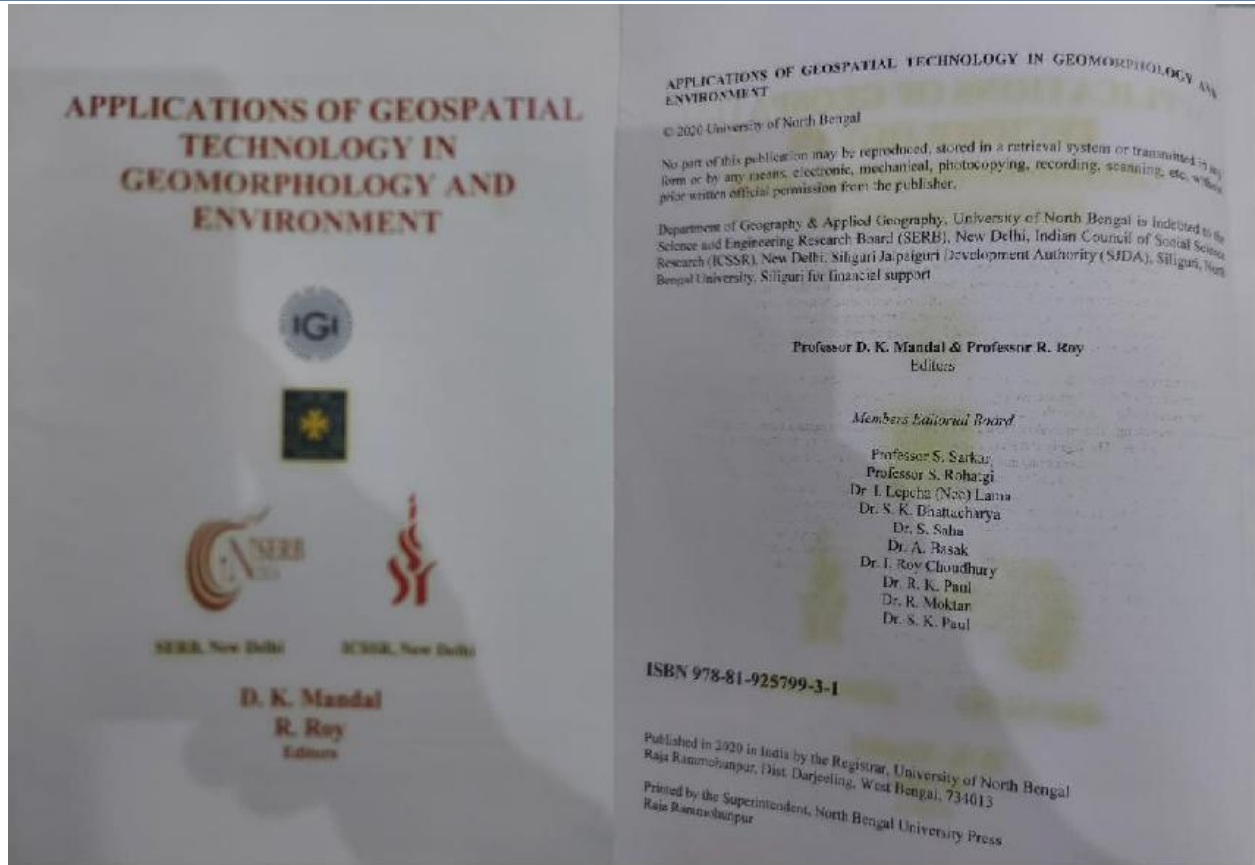


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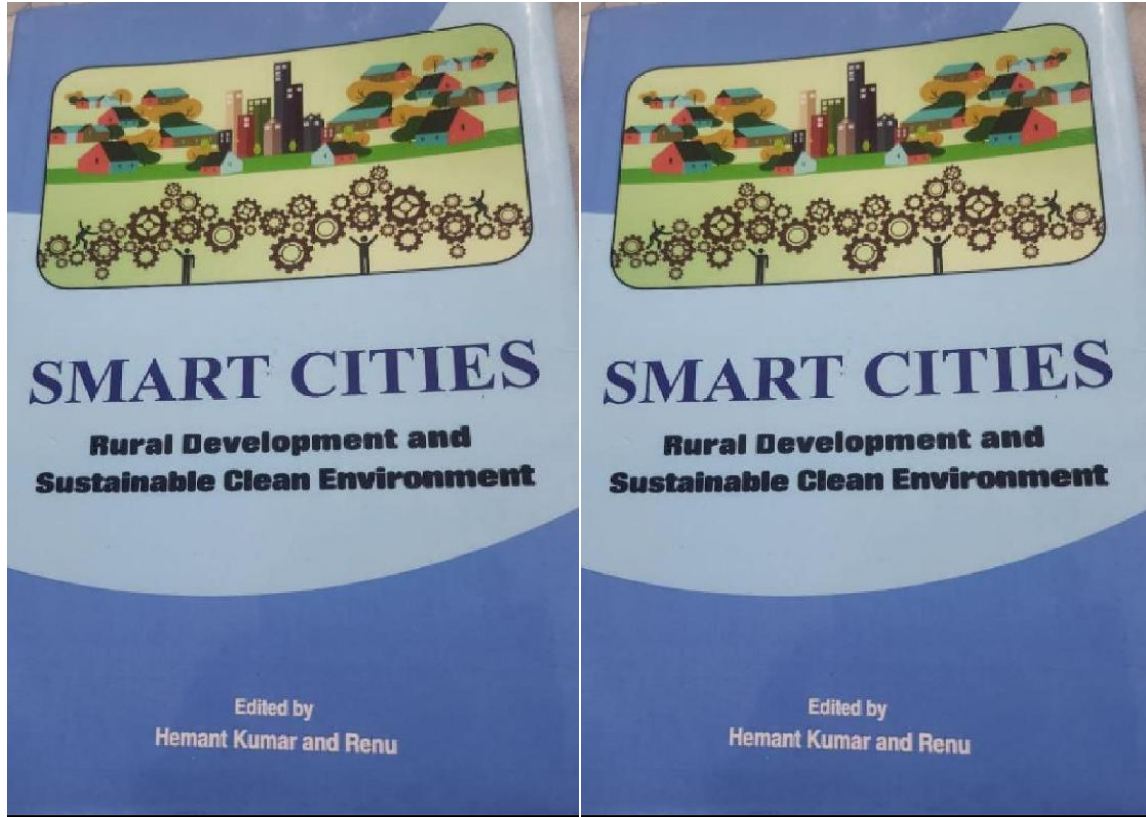


