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## Recent advances in the energy harvesting device technology using hetero-atom doped carbon nanotubes

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### ABSTRACT

Carbon nanotubes, graphene, and fullerene are forms of carbon finding widespread applications in numerous fields such as energy storage devices such as batteries and fuel cells, cosmetics, nano-electronics, nano-pharmaceuticals, nano-biotechnology, military devices and equipment, construction, coatings, cutting tools, catalysis and many more. The huge technological advancements, globalization, and never seen industrialization can gain more momentum only with the ready availability of sufficient energy resources and their harvesting. Fossil fuels remained one of the most important primary fuels all over the world and now the shift is towards more use of non-renewable energy resources. At the end of the last century, Svante Arrhenius firstly proposed the interconnection between the increased concentration of gases such as CO<sub>2</sub> in the atmosphere and the rise in the average temperature through global warming on our planet. This effect gets pronounced effects in various other natural cycles too as observed through various natural events in the 21st century. There are several global warming gases, but the principal emission associated with this change is carbon dioxide. Due to such environmental issues, emphasis is on the use of non-conventional energy sources such as solar, wind, geothermal, ocean, etc. Besides such sources, extensive work is going on the use of fuel cells and modern battery technology using carbon nanotubes (SWCNTs and MWCNTs). Presently, various advanced batteries and fuel cells are being developed using CNTs on an industrial scale. In the last decade, efforts are taken to control the optical and electronic properties of CNTs incorporating hetero-atom (N, P, Si, S, Al, Ni, etc.) as a dopant for desired structural functionalization. The recent advancements in the field of energy harvesting devices (batteries or fuel cells) using hetero-atom-doped CNTs have been discussed here.  
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### Introduction

This decade has witnessed rapid development in the global quest for clean, sustainable energy due to unprecedented environmental changes, increased global warming issues, and an outburst of new technologies, such as smartphones and electric vehicles [1]. These developments have stimulated intense research interest in advanced electrical energy storage systems [2] along with the production of more energies using non-conventional energy resources. Every market analysis continues to predict that advanced batteries most notably lithium-ion batteries [4], and supercapacitors

(also known as ultracapacitors) will dominate electrical energy storage technologies [5] for a plethora of applications, ranging from portable electronics to next-generation environmentally friendly technologies such as electric vehicles and smart grids. Batteries and supercapacitors are complementary electrochemical energy storage systems; the former is characterized by high-energy density [6], while the latter is known for high-power density [7]. Supercapacitors are most suited for applications that require charge-discharge cycle times ranging from a few seconds to several minutes [8], such as in microgrids [9], industrial control, power, intelligent instruments, etc. [10] In addition to their applications in electric vehicles and portable electronics, batteries, and supercapacitors are proving extremely useful in utility-scale energy storage [11]. Despite the growing interest in research and

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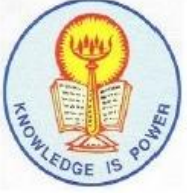
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Section XII : Microbiology (including Biochemistry, Biophysics & Molecular Biology, Biotechnology)

S1A-PP-01

## Screening for Breast cancer associated factors among women of Nagpur city, Maharashtra, India

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### ABSTRACT

Breast cancer is the most common female cancer worldwide including India. Breast cancer is the second most cause of death worldwide after lung cancer. Breast cancer risk factors have been examined extensively in women of more developed Asian cities/countries. In present study, we assess the knowledge, level of awareness of risk factors and screening practices especially breast self-examination (BSE) among women, considering the non-feasibility of diagnostic tools such as mammography for breast screening techniques of breast cancer in the Nagpur city, Maharashtra, India.

**Keywords:** Awareness, breast cancer, breast self-examination, knowledge, risk factor, screening.



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SIII-PP-81

## Bacterial load Determination using TaqMan PCR Approach: Standardization and Evaluation

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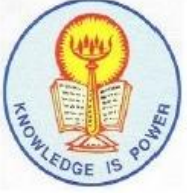
### ABSTRACT

Present work is aimed to develop a rapid, accurate and reliable universal bacterial 16S rDNA quantitative real time TaqMan PCR assay determining bacterial load in the clinical samples of infectious diseases. Universal bacterial 16S rDNA was targeted for primers and TaqMan hydrolysis probe designing. The PCR conditions were standardized using *Pseudomonas aeruginosa* DNA. The standardized PCR conditions thus obtained were first evaluated with spiked samples and later clinical sample evaluation was done taking CSF samples and blood samples. Being quantitative assay, the cut-off value was found to be 2.12 log DNA through ROC curve while clinical sensitivity and specificity were 87.5% and 93.3% respectively.

**Keywords:** Quantitative Real Time PCR, TaqMan Assay, Universal bacterial 16S rDNA



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## DIGITAL ECONOMY IN INDIA: OPPORTUNITIES AND CHALLENGES

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### Abstract:

As the global economy is going digital, the scenario of the job market in the country and the world is also changing. There will be many jobs in the future whose names we haven't even heard about. New employment opportunities are increasing rapidly in India due to digitization. In this, due to automation, robotics, and artificial intelligence across the world, where jobs are decreasing in many areas, jobs are increasing in the digital economy. In five to ten years, when there will be a crisis of skilled labor force in the world, India will have a surplus number of the skilled labor force. In such a situation, India will be able to take advantage by sending a large number of the skilled labor force to many developed and many developing countries of the world. The Digital India program aims to transform the country into a digitally empowered society and knowledge economy. The objective of this research paper is to study the opportunities and challenges of the digital economy in India.

**Keywords:** Digital Economy, Digital India Programme, Electronics and Information Technology, Artificial Intelligence, Digitization, Digital Talent, Digital Skills

### Data Collection Method Used for Research:

The research paper has depended on secondary data.

### Objective of Research:

- 1) To study the opportunities of the digital economy in India.
- 2) To study the challenges of the digital economy in India.
- 3) To study the impact of digitally empowered society on the Indian Economy.

### Introduction:

The Digital India program of the Government of India has promoted financial inclusion as well as the use of digital infrastructure. The plan to provide countrywide entree to digital infrastructure including high-speed Wi-Fi has given a boost to the digital economy in India. One of the notable reforms under the Digital India program is the Government e-Marketplace, a portal for government procurement, where MSMEs are facilitated to participate in procurement activities. The second phase of the digital economy is the growth of electronic and mobile commerce in India. The technologically savvy young generation finds online shopping to be the easiest way to purchase items. This has led to the extension of e-commerce and m-commerce in India. The amount of data increases at each level in the digital economy.

Our economy is going through a phase of understanding and analyzing such data. Keeping this in view, the Government of India has launched its own open data portal where data is available for analysis. Given the ever-increasing volume and strategic importance of data for the digital economy, the government is helping to provide training and research in the area of data analytics. In today's digital age, data privacy and equal access to the Internet are like clean air or clean drinking water. It has become a central pillar of the socio-economic and political dynamism of society. It would be better in the interest of the public that this pillar should be protected through laws as a collective right and the big data giants who have Big Data should be made accountable.



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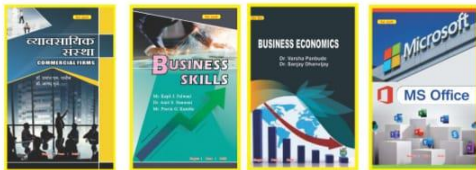
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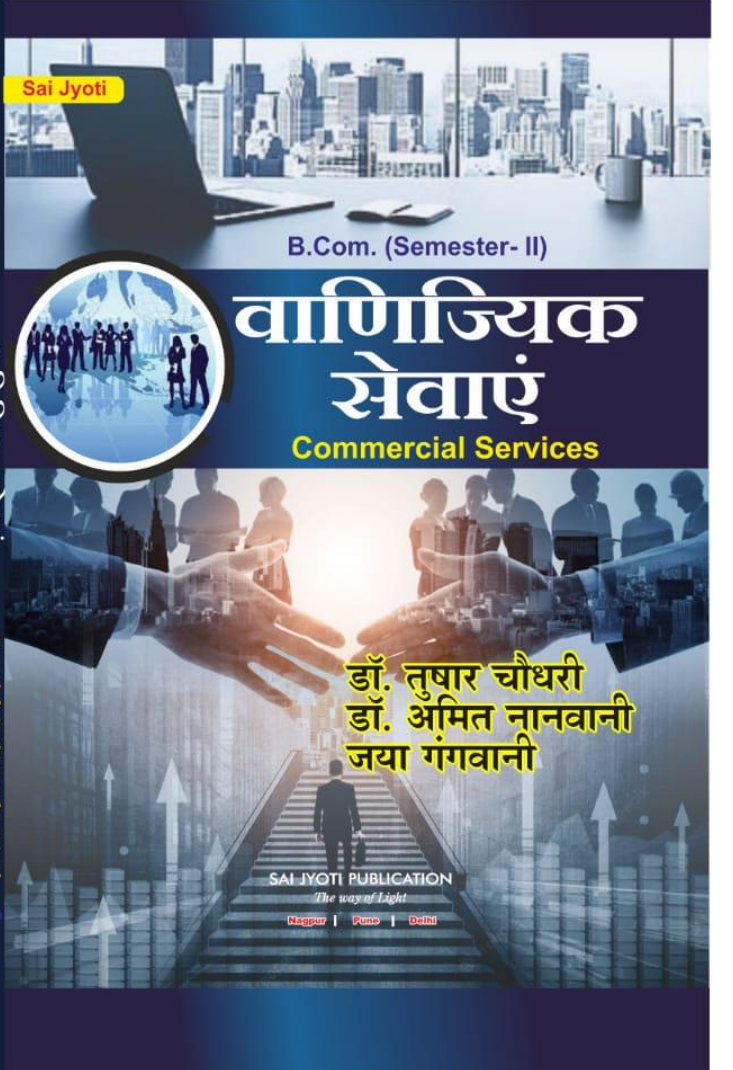
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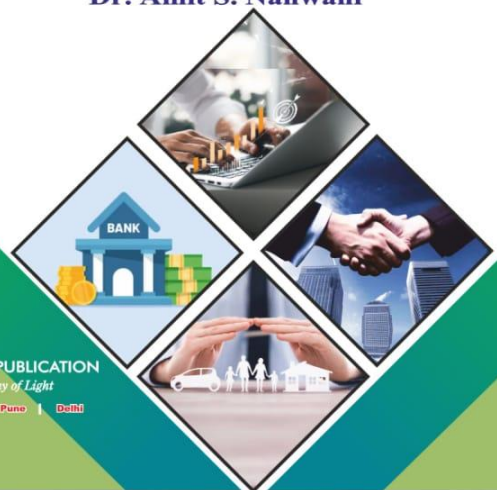
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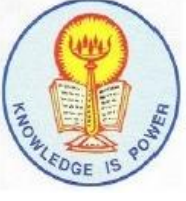


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## About the Book

This book of "Digital Marketing" provides detailed analysis of various aspects related to the digital or online marketing. The material in this book is designed to provide maximum flexibility of use for teachers and students alike. Each topic has been started with fundamental introduction and developed steadily up to the standard form. Exercises are also provided in this book. This book is useful not only for students who are pursuing their studies but also for those working in the educational institutions and corporate world.