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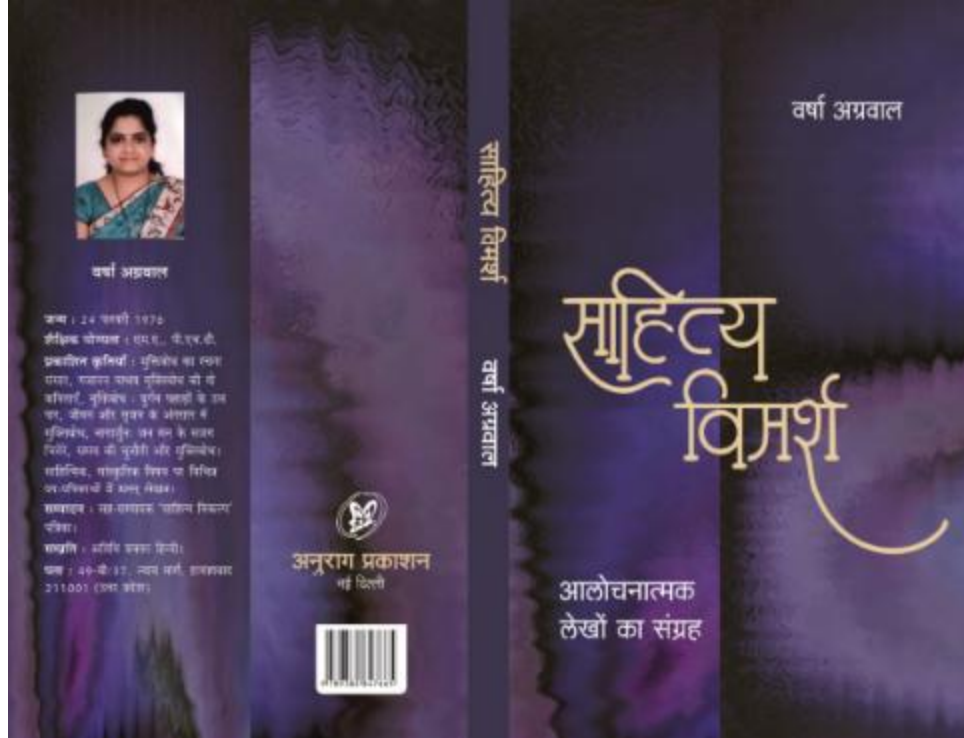


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साहित्य विमर्श	
ISBN	: 978-93-80847-66-5
प्रकाशक	: अनुराग प्रकाशन 4760-61, द्वितीय तल, 23, अंमारी रोड दरियागंज, नई दिल्ली-110002
प्रथम संस्करण	: 2019
मूल्य	: ₹ 350.00
©	: वर्षा अग्रवाल
सेजर टाइपसेटिंग	: अमन कम्प्यूटर, बेनीगंज, इलाहाबाद
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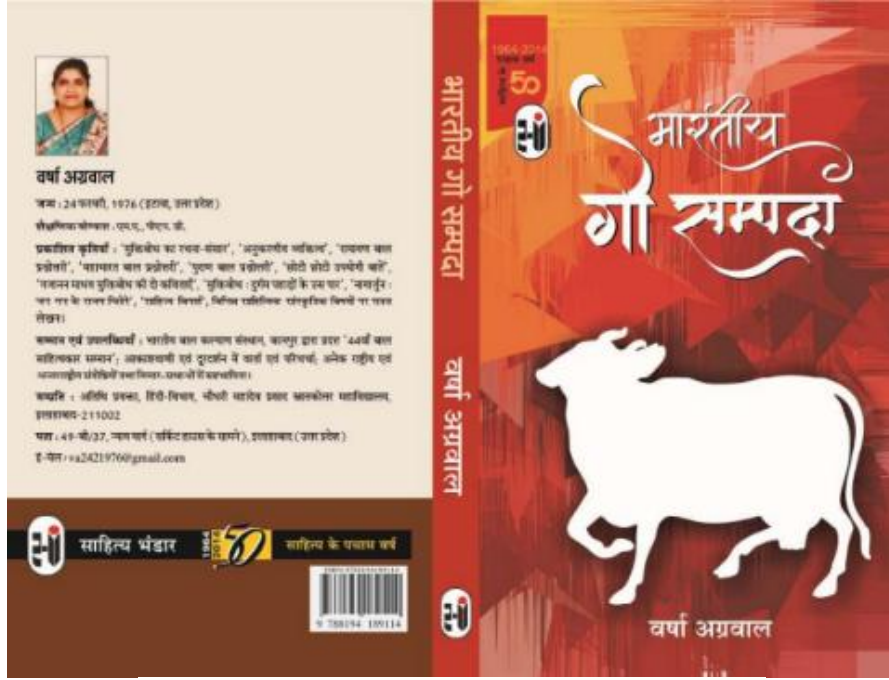


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जन्म : 24 फरवरी, 1976 (एडम्, उमर प्रदेह)

शैक्षणिक योग्यता : एम.ए., पीएच.डी.

प्रकाशित पुस्तिकाएँ : 'दुधबोध का रहस्य-संसार', 'अनुभवगत्य लक्षितम्', 'राज्यपाल बाल प्रज्ञापीठ', 'प्राग्वह्य बाल प्रज्ञापीठ', 'दुग्ध बाल प्रज्ञापीठ', 'सोती सोती उपदेशी बाल', 'प्राचिन भारत दुग्धबोध की दो बस्तियाँ', 'दुग्धबोध : दुग्ध पाठशाला के रूप में', 'नवभूतः नव नव के रूप में प्रवेश', 'संश्लेष विचार', 'विभिन्न राष्ट्रीयक संस्कृतिक विचारों का प्रवेश लेख।

कव्यता एवं उपलब्धियाँ : भारतीय बाल कव्यता संश्लेष, काव्यु द्वारा उद्घृत '44वीं बाल साहित्यकार सम्मान', अक्षयवाणी एवं टूटान में वर्षा एवं वीरवर्षा, अनेक राष्ट्रीय एवं अन्तरराष्ट्रीय प्रतियोगिताओं में भाग लेना. एम.ए. में सर्वोत्तीर्ण।

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ISBN : 978-81-641891-1-4

प्रकाशक : साहित्य भंडार
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फोन : 9415214878, 8874029428