## About the Author



**Dr. Sushil S. Gadekar** is currently working as Assistant Professor at Dr. Ambedkar Institute of Management and Research, Nagpur. He has done Ph.D. from Amaravati University and was on "Market Segmentation and Effective Marketing Strategies for Vidharbha Tourism" he has done triple Master in M.Com. from Pune University and MTM, Master in Tourism Management from IGNOU. He is an MBA from YCMOU. He has presented paper in 3<sup>rd</sup> Dubai International Conference on Higher Education, organized by Michigan State University in 2015. Two Scopus paper also under IGI global and has published more than 15 Research Papers. He has attended many National & International positions ranging from Professor to Dean of commerce and Management. He has done Hotel Management and his name is in Guinness book with made 3 and Half Kilometers cakes in Dubai 1995. Performed many Shows on Z. Marathi with Cine Actor Mr. Prashant Damle Amhi Sare Khawaye. Working as Consultant in Hospitality Industry from last 15 years, with the academics.



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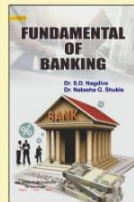
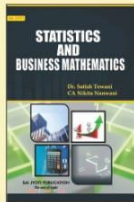
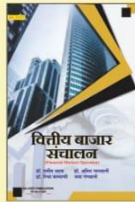
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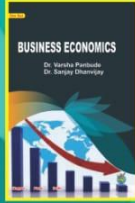
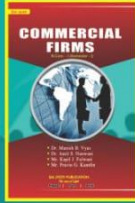
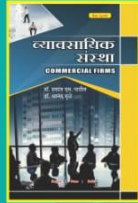
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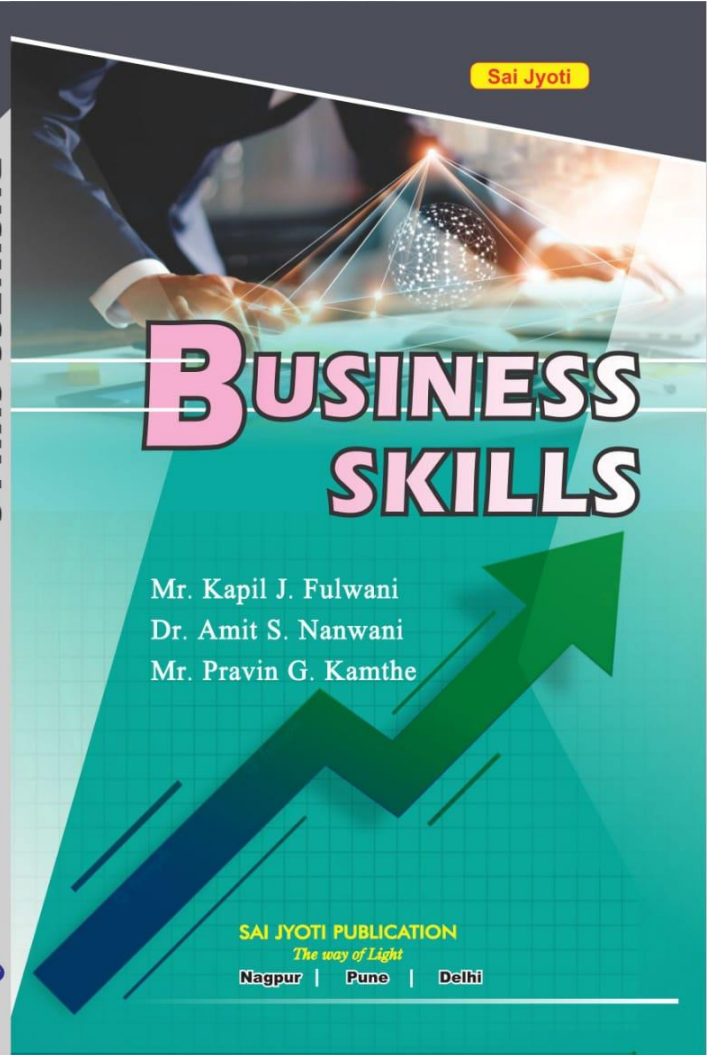


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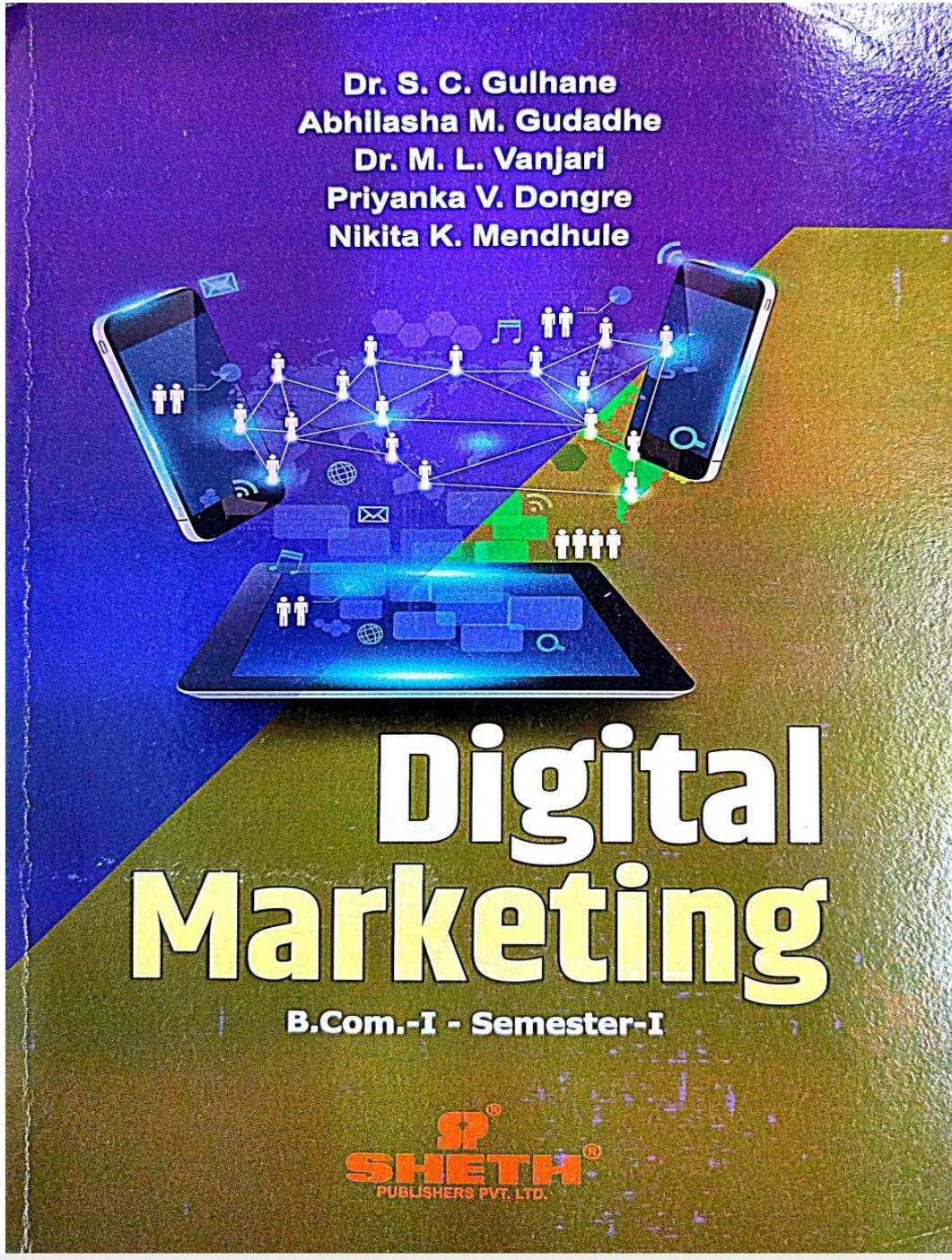
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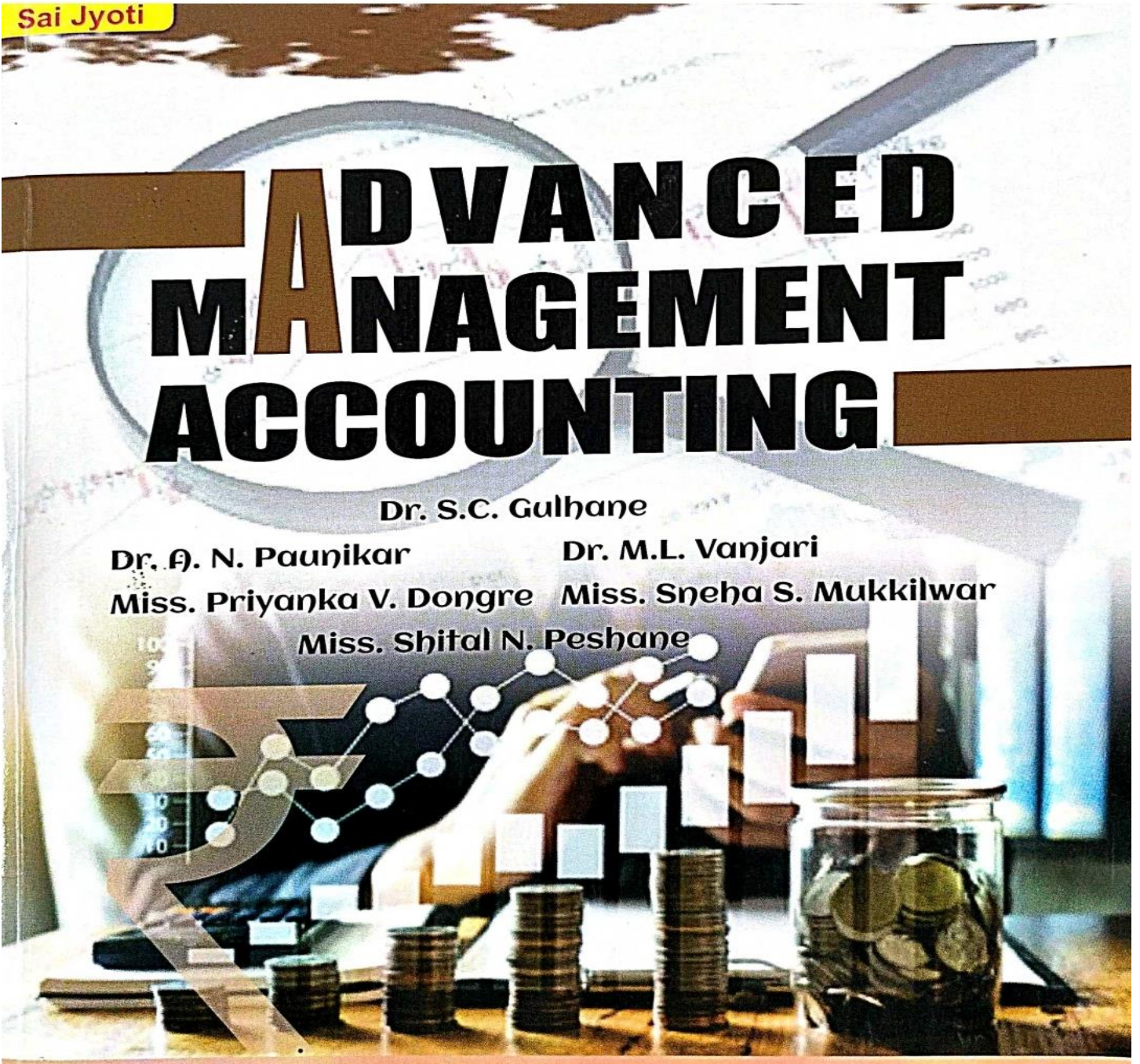
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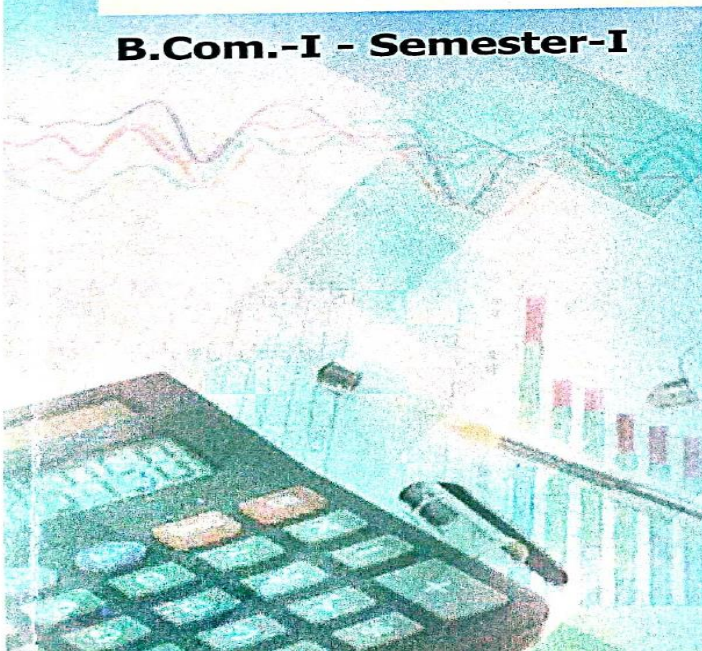
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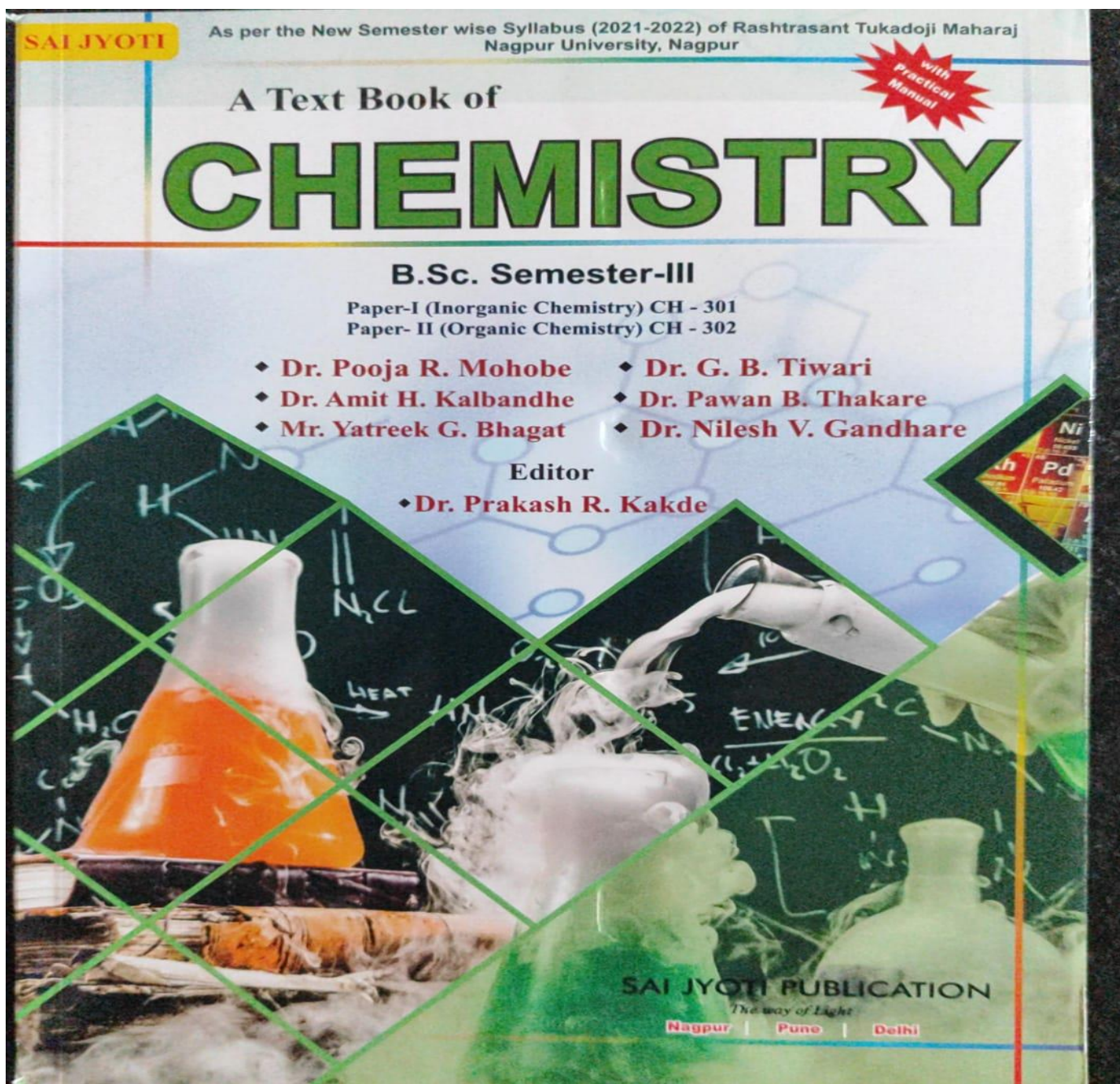
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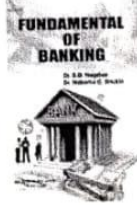
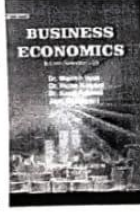
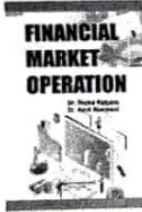
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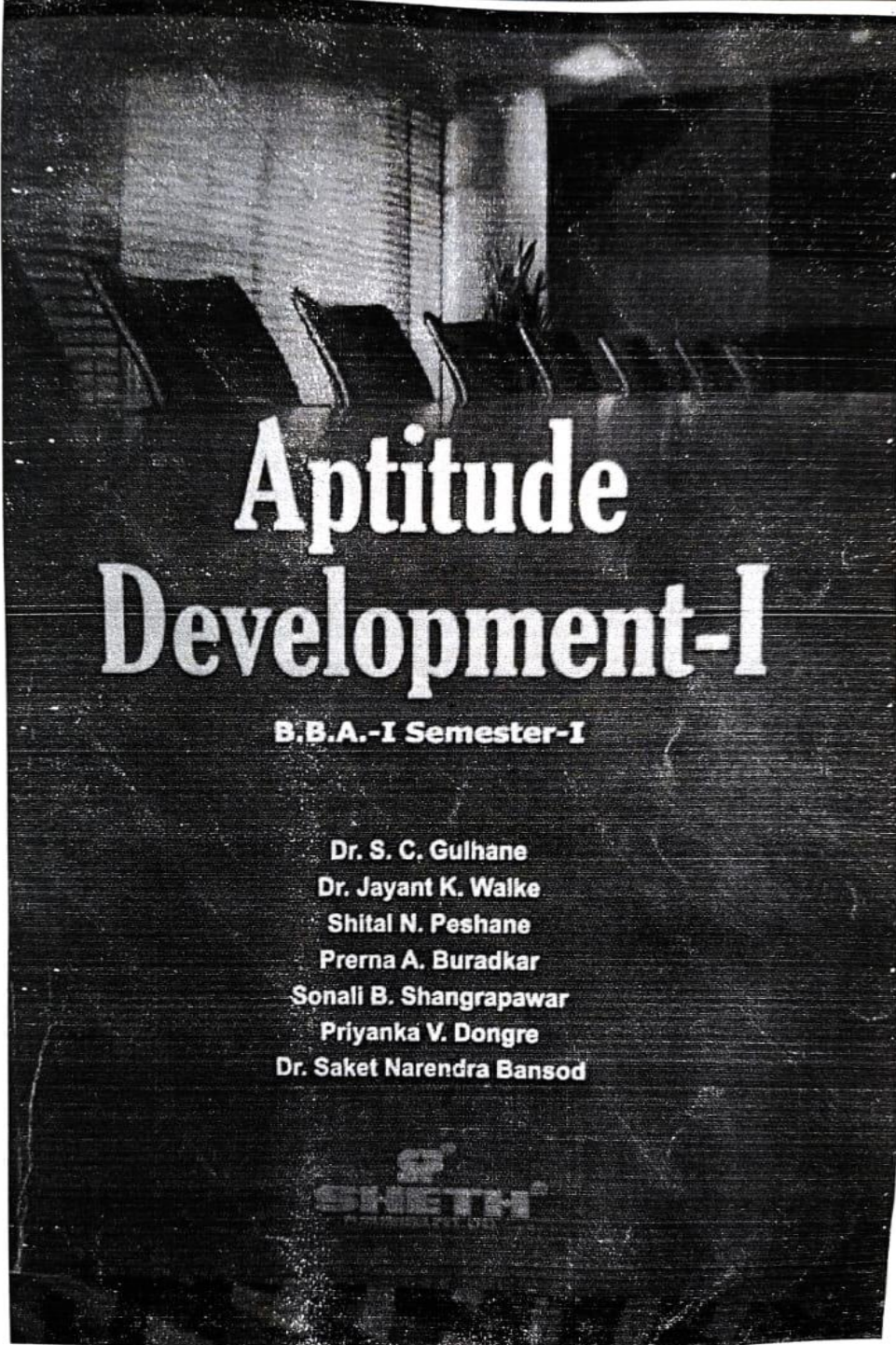