ई-मेल : sahityabhandaar30@gmail.com

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प्रथम संस्करण : 2019

मूल्य : ₹ 400.00

लेबर टाइपसेटिंग : अमन कम्प्यूटर, चैनौगंज, इलाहाबाद

मुद्रक : भगवती प्रिंटर्स, इलाहाबाद-211002

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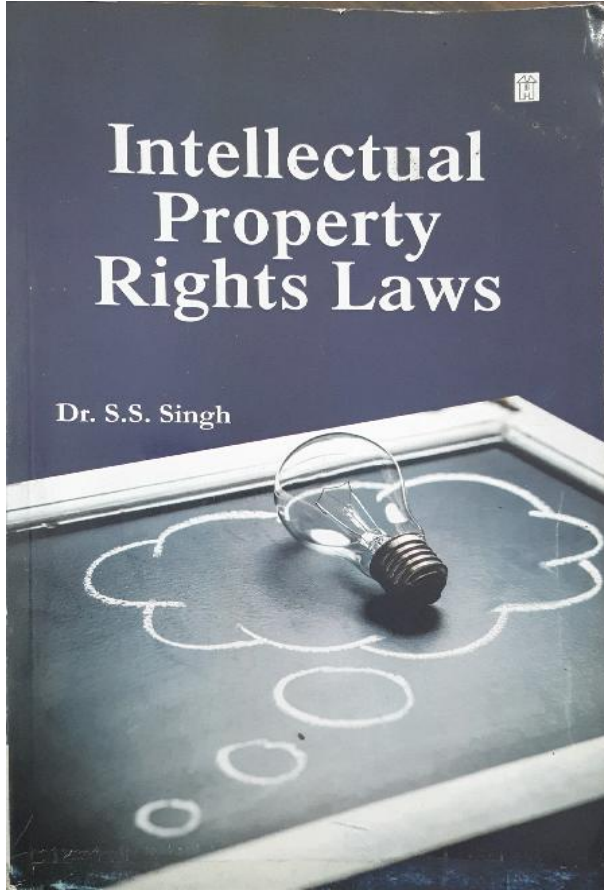


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79, Chaura Rasta, Jaipur
Phone : 0141-2311466, 2313382
E-mail : uni_bookhouse@yahoo.com

ISBN : 978-81-940016-5-2

First Edition : 2015
Second Edition : 2019

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Lasertype Setting & Printer
Bhumi Graphics & Saloni Offset Printers, Jaipur

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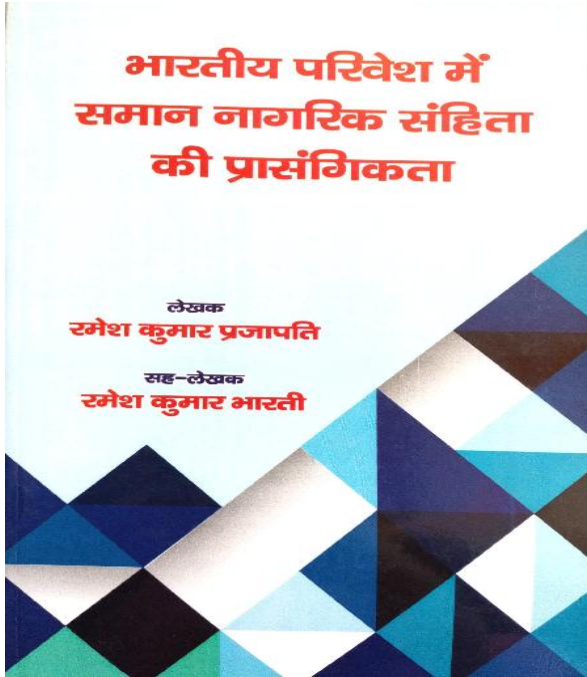


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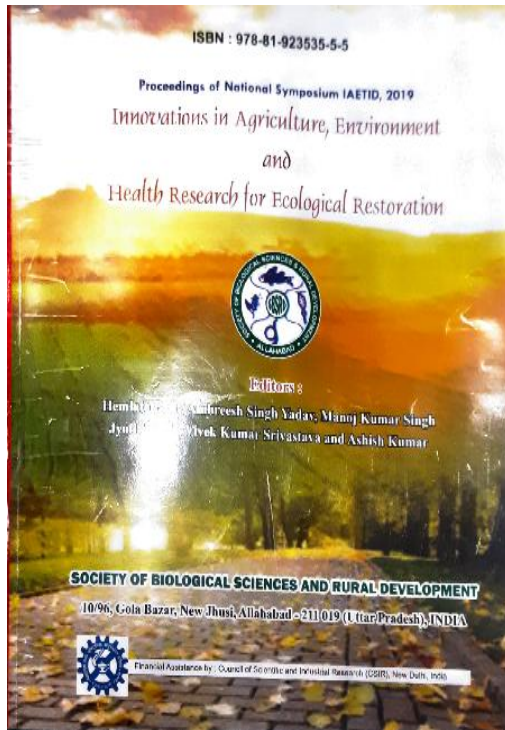
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प्रथम संस्करण : 2019
मूल्य : 255/-
ISBN : 978-81-940966-1-0
अक्षर संयोजन एवं मुद्रक : राज ग्रफिक्स
लंका, वाराणसी-221005
मो.नं. 9415842611

सहयोग : जनसेवा एवं शोध शिक्षा संस्थान
सी-23 आवास विकास कालोनी
प्रतापगढ़-230001, उ०प्र० (भारत)
मो० : 8004802456

Publisher : Skylark International
Publication
Basuhan, Kardhna
Mirzamurad, Varanasi
PIN : 221307, U.P. (India)
Mob. 9473655180
Website : www.skylarkpublication.com
E-mail : skylarkpub@gmail.com



ISBN : 978-81-923535-5-5

Proceedings of National Symposium IAETID, 2019

Innovations in Agriculture, Environment and Health Research for Ecological Restoration



Editors :

Hemlata, Manoj Kumar Singh Yadav, Manoj Kumar Singh
Ajay Kumar, Vivek Kumar, Srivastava and Ashish Kumar

SOCIETY OF BIOLOGICAL SCIENCES AND RURAL DEVELOPMENT

10/96, Gola Bazar, New Jhusi, Allahabad-211019 (Uttar Pradesh), INDIA



Financial Assistance by : Council of Scientific and Industrial Research (CSIR), New Delhi, India

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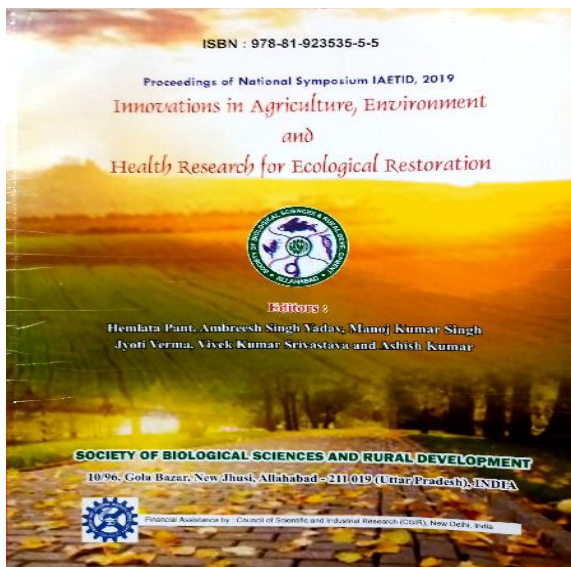
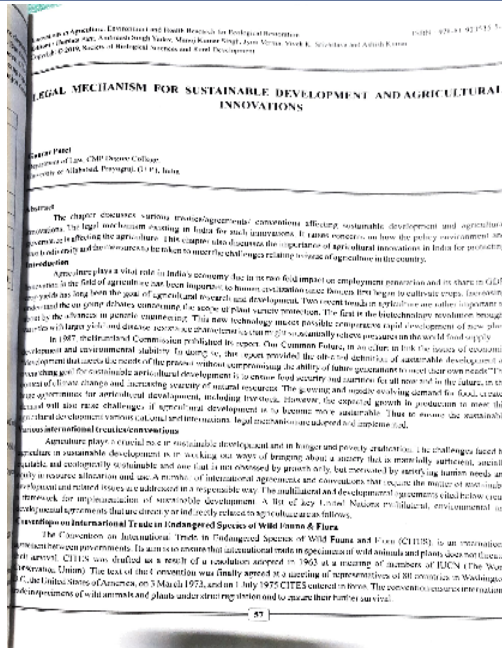