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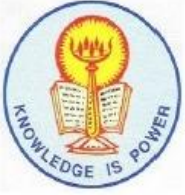
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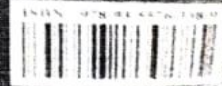
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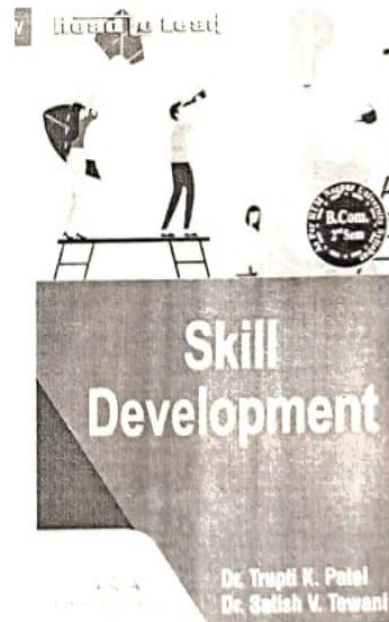
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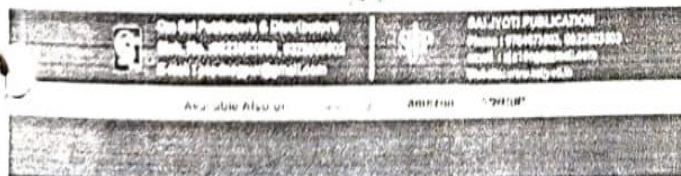
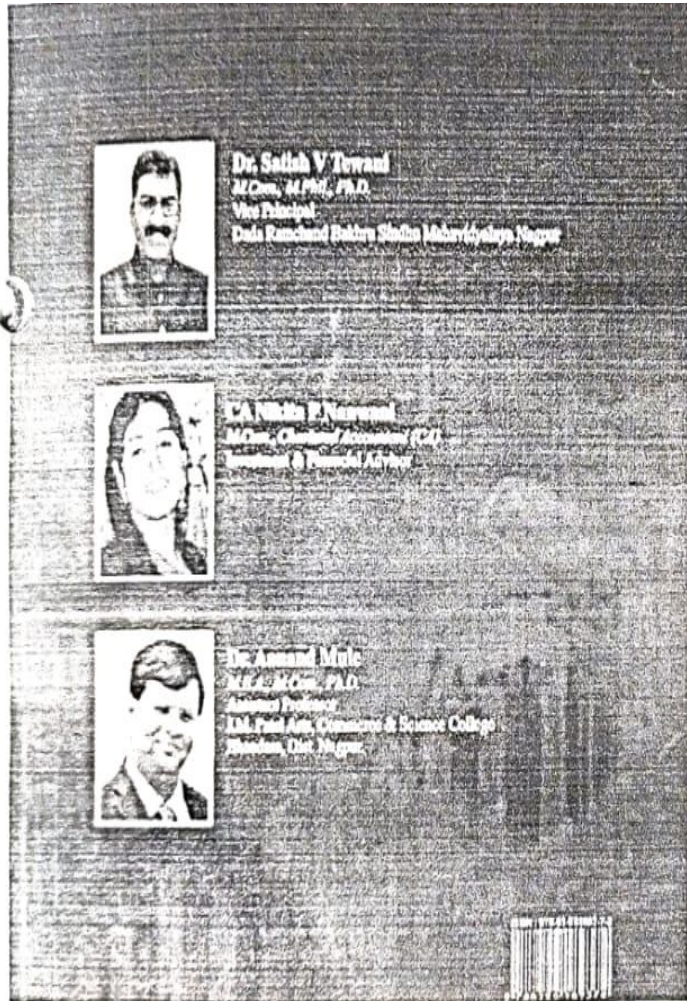
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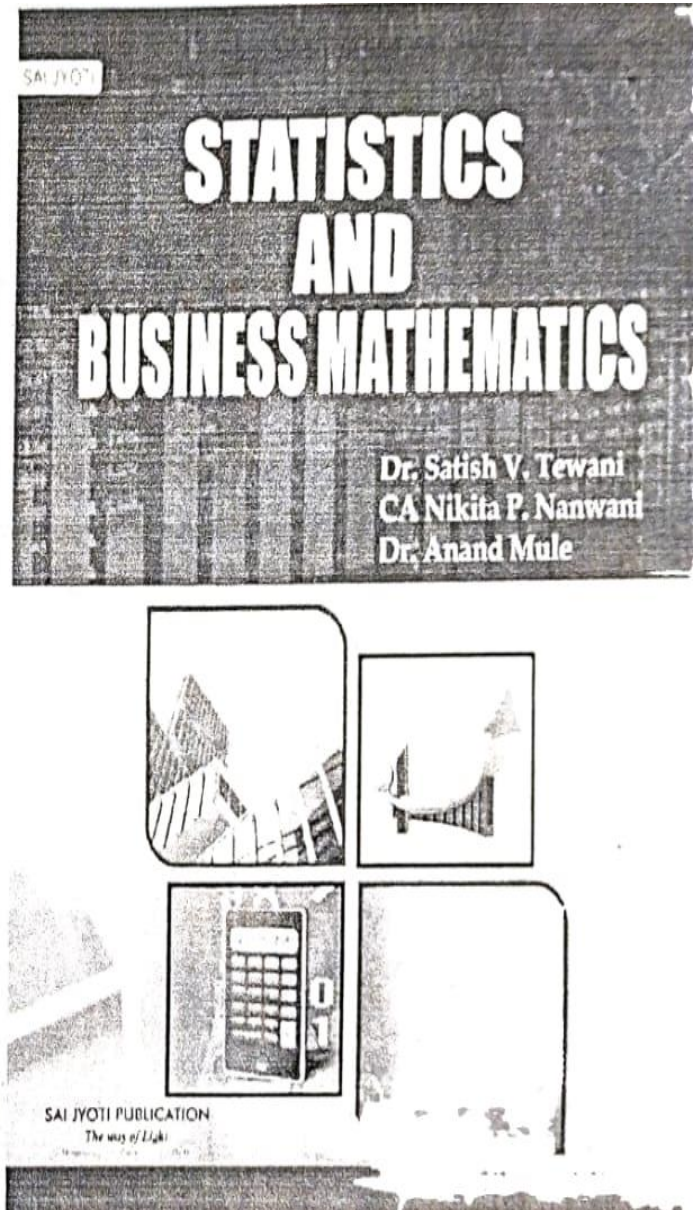
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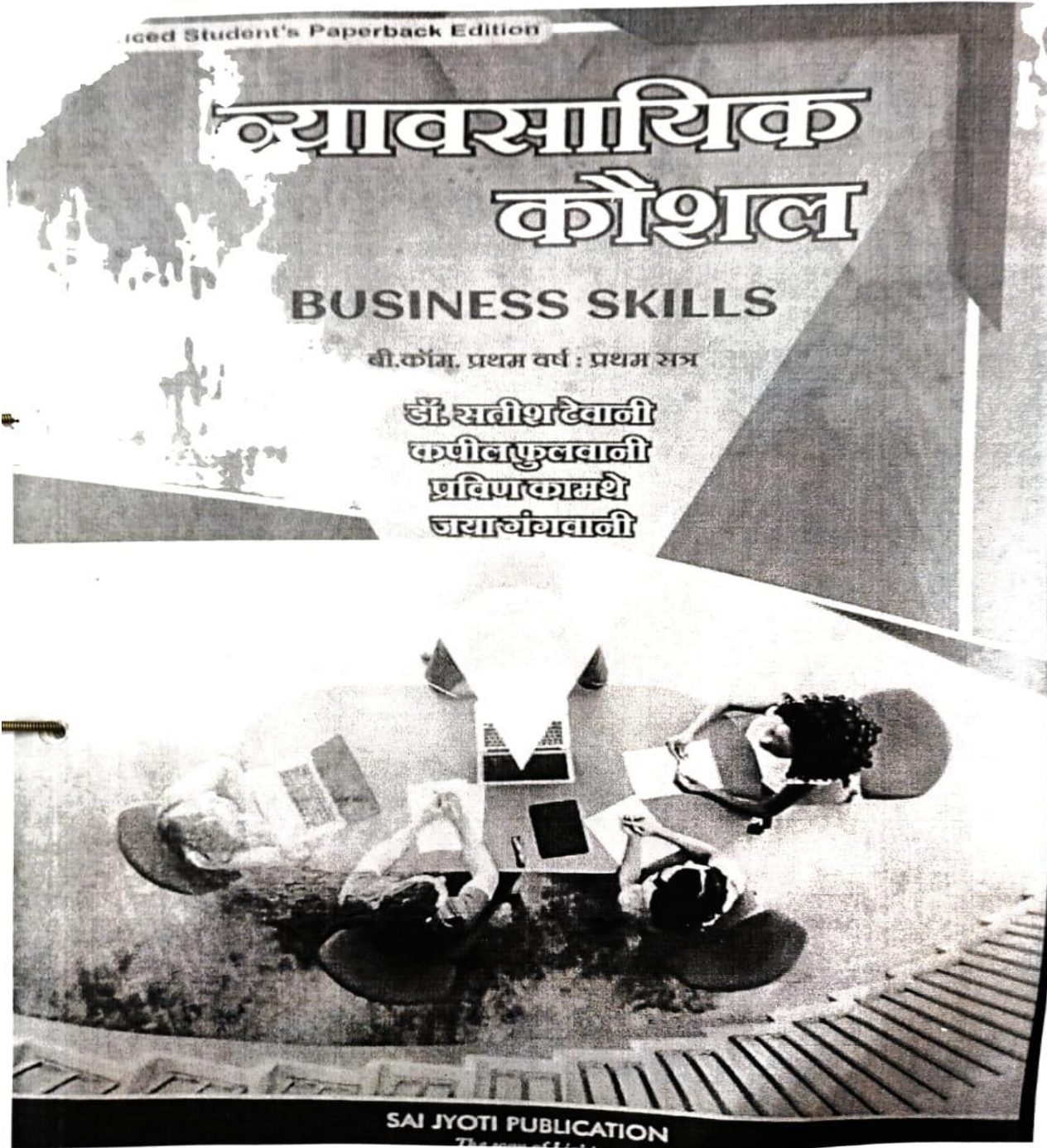
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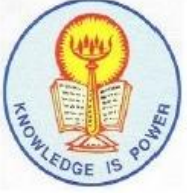