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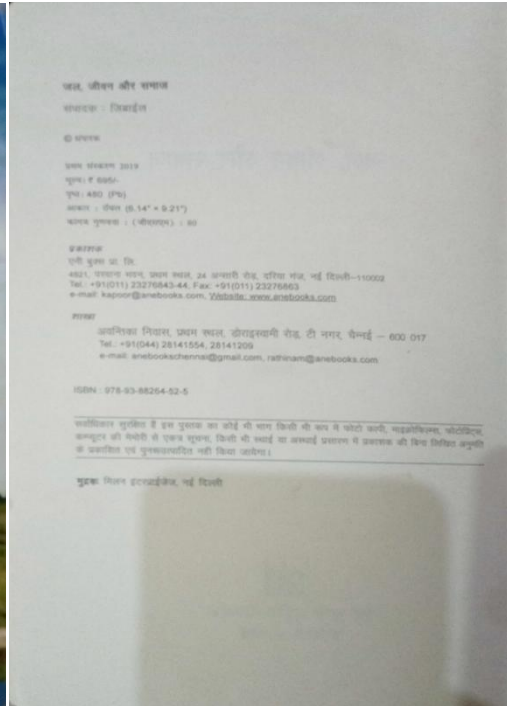
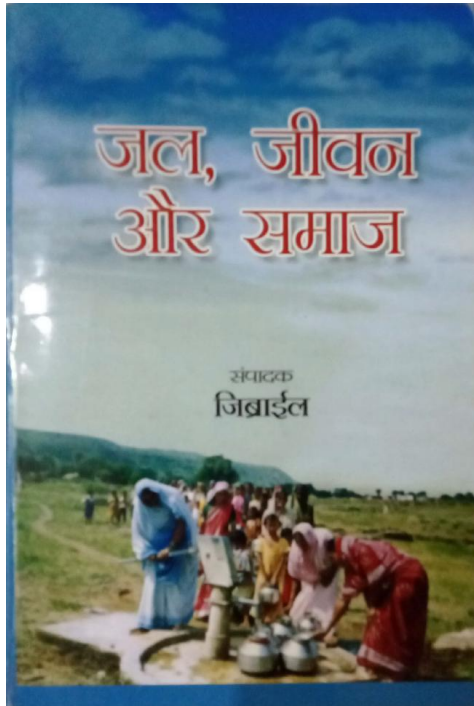
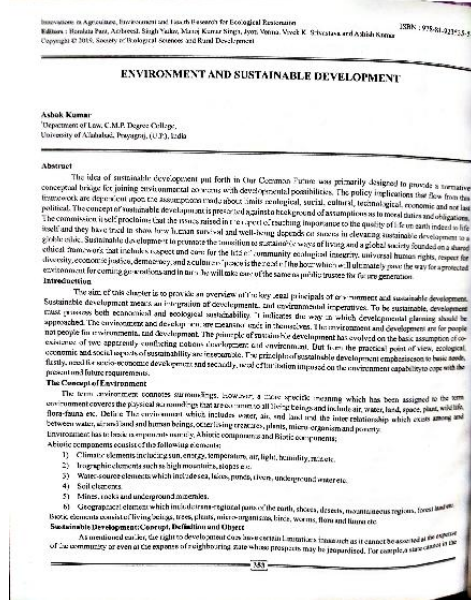
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**"Relevance of Performing and Visual Arts In Contemporary Society":
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 (5th & 6th January, 2019) ISBN : 978-81-939778-0-4
 Organized by:
DEPARTMENT OF DANCE
(In association with University Grants Commission)
Faculty of Performing Arts
 The Maharaja Sayajirao University of Baroda,
 Opp. Bursapur Lakh, Vanodhara 390001 (Gujarat)



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(दिसंबर 17-18 वर्ष 2018)

संपादक
डॉ० अशोक कुमार
संगीत शाखा, सीपीएम
विश्वविद्यालय, अलहाबाद
संपर्क: 0522-2211111

डॉ० आर. पद्मिनीदेव
देवा कक्षा, 2019
सं. 17-18 वर्ष 2018

प्रकाशक
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डॉ० अशोक कुमार
संगीत शाखा, सीपीएम
विश्वविद्यालय, अलहाबाद
संपर्क: 0522-2211111, अलहाबाद

मूल्य : ₹ 450/-

ISBN : 978-81-93179-11-6

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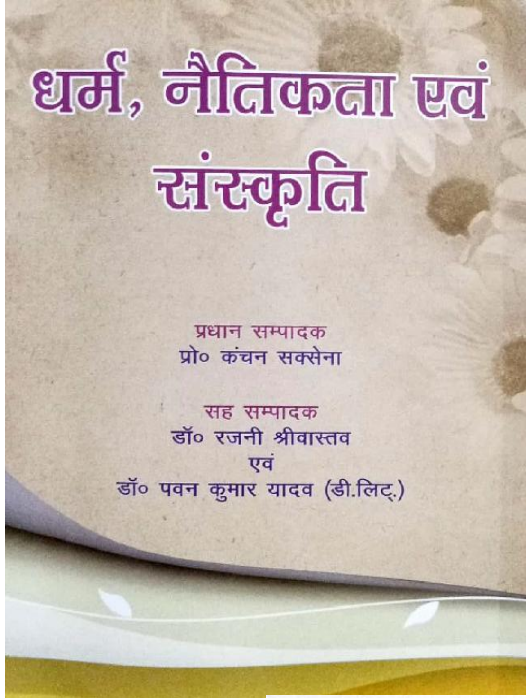


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ISBN No. : 9789382476603

प्रथम संस्करण : 2019

प्रतियों : 100

मूल्य : ₹ 700/-

प्रकाशक :
प्रकाशन केन्द्र, सीतापुर रोड, लखनऊ

मुद्रक :
स्वस्तिक प्रिंटिंग प्रेस
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धर्म, नैतिकता एवं संस्कृति

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ISBN No. : 9789382476603

प्रथम संस्करण : 2019

प्रतियाँ : 100

मूल्य : ₹ 700/-

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मुद्रक :
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Constructivist Theory of Right *Dr. Pawan Kumar Yadav (D. Lit.)

Kant made a consider step forward in the elucidation of moral when he identified the basic formal feature that any moral judgment must display in order to be valid : its autonomy, its universality, and unconditionally with regard to desires and interest of the agent. The same project carried forward, among other by Rawls, whose original position is a dramatization of procedural condition of moral discourse. He assumes that, if this condition is satisfied and certain rule rationality leads to his to principle of justice.

Rawlsian Constructivism -

Rawls does not focus his attention on political obligation and the legitimacy of political authority though these are not excluded but rather on the justice of social system and social structure, social justice, as defined by Rawls, requires that the basic structure of society confirm to just principle which ensure the 'proper distribution of the basic benefits and burdens of social co-operation' and a proper assignment of basic rights and duties.¹

The development of Rawls's theory has gone through several phases, and is still not end, Rawls does not conceive of the social contract as an actual historical event ; rather he wishes to use the idea as an 'analytic construction'.² Broadly his idea is this. The problem of justice arises in the society because individual members of society make competing claims to the advantage produced by social co-operation. But despite this competition, it theoretically possible that all members of society should agree on principle to regulate the distribution of these advantage. Furthermore, such on (hypothetical) agreement or contract can be taken as specified principle of justice subject to one very important condition - that it be made in a situation which itself fair as between 'all the parties involved. This hypothetical fair situation is called by Rawls 'the original position'. Much of Rawls's theory is devoted to specifying the feature necessary to a fair original position and to deducing in the manner of a thought experiment what principle would be agreed in it all parties.³

Since the point of postulating this social contract is to arrive at a resolution of conflicting claims, the constructing parties must first be an assumed to act on the basis of self interest, in this sense; each is concerned to protect, and indeed maximize his capacity to pursue his end or purposes. In this way, the original position reflects what Rawls calls, 'the circumstances of justice'. Also the contractor in the original position must be

*Asst. Professor & Incharge, Department of Philosophy, C.M.P.P.G. College, University of Allahabad.

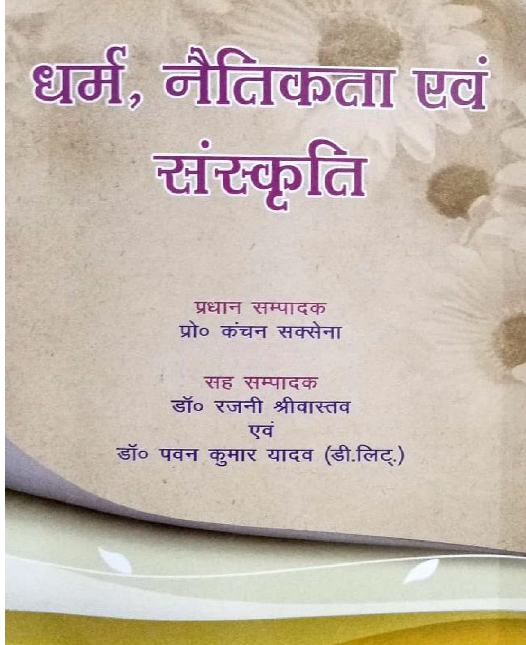


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(श्री अरविद दर्शन के विरोध सन्दर्भ में)

डॉ. रेनु चौधरी *

आधुनिक काल में व्यष्टि तथा समष्टि के विकास को लेकर विभिन्न दार्शनिकों ने अलग-अलग विचार प्रस्तुत किये हैं तथा संसार के अलग-अलग देशों में विभिन्न विचारों को लेकर प्रयोग भी किये हैं। प्रकृति में विकास कैसे होता है या विकास की क्या प्रक्रिया है? व्यष्टि एवं समष्टि में क्या संबंध है? सन्दर्भ में अरविद की क्या दृष्टि है? इन बिन्दुओं का विश्लेषण प्रस्तुत शोध पत्र प्रमुख विषय है।

प्रकृति के विकास में जब कभी किसी नये स्तर का अवतरण होता है तो वह सबसे पहले कुछ थोड़े से व्यक्तियों में स्थान बनाता है, जहाँ से विकसित होता है, शेष सब कम से कम समय तक जहाँ स्थित रहते हैं। अब यदि इस सीमित केन्द्र की शक्ति बढ़ती गई तो क्रमशः समाप्त हो जाता है। आज मानव समाज निम्न स्तर से उठकर क्रमशः बौद्धिक स्तर पर आता जा रहा है उनके मूल में इसी प्रकार प्रक्रिया चलती रही है। पहले कुछ थोड़े से विचारकों, जिज्ञासुओं, वैज्ञानिकों में बौद्धिक विकास हुआ क्रमशः यह अन्य लोगों में फैलने लगा। कहीं-कहीं किसी सीमित क्षेत्र में आध्यात्मिक स्तर का भी विकास हुआ जैसे कि प्राचीन भारतीय ऋषियों में देखा जा सकता है परन्तु मानव समाज अभी इस तरह के विकास के लिये तैयार नहीं हो पाया था। अतः आध्यात्मिकता कभी भी सीमित क्षेत्र से आगे नहीं बढ़ सकी। समाज का यह सिद्धान्त है कि उसमें कोई भी परिवर्तन अकस्मात् नहीं लाया जा सकता समूह में सर्वांग विकास का यह सिद्धान्त है कि उसमें कोई भी परिवर्तन अकस्मात् नहीं लाया जा सकता जब तक कि समूह समष्टि उसके लिये तैयार न हो। इसीलिए आज तक के मानव इतिहास में जब कभी कुछ आध्यात्मिक प्रवृत्तियाँ उठीं तो कालान्तर में निम्न प्रवृत्तियाँ उन पर हावी हो गयीं। प्राचीन मानव में वर्णव्यवस्था में ब्राह्मणों में जीवन के अत्यन्त उच्च आदर्श प्रचलित थे। परन्तु यह आदर्श सामान्य जनसमूह में फैलते सामान्य जनसमूह के आदर्श ही इन पर हावी हो गये। समाज के किसी अंग विशेष को ऊँचा उठाने से समाज ऊँचा नहीं उठ सकता जब तक कि समूह समाज को ही आगे न बढ़ाया जाय। समाज विकास ही एक वैश्वी विकास होता है। व्यक्ति के जीवन में यदि कोई पहलू अन्य पहलुओं से स्थूल आगे बढ़ जाए तथा अन्य को पीछे ही छोड़ दे या वे आगे बढ़ने के लिए प्रस्तुत न हों तो विकास एकतरफा होगा। कोई गुट या कोई दल अन्य समाज से बहुत आगे बढ़ जाता है तो जब तक वह बाकी न समाज को अपने पीछे नहीं लगाता, तभी हो सकता है जबकि वे लोग स्वयं इसके लिये तैयार हों, तब तक वह स्तर खतरा में रहता है, उसके समाप्त हो जाने की संभावनायें बराबर बनी रहती हैं। इस तरह व्यक्ति स्वयं समाज सभी के जीवन में सर्वांग विकास ही वैश्वी विकास है। मानव समाज के स्रोतों का श्री अरविद