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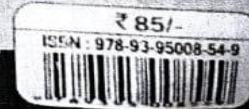
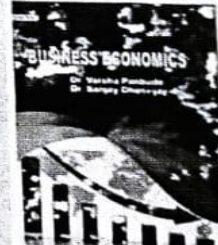
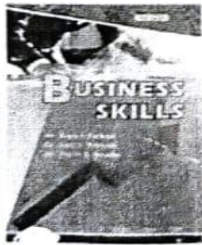
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सहाय्यक प्राध्यापक,  
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दादा रामचंद बाखरू सिंधु महाविद्यालय, नागपुर



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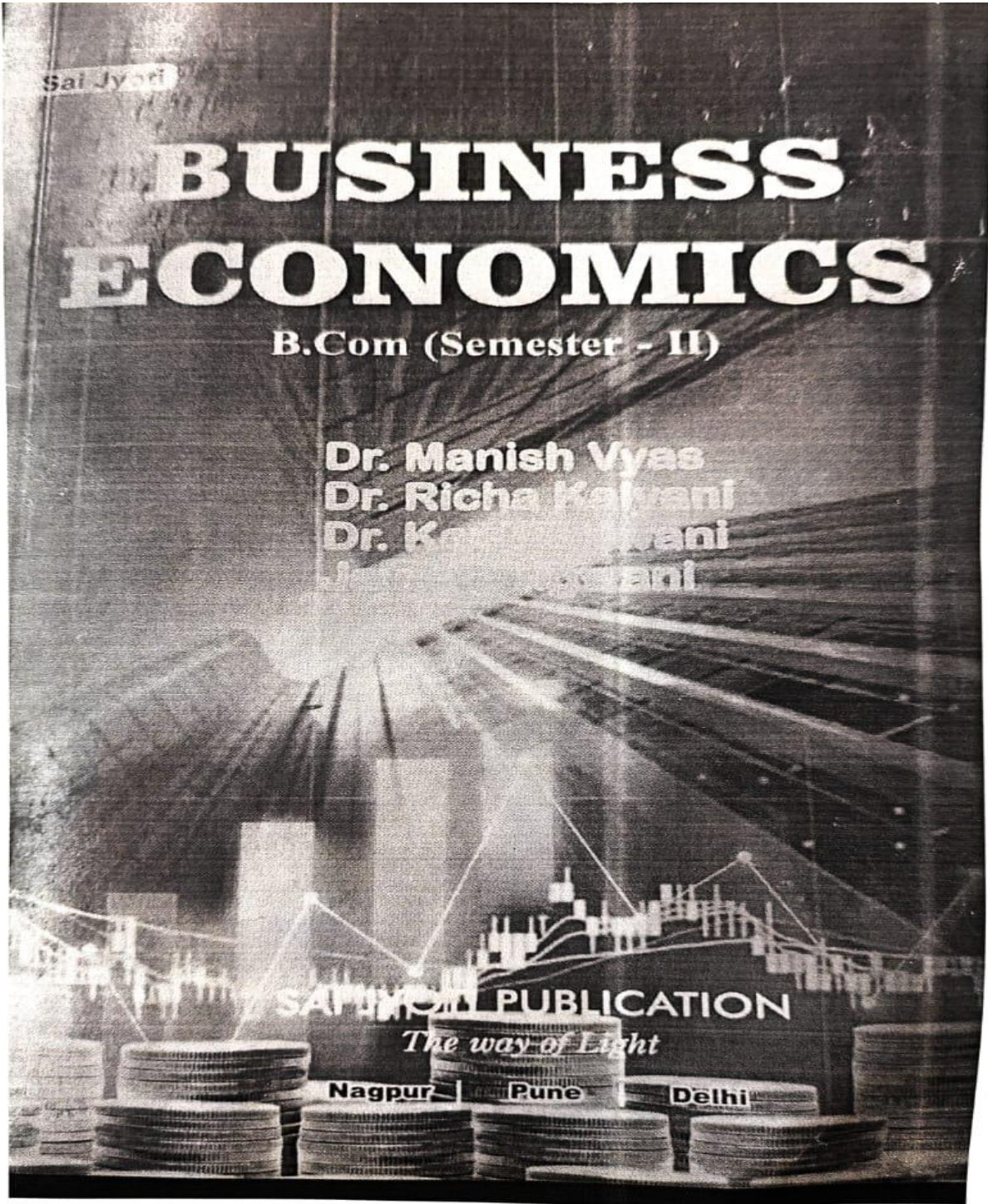
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## 6. Successful Path Followed by Women to Achieve Women Empowerment through Entrepreneurship

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In our society, the gender stereotypes decide the role of women. Based on that women are expected to play a significant role only in the sections such as labour power and other lower zone works due to which their economic role and contribution is difficult to predict in the structure of the development of society. Now-a-days the part of women as business holders is progressively growing all over the world. Entrepreneurship is considered as an essential part of economic development. Entrepreneur is the leading factor of entrepreneurship. From the beginning, entrepreneurship has been a male-dominated phenomena, but time has changed and brought women to the forefront as today's most memorable and inspirational entrepreneurs. Entrepreneurship is the way of the future in today's society. Entrepreneurs are persons who come up with new ideas and developments, which are crucial for a company's growth. In the context of women's development, empowerment is a means of defining, challenging, and overcoming constraints in a woman's life so that she can better influence her life and environment. It is a multifaceted, dynamic process that should help women to fully realise their identity and authority in all aspects of life. Women's entrepreneurship empowerment is an innovative success mantra for India's economic development. In countries like India, women's entrepreneurship has resulted in their freedom. Women's entrepreneurial development is a means of empowering women. Women become more empowered, personally and economically, as a result of empowerment, as they become more aware



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## THREE PILLARS OF SUSTAINABILITY: SOCIAL, ECONOMIC AND ENVIRONMENTAL

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### ABSTRACT:

The three pillars of sustainability (social, economic and environmental) commonly represented by three intersecting circles with overall sustainability at the centre, has become ubiquitous. The study indicate overall positive attitudes toward three pillars of sustainable development. The concept of sustainable development has become a top priority for local, regional, and global organizations. Sustainable development should become a basis practice for everyone in the world, including business organisations, the university system, families, and government agencies. The usefulness of sustainable development relies on the increasing interest in three pillars.

**KEYWORDS:** three-pillars, sustainable development, environment, social, economic and organizations.

### INTRODUCTION:

Sustainability is a social, economic and ecological concept. Sustainability means of configuring civilisation and human activity so that society members are able to meet their needs and express their greatest potential in the present and future by preserving biodiversity. Sustainability affects every level of organisation, from the local neighbourhood to the entire world. In other words, sustainability help by providing best for people and the environment both now and in the indefinite future. Nowadays people object to the term "sustainable development" as an umbrella. Sustainability development term as it implies continued development, and so the objectors insist that it should be reserved only for developmental activities.

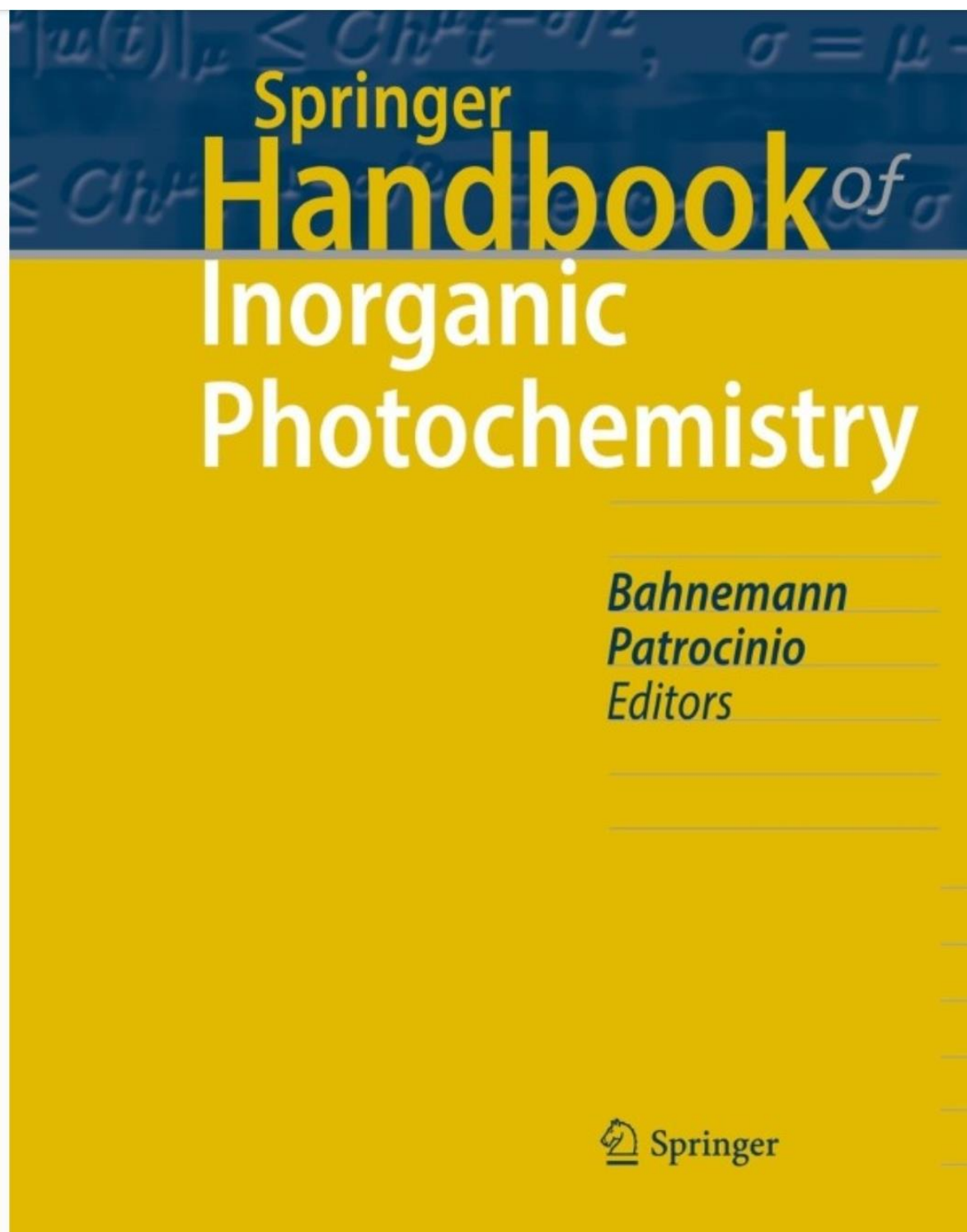


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## Dye-Sensitized Solar Cells

[Amrut Agasti](#), [Lekha Peedikakkandy](#), [Rahul Kumar](#), [Shyama Prasad Mohanty](#), [Vivekanand P. Gondane](#) & [Parag Bhargava](#)



Chapter | [First Online: 26 June 2022](#)

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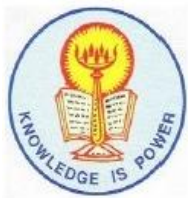
Part of the [Springer Handbooks](#) book series (SHB)