*सहायक आचार्य, दर्शनशास्त्र विभाग, सी.एम.पी. कालेज, इलाहाबाद विश्वविद्यालय, प्रयागराज

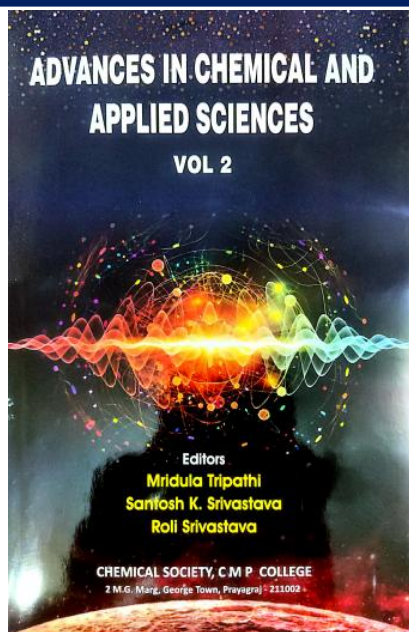


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Advances in Chemical and Applied Sciences - Vol 2

ISBN : 978-93-88018-17-3

Editors : Mridula Tripathi
Santosh K. Srivastava
Roli Srivastava

Associate Editors : A. K. Shukla
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First Edition : 2019
Price : ₹ 600/-

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Published & Printed by :

Firstprint Publications
Tagore Town, Allahabad-211002
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E-mail : firstprintpublications@gmail.com

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Advances in Chemical and Applied Sciences - Vol 2
Editors : Mridula Tripathi
Santosh K. Srivastava, Roli Srivastava
ISBN : 978-93-88018-17-3
Edition : 2019

Time Dilation: An Interesting Concept

Gyan Prakash*

In special theory of relativity, Time dilation is very interesting concept and has very interesting predictions also. According to this theory, when a clock is moving with respect to an observer, the clock appears to run slower to an observer who is moving with respect to the clock than to an observer who is at rest with respect to the clock. The result is observed as same whether clock is moving and observer is at rest or observer is moving and clock is at rest. It gives rise to very interesting phenomena like twin paradox and its impact on biological clock.

To explain the time dilation, let us have two frames of reference S and S' and two observers O and O' at the origins of the above two frames. The Frame S' is moving with velocity v with respect to frame S along x-axis. Suppose a clock is kept at rest in the frame of reference S and some time interval, is measured from both the frames S and S'. The frame S' is moving with velocity with respect to S along x-axis. It is found that clock appears to run slow from a moving observer (sitting in frame S') with respect to another observer sitting in frame S and at rest with the clock. This phenomenon is known as time dilation. In other words, we can say that the **moving clocks run slow**. The one tick of clock (let take tick as one second duration) as seen by frame S is earlier (shorter than one second) than the one tick of the clock as seen by frame S', i.e. One second duration (one tick of clock) in S frame (where clock is kept) will appear to be elongated or dilated for the observer in moving frame S'. This delay of the clock observed by moving frame is called as time dilation [Fig. 1].

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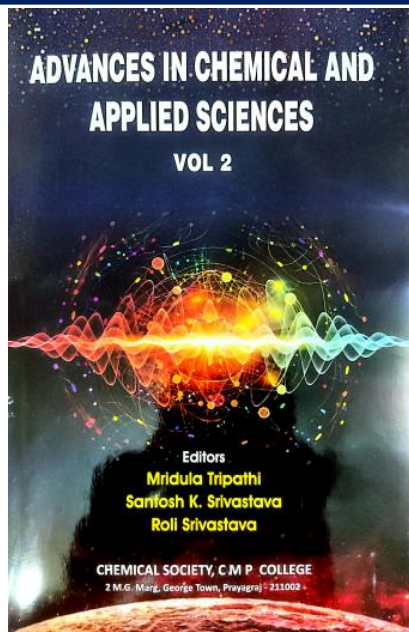


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Advances in Chemical and Applied Sciences - Vol 2
Editors : Mridula Tripathi
Santosh K. Srivastava, Roli Srivastava
ISBN : 978-93-88018-17-3
Edition : 2019

Study Of Swift Heavy Ion Irradiated BaF₂ Thin Films Surfaces Using Fractal Analysis

Savita¹, Gulab Singh², Anil Kumar³, R. P. Yadav⁴, H. P.
Bhasker⁵, P.K. Priya⁶, K. L. Pandey⁷ and R.K. Anand⁸

Abstract

The BaF₂ thin films were grown on Si <1 1 1> substrate using electron beam evaporation technique at room temperature. The ion induced surface and structural modifications in the thin films are investigated as a function of ion fluences by atomic force microscopy (AFM) technique. The quantitative surface parameters such as roughness exponent, lateral correlation length and interface width are extracted for different samples using height-height correlation function and autocorrelation function. The computed value of interface width is found to be decreases as the ion fluences increased. The fractal dimension is computed by analyzing the roughness scaling exponents which falls within the range of 2.10 to 2.24 and strongly affected by the ion fluences.

Introduction

Barium fluoride (BaF₂) is transparent material in the wavelength range from 150-200 nm to 11-11.5μm. This property makes it a suitable candidate for many optical components such as lenses, windows for infrared spectroscopy, fast scintillator detection of various ionization radiations like X-ray, gamma ray

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शोध सारांश

सामाजिक न्याय की अवधारणा एक व्यापक अवधारणा है। हमारे लोकतांत्रिक समाज में इसका अर्थ और भी व्यापक हो जाता है क्योंकि स्वतंत्रता और समानता लोकतंत्र के दो प्रमुख आधार स्तम्भ हैं जिन पर सामाजिक न्याय विचार टिका हुआ है। डॉ० अम्बेडकर की यह धारणा थी कि हमें यह याद रखनी होगी जो चरनों के संविधान समा में दी थी कि देश का उत्थान तभी सम्भव है जब सारे देशवासी कच्चे से कच्चा पिलाकर बराबर चले और आगे बढ़े। भारत में पहले भी अपनी आजादी को अपने लोगों की छोड़कर, देशद्रोह और आपसी घृणा से खोया था और आज भी इसका समाज एक ऐसे मार्ग पर निरन्तर गतिशील है जो हमें ऐतिहासिक घटनाओं की याद दिलाता है। कि यदि हम परस्पर सहयोग बन्सुल एवं आपसी सम्मान को भुलाकर सामाजिक विखण्डन पर आगे बढ़ेंगे तो वह दिन दूर नहीं जब हम पुनः उसी पराधीनता की जंजीरों में जकड़ जायेंगे। प्रस्तुत शोध-पत्र में डॉ० अम्बेडकर के सामाजिक न्याय से सम्बन्धित विचारों का विश्लेषण किया गया है।

संकेतवाक्य - सामाजिक न्याय, लोकतांत्रिक समाज, स्वतंत्रता, समानता, अस्पृश्यता, संविधान, मानवीय गरिमा, लोकतांत्रिक मूल्य, सामाजिक विभक्तता।

शोध-पत्र

सामाजिक न्याय का विचार एक गतिशील विचार है, जिसने प्राचीन सामाजिक और राजनीतिक चिन्तन से लेकर आधुनिक सामाजिक, आर्थिक और राजनीतिक चिन्तन की निरन्तर प्रभावित किया है। सन्तकालीन भारतीय समाज में यदि सामाजिक न्याय के चिन्तन की बात की जाय तो हम डॉ० भीमराव अम्बेडकर के सामाजिक और आर्थिक चिन्तन को अनदेखा नहीं कर सकते। डॉ० अम्बेडकर का जन्म महार नामक अछूत जाति में हुआ था उन्होंने अपने जीवन के आरम्भिक काल में अनेक विषम कठिनाइयों का सामना किया जिससे उन्हें अनेक कठु, सामाजिक अनुभव प्राप्त हुए। भारत में उनका जीवन सामाजिक सुधार के श्रेष्ठतम कार्य को समर्पित था, उन्होंने अपना सम्पूर्ण जीवन सामाजिक सुधार, जातिप्रथा और अस्पृश्यता को समाप्त करने के लिए समर्पित कर दिया। उनके जीवन का परम लक्ष्य समाज में सामाजिक न्याय की स्थापना करना था।

सामाजिक न्याय की अवधारणा एक व्यापक अवधारणा है। हमारे लोकतांत्रिक समाज में इसका अर्थ और भी व्यापक हो जाता है क्योंकि स्वतंत्रता और समानता लोकतंत्र के दो

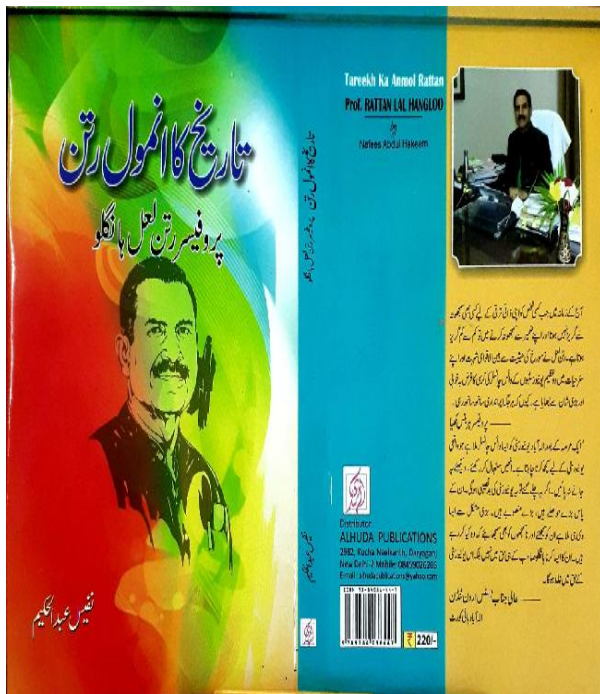
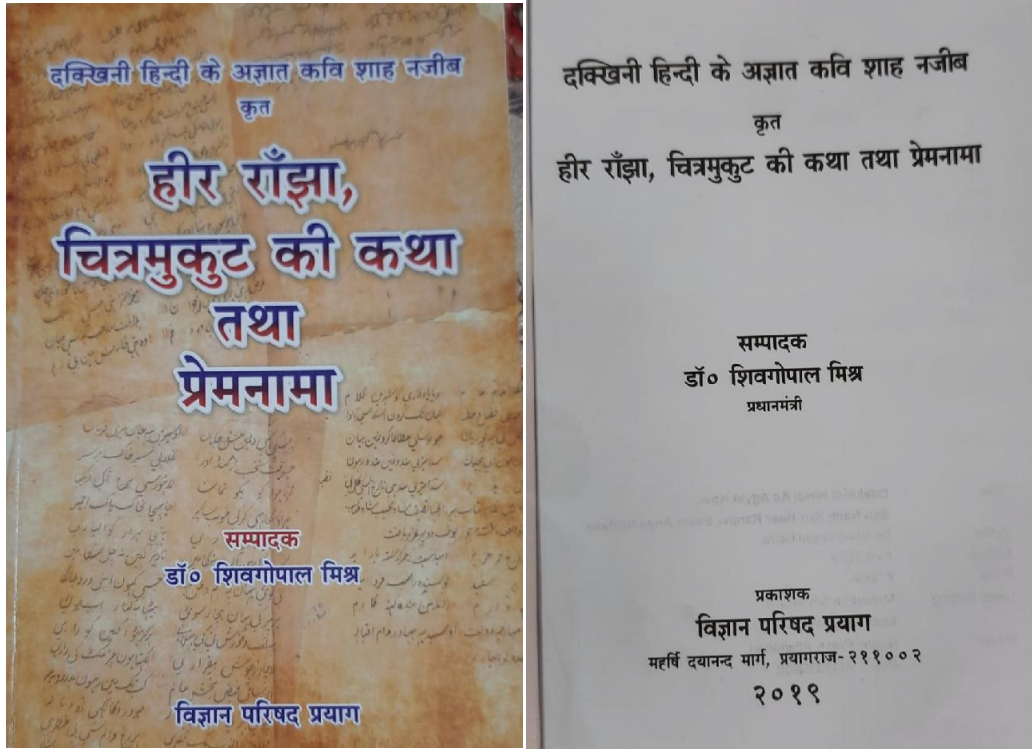


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Tareekh Ka Anmol Rattan Prof. Rattan Lal Hangloo

Written & Edited By

Nafees Abdul Hakeem

ISBN: 978-93-84036-44-7

Year of edition: 2019

Price Rs: 220/-

تاریخ کا انمول رتن (پروفیسر رتن لال ہانگلو)	:	نام کتاب
نفس عبد الحکیم	:	مترجم و ناشر
400.00	:	تعداد
220	:	قیمت
2019	:	سن اشاعت
176	:	صفحات
الہدی پبلیکیشنز، قاسمی واڑہ دورہ پانچ بجی روڈ علی	:	ڈسٹری بیوٹر