### Abstract

Although photovoltaic devices have been evolving for several decades but early 1990s witnessed an interesting development that of dye-sensitized solar cells (DSSCs). DSSCs significantly impacted further course of development of newer solar cell technologies. These photovoltaic devices (DSSCs) were radically different from all those that had been existing before. Though efforts had been made to use dye-sensitized photoelectrochemical cells to convert light into electricity in the past, it was with



  
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**Critical Issues, Opportunities and Experiments in Sustainable  
Development of Society, Industrial Development, Material, Energy and  
Environment**

Volume: I, 5 Sept. 2022  
ISBN: 978-93-94819-10-8

## **A Review: Sustainable development of Biodegradable Polymer Material**

**Dr. Mangesh B. Thakre<sup>1</sup>, Dr. R. P. Chopde<sup>2</sup>**

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**DOI- 10.5281/zenodo.7109751**

### **Abstract:**

The sustainable development can be support through the development of biodegradable materials. The overuse of compound materials from fissile sources has generated an oversized volume of waste that causes environmental impacts because of the degradation time. Green materials offers a unique characteristic and properties including abundant in nature, less toxic, economically affordable and versatility in term of physical and chemical properties. Green materials can be applied for a numerous field in science and technology applications including for energy, building, construction and infrastructures, materials science and engineering applications and pollution management and technology. The technological advance has excited explore for alternatives that may contribute to property. In this context, the use of biodegradable polymers, that uses raw materials from renewable sources stand out because they have that ability to form films and come from abundant sources. Also, within the expectation of optimizing the environmental edges during this method, it's doable to price the agro-industrial residues, victimization them as material within the synthesis of the compound, the physical, chemical and mechanical properties of those polymers area unit necessary to judge the doable applications. In this study, the current research on renewable sources, including agricultural and industrial residues, to obtain biodegradable polymers, highlighting their properties and application.

**Keywords :** Biodegradable, Renewable, Sustainable development, Polymer.

### **Introduction**

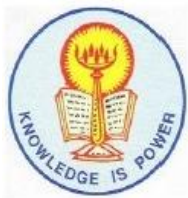
Polymeric material presently plays a vital role in way of life which have distinctive range of properties. Compared to alternative ancient materials, plastics supply several blessings, like performance and flexibility, durability, lightness resilience to corrosion, easy process, high productivity, low cost, environmental facet, etc. Innovation in plastics can therefore build a valuable contribution to increasing economic process and quality of life and facilitate to unravel environmental issues. Now, there's a noteworthy increase within the potential use of perishable polymers in numerous areas like medication, pharmacy, agrochemistry or the packaging trade. Attributable to their wide-ranging properties, each artificial and nature chemical compound materials perform an important and present role in way of life. Having a amount of effectiveness, biodegradable polymer materials break the development of biodegradation. it's valuable to tell apart between biodegradable polymer materials on the idea of their origin: native or artificial. Native biodegradable polymer materials represent the synthesis developed throughout a protracted course of evolution in nature. Each leading

to materials possessing tailored characteristics for various applications. They embrace proteins (collagen, gelatin, and albumin), polysaccharides (cellulose, chitin, and alginate), nucleic acids, and ranging properties, each artificial and natural chemical compound materials perform an important and present role in way of life. In the perspective of sustainable development, biodegradable polymers can be considered as safe for the environment, and are an interesting alternative to conventional polymers[1,2]. There are huge sources of biodegradable polymers, which are from natural polymer to synthetic polymers. Natural polymers are obtained from renewable sources in huge quantities and synthetic polymers are obtained from non-renewable sources i.e. petroleum resources [3,4]. Variety of perishable polymers is developed in recent decades. With relevance the origin of the stuff they are divided into two groups: i) perishable polymers from renewable resources (e.g., polymers of microbiological origin similarly as artificial polymers from renewable monomers) and ii) perishable polymers of non-renewable/fossil resources[5]. Natural polymers area unit out there in massive quantities from renewable sources, whereas artificial polymers



  
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*Recent Advancements in commerce and management, Innovation and Entrepreneurship, Science and Technology, pharmacy & health, Humanities and social science, education, language and literature, and Environment and sustainability*

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## NEW ADVANCEMENT OF BIOSENSOR FOR ENVIRONMENTAL MONITORING: A REVIEW

M. B. Thakre

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### Abstract –

*The growing variety of pollutants needs the improvement in innovative analytical devices that are precise, sensitive, specific, rapid, and easy-to-use to satisfy the increasing demand for legislative actions on environmental pollution management and early warning. Optical biosensors are a strong alternative to traditional analytical techniques, change the highly sensitive, real-time, and high-frequency pollutant monitoring without extensive sample preparation. The necessity of portable, rapid, and sensible biosensing devices explains the new recent development of biosensors with transduction materials, prepared from nanotechnology, and detection of multiplexed pollutant, involving multidisciplinary experts. This article reviews important advances in functional biorecognition materials like enzymes, aptamers, DNazymes and antibodies that facilitate the various applications of optical biosensors and advancement in biosensors for the monitoring of pollutant in air, water, and soil in real conditions (such as pesticides, organic molecules and potentially toxic elements).*

**Keywords:** Nanosensor, Optical biosensor, Environmental pollution monitoring, Pollutant, Pesticides.

### Introduction

Environmental Monitoring Biosensors involved immunosensors, genosensors, aptasensors and enzymatic biosensors are reported for the detection and monitoring of assorted environmental pollutants, using antibodies, nucleic acids, aptamers, and enzymes as recognition components severally. Biosensor is one of the analytical devices that integrates a biological detector (e.g., an antibody or enzyme) with a physical transducer, whereby the interaction between the target and the bio-recognition molecules is translated into a measurable electrical signal [1]. Optical biosensors that exploit fluorescence, light absorption, luminescence, Raman scattering, reflectance and refractive index are powerful alternatives to

traditional analytical techniques. These biosensors provide fast, high sensitive, real-time and high-frequency observation without time consuming sample concentration and/or previous sample pre-treatment steps.

Though optical biosensors have nice potential applications within the areas of biomedical research, drug development, environmental monitoring, food safety, and diagnosis [2-8], their use in fields of environmental pollution management and early warning remains within the early stages. The analysis on the development of biosensors for an environmental monitoring of organic pollutants, pathogens and probably toxic components has been contributed to the defendable development of community due to the problems of

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*Dawn of Women Empowerment and Entrepreneurship*

## 10. Problems Faced by Women at Workplace

Damini R. Matwani<sup>1</sup> and Sharda Bhagchandani<sup>2</sup>

<sup>1</sup>Department of Biochemistry

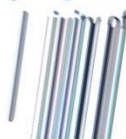
<sup>2</sup>Department of Biotechnology

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Women's issue speaks about the equal rights and the participation of women in the society. Women have been trying to break away from norms and standards set by society. They have been marching for equal rights and fighting for their rightful place in the society. The intention of women's issues refers to gender-based violence or the struggles made by Men. Women's Issues mainly includes the human rights, security for women. Women come across barriers in their workplaces which were not fully exposed in the society. Women face problems not only in their family but also at their workplaces too. Women are treated as humans who should serve their husbands till their last breath. Society is not ready to accept women with dreams and aims and if women tries to express their wishes or dreams, than society is not ready to give her a chance to prove it. Women were created as servants as they want to live under the shadow of men. Women continue to remain underrepresented at every level, starting from entry-level jobs to C-suite roles. There was some quantity of women who comes to work for her family and for her children. If she enters into workplace she begins to face the problems which happen to her in the workplace. It is not only women who face the problems at her home but in her workplace also. So that women tries to break away the obstacles which were happening in her workplace. She tries to break the point of view that women will be silent in all the problems made by men and so it will be easy for men to harass women in her workplace. Women was fighting for her rights and fighting for her place in the society. Many researches made to know the

ity of women in the workplace.



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## 3. Women Empowerment through Entrepreneurship in Nagpur Region of Vidarbha

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Earlier women entrepreneurship was confined to culinary activities however with growing awareness women of today are chartering different fields due to their ability to work hard, develop innovative ideas, and multitasking nature. Empowering women will contribute to the economic development of the country. However, finance is the major problem faced by women entrepreneurs, especially in the Nagpur region. In this regard, the new government funding schemes for women entrepreneurs have been discussed. The paper studies inspiring stories of some amazing women entrepreneurs of the Nagpur region that have set benchmarks in their chosen fields.

Women empowerment means that women are empowered to think, dream and do whatever they aspire for while women entrepreneurship refers to business or organization started by women or a group of women. Women entrepreneurship is synonymous with women empowerment. There was a time when women's entrepreneurship was regarded as the extension of culinary activities mainly to the 3 Ps-Papad, Pickles and Powder. But with growing awareness women have now shifted to 3 Ps-Production, Progress, and Prosperity, and have scaled heights in Electronics, Engineering, Garments and Jewellery. Some successful women entrepreneurs of the country are Vandana Luthra, founder of VLCC, Kiran Mazumdar-Shaw, Managing Director and Chairman of Biocon, Suchi Mukherjee, Indra Nooyi, board member of Amazon, Founder and CEO of Lime Road, Falguni Nayar, founder of Nykaa, Aditi Gupta, founder of Menstrupedia, Shahnaz Hussian, founder of Shahnaz Herbals, Ms. Selina Ahmed, founder Selina Exports Pvt. Ltd, Nagpur.





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## *Dawn of Women Empowerment and Entrepreneurship*

### 13. Modern Women Progression towards No Discrimination in Moving Media on the Basis of Sex

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A struggle of thousands of years for a modern woman is still visible as to be acceptable as a working woman that can lead the modern world. It is also a fact not to deny that women empowerment contributed a lot by breaking bias through the media which gave a vision of modern women. If talk about history, feminism movement started with men empowerment injustice to women. But a revolution given by the media has speeded up the concept of modern women since the 1950s. No doubt education and literature has given awareness of equality. But to become a modern independent woman with wisdom was a long struggle. A credit for the present situation should be given to motion pictures which have given a vision of equality apart from being an entertainment resource. This is not only for India but also true for worldwide cinema.

Early feminism in movies was based showing women rights in society. Here we are talking about cinema worldwide facing a transition from black and white into color. Be it the most legendary movie *The Women* (1939) where no male actor is seen in the movie which was a revolution in women empowerment itself. I think still no one can imagine such work. Or if we talk about *Sadhna* (1958) where a helpless prostitute's struggle with society is picturized; or *Two Women* (1960) a journey of mother and daughter who are robbed and raped. And of course *Mother India* (1957) which itself was a remake of *Aurat* (1940) showing the struggle of a widow villager woman against greedy society. *Dahej* (1950) a movie based on dowry and its negative impact on the life of a married girl actually forced Parliament of India to finally declare later mandatory education for women. These movies showed how women are mistreated by a male dominating society and given an insight to generations to have equality for a better future.