نفاذ کنندہ:
پروفیسر نفاذ علی گڑھ
پروفیسر نفاذ علی گڑھ
پروفیسر نفاذ علی گڑھ

Distributor

ALHUDA PUBLICATIONS

2982, Kucha Neelkanth, Daryaganj, New Delhi

Tel : 011 43259013, Mobile: 08700057550

E-mail : alhudapub74@gmail.com

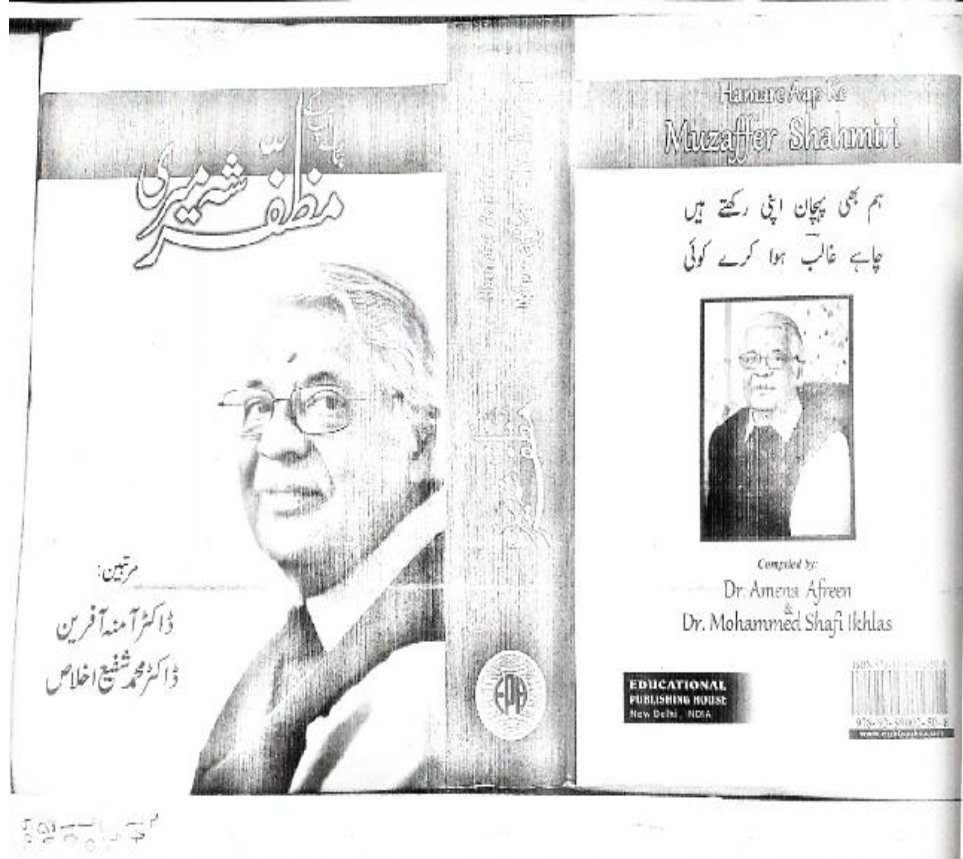


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جب کوئی ادیب یا فنکار اچھا لکھتا ہے یا پختہ کرتا ہے تو جی جانتا ہے کہ دوسرے لوگ بھی اسے پسند کریں۔ اس کی اچھائی دوسروں تک بھی پہنچے۔ اس کے فکر کا زور دوسرے کی آنکھوں میں بھی اپنا جلوہ دکھائے، اس نے نئے نئے رنگ دوسروں کی نگاہوں میں بھی سامنے۔ دوسروں کے دل و دماغ بھی روشن ہوں۔ دوسرے بھی اس سے لطف اندوز ہوں۔ اسی مقصد کے تحت میں نے اپنی کاپی کو منتخب کیا۔ اپنا بچہ میرے پسندیدہ اظہار ہیں۔ ان کے فضا نے نہ مال، نہ ذرا سے مجھ میں لطف و نجات پیدا کرتے ہیں۔ مجھ کو اپنے جتنے ہیں۔ ان کی دیکھ کر میری بھی نگاہیں روشن ہیں۔ ان کے نگاروں کی طرح ان کے غیر لفظی تجزیے میں بھی لطف و نجات فراہم کرتی ہیں۔ ان کی نگارشات مجھ سے اس لئے بھی ملتی ہیں کہ وہ صاف، شگاف اور رواں دواں ہوتی ہیں۔ لفظی و غیر لفظی کسی بھی تجزیے میں، مجھے نہیں ہوتا۔ کسی ایسا مہم چینیگی سے پاک ہوتی ہیں۔ وہ نگار، خوبصورت اور سلی تجزیے ہوتی ہیں۔ وہ ہمارے خوبصورت کوئی ایجنٹس کرتیں، بلکہ ہمارے نگار کو بھی اپنی لگاتی ہیں۔ نیز ہمیں صحت و کائنات کی بصیرت بھی فراہم کرتی ہیں اور زندگی کے سفر میں سبھی ماہ کی بھی ہیں۔ اپنا بچہ کسے نے مجھے اتنا متاثر کیا کہ میں ان کی تجزیے میں وضوح و صوفی کر پڑنے لگی۔ مجھے وہ اتنی اچھی لگیں کہ میرا جی چاہنے لگا کہ میں ان کی ساری خوبیاں بیان کروں، ساری پارکیاں کاغذ پر اتار دوں، مگر مجھ کو علم کے لیے یہ کہاں کہیں تھا۔ مجھے اکیلے کے لیے یہ کام آسان نہیں تھا۔ اس لیے بہت دنوں تو میں ماسوش رہی، لیکن بہرے اور کی خواہش چپ بند رہی، مگر مائی دہا۔ وہ مجھے آزمائی رہی اور ایک دن مجھے برسوں پر مجھ کر دیا کہ اپنا

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Conference Proceedings

International Virtual Conference on Ground Water (ICGW-2021)

28th October, 2021

Edited by
Dr. Anjali Singh
Dr. Ankush Shrivastava

Organized by
DEPARTMENT OF GEOLOGY
Faculty of Earth Sciences
Mohanlal Sukhadia University, Udaipur (Rajasthan)

Book Title
Conference Proceedings
International Virtual Conference on Ground Water (ICGW-21)

Edited by
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Published by
Department of Geology, MLSU, Udaipur

Publisher's Address
Department of Geology,
51 Saraswati Marg,
Mohanlal Sukhadia University,
Udaipur 313001

Printer's Details
Department of Geology,
51 Saraswati Marg,
Mohanlal Sukhadia University,
Udaipur 313001

Edition published: 2021

ISBN: 978-93-5526-771-9

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Typeset by
APEX PUBLISHING HOUSE
Udaipur



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