After the 60s and 70s where we found educated women, working women was still a concept not widely acceptable by society. *Breakfast at Tiffany's* (1961) was an iconic movie to represent an independent woman. While in Bollywood *Tapasya* (1976) movie portrayed how a working woman can change the fate of her family. This was the Era where parallel cinema was gradually becoming popular. Educated woman was not ready to accept injustice, infidelity, disrespect and sexual harassment. Education made women realize their rights as humans. And obviously that was a time when movies started showing reality to give awareness of the problem in society. If we talk about Indian Cinema, and especially in the 70s and 80s, most of the movies were centered on topics which were questions about society and women's freedom and empowerment. Toxic marriage, post marital affair trauma, suppression of women talent, illegal child birth, all these issues are nothing but a distortion in society and these issues demand freedom of thoughts and decision by women. We can see this in *Guide* (1965), *Arth* (1982), *Bazaar* (1982), *Mandi* (1983), *Trishul* (1978) and *Rihaae* (1988). Suffocation of women due to male dominant society rules demanded a change. It was an international issue indeed. *My Brilliant Career* (1979), *Jeanne Dielman* (1975), *Leeds - United!* (1974) and many more are examples of this revolution. Though *Lamhe* was a movie (1991) to show that an odd age difference in a relationship should be accepted for better life, its acceptability by society at that time was still a tough decision. However, with time we saw legal divorce acceptability, single mother respect, a better family concept with working women and marriage not by age pressure but for better family future. Child adoption and acceptability of abortion have given a better generation today making women decision priority [1-3].

Since the early 70s, suddenly we observe a flood of movies considered to be women centric. This may be a reflection of women empowerment in world politics. But in any case, a female as a leading actor created a sensation not only in the cinema world but also in human society. Talking about *Fargo* (1996), *Clueless* (1995), *Thelma and Louise* (1991), *The Color Purple* (1985), *Growing up Female* (1971); we have such an endless list where the whole movie is centered to show fearless,



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## Innovational Story of a Renowned Woman Entrepreneur and Innovator of Nagpur, Maharashtra

Pooja Mohobe<sup>1</sup> and Sonika Kochhar<sup>2</sup>

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In a country like India, we need to move away from a paradigm of job seekers to job creators where approximately 12.8 million people enters the job market every year<sup>[1]</sup>. It is imperative that a sizeable chunk of these job seekers venture into an entrepreneurial activity so that not only do they make a living for themselves but also create job opportunities for others, produce new and innovative products and services and drive greater upstream and downstream value-chain activities. Most of the women entrepreneurs in India are mainly engaged in conventional enterprises like handloom and handicraft jam or jelly, pickle making, bakery units etc. There is need for women to go beyond the conventional sectors and look out for opportunities based on resources and skills available in the state. The economist of India to a great extent, have realized the potentialities of women. One such state which welcomes women entrepreneur and its innovation is the state of Maharashtra. Women entrepreneurs of Nagpur are creating jobs, innovation and contributing various economies as much as their male counterparts.

Entrepreneurship based on innovation has immense growth potential. Schumpeter (as cited by Erik Stam, 2008)<sup>[2]</sup> distinguishes four roles in the process on innovation; the inventor, who invents a new idea, the entrepreneur who commercializes this new idea, the capitalist, who provides the financial resources to the entrepreneur (and bears the risk of the innovation project), the manager who takes care of the routine day to day corporate management. What makes entrepreneurs different from a normal business is a focus on developing innovative solutions for the problems hence a problem-solving aptitude is an important factor to develop Entrepreneurship.





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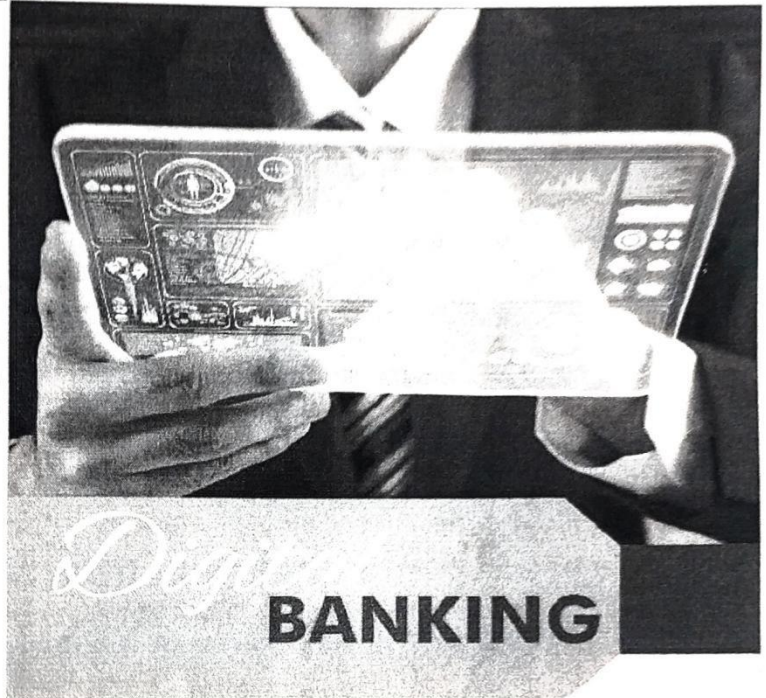
## Dr. Shraddha Anilkumar

Dr. Shraddha Anilkumar is currently Principal Dayanand Arya Kanya Mahavidyalaya. A seasoned library professional having over three decades' professional standing, she holds holds B.Sc., M.Lib (Comp. Info Sc. Ph. D. Lib Sci.) and M.A. (Sec) degrees besides Diploma in Russian Language. She was Head Learning Resource Centre at Dayanand Arya Mahavidyalaya from 1988 to 2018. She has published several papers in seminars, conferences and journals at state, national as well as international level and has papers in 9 journals with impact factor above 1.0. She published 5 books at National level and a book at international level entitled "Learning in Library and Information Science Education" was widely acclaimed. She has completed Minor Research Project. She was the convener of several national conferences sponsored by UGC and has edited two National Conferences proceedings (with ISBN number). She had been invited as resource person in National Conferences at different universities and colleges. She had worked as VC, resource subject expert in several committees. She was also appointed as a member of Advisory Committee for UGC sponsored conferences. A multispectral person she has been associated with many co-curricular and extra-curricular activities. She is a member of different professional bodies such as I.A. A.I.C.B. M.F.U.C.T.O. and M.L.I.S.C.

## Dr. Mugdha Deshpande

Dr. Mugdha Deshpande is working with Dayanand Arya Kanya Mahavidyalaya since 18 years, currently she is an Associate Professor in Department of Commerce. She has published several papers in National and international journals and worked as an expert in various committees. She has been convener of UGC sponsored conferences and seminars. She has completed one UGC sponsored Minor research project. She has also worked on the editorial board of various journals. She is associated with many co-curricular activities as well.

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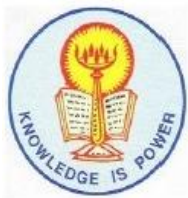
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study also attempts to analysis the budget for and job opportunities in Digital Banking in India. The entire study and findings are based on the objectives.

**Keywords:** Digital Banking, Changing Scenario, Future prospects.

## INTRODUCTION

Digital banks are exclusively online-based banks. This sort of banking offers all types of financial services but, unlike physical banks, does not have any branches. These days, the nation and the world are observing the popularity of this sort of banking. Experts in the banking industry claim that digital banking in banks is only getting started and it will rise at the skyrocketing speed. Aside from digital banking, all activities are being conducted entirely digitally in practically all modern banks.

At the present scenario Indian economy has taken a comprehensive form. Banking, Finance, Trade, Investment, Trading, Commerce, Marketing, Debt etc. is part of all economy. Banking system is the bloodline of any economy and banks are the trustees of public money. In the last few years, the banking sector has been undergoing a structural change. Challenges and changes are going hand in hand. Owing to technology and digital innovation the delivery of financial products and services is now more productive, efficient, and competitive. The unexpected prolonged continual lockdown in country during Covid-19 pandemic, the usage of digital payment platforms has increased multifold. People began and moved to digital banking as a result of the paucity of cash in the nation after demonetization; everyone heard about it and encouraged it.

While it is undeniable that the Covid-19 Pandemic has resulted in widespread digitization across businesses, the unexpected prolonged lockdown has also significantly boosted distant and online buying, which has raised the use of digital payment systems. Cash usage fell out quickly, and the development of payment technologies by non-bank competitors hastened the

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## CHAPTER - 2

### A STUDY OF FUTURE PROSPECTS OF DIGITAL BANKING IN INDIA

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## ABSTRACT

In today's world the economic scenario is changing very fast. At the moment Indian economy has taken a comprehensive form. Banking, Finance, Trade, Investment, Trading, Commerce, Marketing, Debt etc. is part of all economy. Banking system is the bloodline of any economy and banks are the trustees of public money. In the last few years, the banking sector has been undergoing a structural change. Challenges and changes are going hand in hand. Owing to technology and digital innovation the delivery of financial products and services is now more productive, efficient, and competitive. The unexpected prolonged continual lockdown in country during Covid-19 pandemic, the usage of digital payment platforms has increased multifold. Cash usage rapidly declined, and the emergence of payment systems by non-bank rivals sped up the pace of digitizing banking operations. No doubt, there are various challenges and risks to overcome for the success of digital banking in India. The Indian Government's efforts to encourage digital banking in India, budget for digital banking was also allocated. The RBI and NITI Aayog also took the initial steps to establish a regulatory track for digital banks. The banking of the future will be completely changed. Digital medium is the only way forward. For benefit of the government scheme can reach everyone then digital banking is the alternative. Young people now have more job options in this sector because of the prominence of transactions made through digital banking. Youth with technical talents in this area will be increasingly in demand in the future days. Digital banking also contributed to the delivery of an improved customer experience, which in turn led to an increased rate of adoption. Smartphones and Aadhaar are playing crucial roles for paperless banking system in India. This study aims to study the future prospects of Digital Banking in India. The

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*Dawn of Women Empowerment and Entrepreneurship*

## 4. Gender Studies: Breaking the Bias Related to Transgenders in the Indian Movie "Chandigarh Kare Aashiqui"

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Indian English literature and films have successfully portrayed the saga of suffering of the transgenders who have to face social discrimination all their lives. They have to bear the brunt of fate for no folly of theirs. Other than the four genders masculine, feminine, neuter and common, there are many other types of gender. But there is a lack of information regarding all these types of gender in the society. The transgenders are commonly known as LGBT community.

### **LGBT community**

The stringent Indian societal system still does not fully acknowledge the presence and rights of the transgender community popularly known as LGBT community. According to an article 'What are the four genders', an online article, "Very little is known about the transgenders. There are many types of genders like agender, cisgender, genderqueer, transgender, genderfluid and gender nonconforming ([www.medicinenet.com](http://www.medicinenet.com)). "The society is yet to understand the differences in these types of gender and have a biased view against these persons. According to wikipedia- "LGBT is an initialism that stands for lesbian, gay, bisexual and transgender- an umbrella term for sexuality and gender identity. It refers to anyone who is non-heterosexual or non-cisgender, instead of exclusively to people who are lesbian, gay, bisexual or transgender ([en.m.wikipedia.org/ LGBT](http://en.m.wikipedia.org/LGBT))." Indian English literature has tried to deal with this delicate theme through autobiographies, biographies and creative content related to the agonies of transgenders.



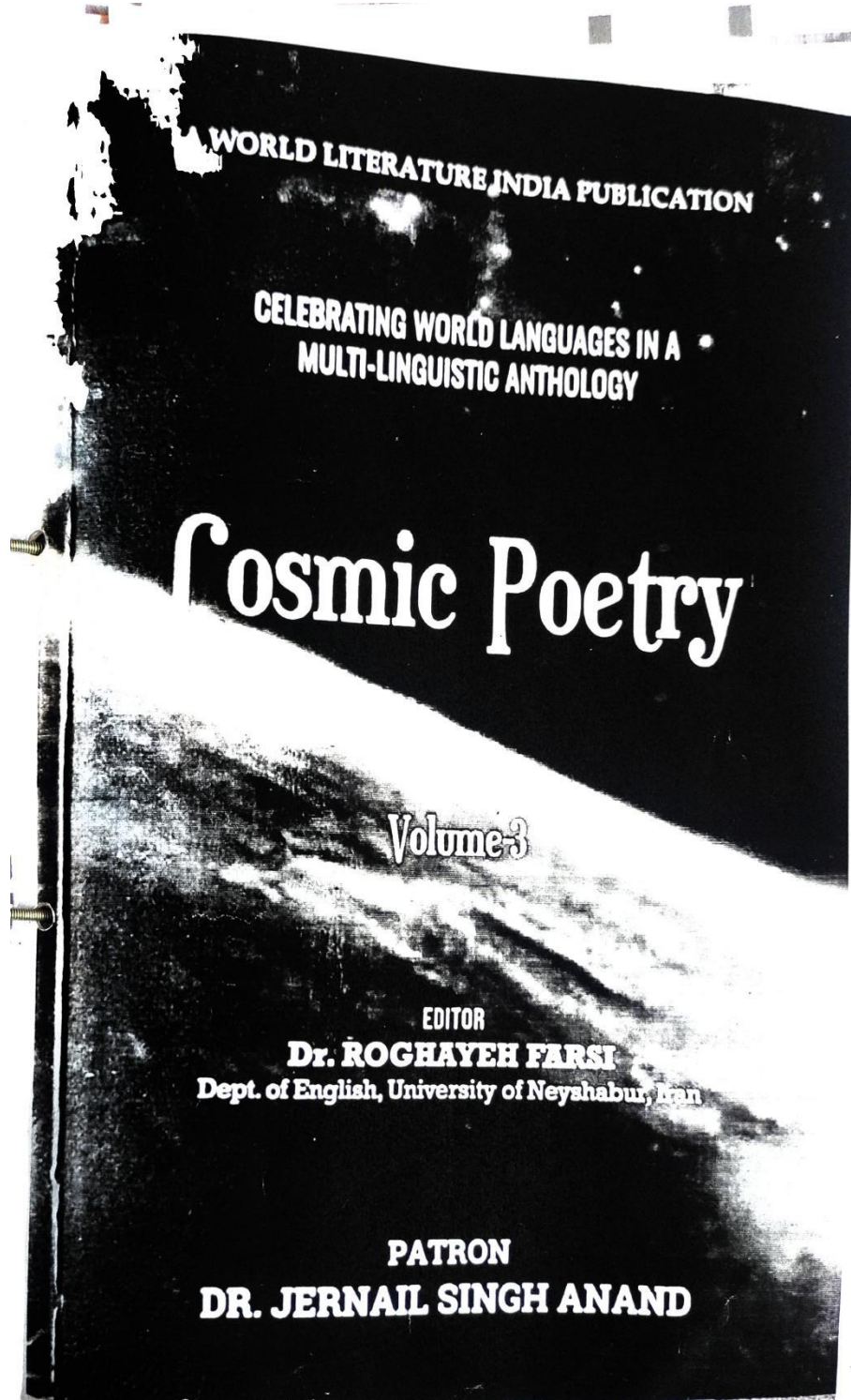
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Suman Keswani



Dr. Suman Keswani works as Assistant Professor English, DRB Sindhu Mahavidyalaya Nagpur, India. She is a dentist, teacher and poet. She has to her credit a book of poems *Reflections*.

## I DREAMED

I dreamed of a place, this afternoon  
Over the clouds and over the moon,  
A divine garden with petals strewn,  
Here, let's make our love cocoon!

I dreamed of a house on top of a hill  
Laced with a farm and a big, rice mill,  
Garland in hand and dressed to kill  
You wait for me with zeal and thrill!

I dreamed of a huge, flower-bedecked swing,  
With a seat of gold and a silver sling,  
Tucked in my pocket is a diamond ring,  
Surprise for you which I wish to spring!

Dr. Roghayeh Farsi (Ed.) | 47



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Dr. Japna Tiwari  
2022-23

## स्वतंत्रता संघर्ष में हिन्दी साहित्य का अवदान

सम्पादक  
डॉ. मनोज पाण्डेय



ए.आर. पब्लिशिंग कम्पनी  
दिल्ली



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## पं. माखनलाल चतुर्वेदी : राष्ट्रीय चेतना के प्रेरणा पुंज

डॉ. सपना तिवारी

सूली का ही पथ सीखा है, सुविधा सदा बचाता आया।  
भैं बलिपथ का अंगारा हूँ, जीवन ज्वाल जलाना आया।।

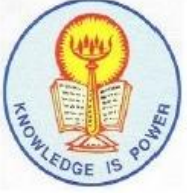
माखनलाल चतुर्वेदी की उपरोक्त पंक्तियों से उनकी राष्ट्रीय चेतना व मनोभाव स्वतः ही स्पष्ट दिखाई देते हैं। 04 अप्रैल, 1889 मध्य प्रदेश में जन्में पं. माखनलाल चतुर्वेदी हिन्दी साहित्य क्षेत्र में उन शलाका पुरुषों में से एक हैं जिन्होंने स्वतंत्रता से पूर्व व उत्तरार्ध अपनी लेखनी से भारत के विकास व उत्थान में अपनी महत्वपूर्ण भूमिका निभाई है। उनके रोम-रोम में भारत बसता था एवं वे सदैव माँ भारती के उत्कर्ष के स्वप्न को ही मन में संजोए रहते थे। इसलिए उन्हें 'एक भारतीय आत्मा' की उपाधि से विभूषित किया गया।

यों तो राष्ट्रीय भावना से ओत-प्रोत मैथिलीशरण गुप्त, सोहनलाल द्विवेदी, बालकृष्ण शर्मा नवीन, सुभद्रा कुमारी चौहान जैसे रचनाकारों ने राष्ट्रीय चेतना जागृत करने में अपनी अहं भूमिका निभाई है लेकिन स्वाधीनता संग्राम में तन-मन से सहभागिता करने वालों में राष्ट्रीय जागरण के रूप में पं- माखनलाल चतुर्वेदी का कोई सानी नहीं है। "यह वह काल था जब तिलक और गांधी जी के आगमन से देश में कई शक्तियों का संचार हुआ तथा चारों ओर उग्र राष्ट्रीयता की लहर फैल गई। साहित्य के विभिन्न अंगों की वृद्धि का कार्य भी इस युग से ही आरंभ होने लगा था।" चूँकि वह पूरा युग संघर्ष त्याग, तपस्या और राष्ट्र प्रेम का युग था। उस दौरान राष्ट्रीय जागरण समन्वित काव्य सृजन की माँग थी। ऐसे महत्वपूर्ण व कष्टदायी समय में मातृभूमि को परतंत्रता की बेड़ियों से छुटकारा दिलाने हेतु काव्यसृजन की ओर पं. माखनलाल जैसे क्रांतिवीर अपनी लेखनी के माध्यम से राष्ट्रीयता से प्रवृत्त हो जाना स्वाभाविक ही था। अतः स्वाधीनता के धधकते माहौल में पं. माखनलाल जैसे प्रखर कवि को अपने काव्य सृजन से राष्ट्र की आत्मा को झकझोरने में देर न लगी। आपने आंदोलनात्मक कविताओं के साथ-साथ

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## *Dawn of Women Empowerment and Entrepreneurship*

### 14. स्त्री मानव अधिकारों के संदर्भ में हिंदी कथा साहित्य की भूमिका

सपना तिवारी  
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#### प्रस्तावना

प्राचीन समय में मनुष्य अपने कर्तव्यों को सर्वोपरि मानता था। परंतु वर्तमान समय में व्यक्ति मानव अधिकारों के तहत सुरक्षित जीवन जीने की कामना करता है। मानव अधिकार गौरवपूर्ण जीवन जीने के लिए अत्यंत आवश्यक हैं। ये हमारे जीवन के अमूल्य अंग हैं।

सामाजिक जीवन की वे दशाएँ, जो मानव को समाज एवं कानून के समस्त संविधान के अनुरूप कार्यों को संपादित करने की पूर्ण स्वतंत्रता दे, मानवाधिकार कहलाती हैं। मानवाधिकार इस सार्वभौमिक सत्य की मानव प्रकृति की अनमोल कृति है, जिसमें प्रत्येक व्यक्ति चाहे जिस जाति, धर्म, संप्रदाय का हो, उसे सम्मानजनक जीवन जीने का अधिकार है।

मानव अधिकारों का आधुनिक संदर्भ बहुत विस्तृत है और इसमें अनेक प्रकार के नागरिक और राजनैतिक, आर्थिक, सामाजिक तथा सांस्कृतिक अधिकारों की चर्चा की गई है। 1948 में संयुक्त राष्ट्र संघ ने सौ प्रकार के मानव अधिकारों को अपनाया, जिनमें स्त्रियों, बच्चों, अल्पसंख्यकों, वृद्धों और पीड़ितों आदि के लिए मानवाधिकार शामिल हैं।

नागरिक अधिकारों के अंतर्गत जीवन का अधिकार, स्वतंत्रता, समानता, अपने विचारों एवं भावनाओं की अभिव्यक्ति, धार्मिक स्वतंत्रता आदि अधिकार निहित हैं। ये अधिकार पुरुष तथा स्त्री दोनों के लिए समान हैं। महिलाएँ जो किसी भी देश की आबादी का आधा हिस्सा होती हैं, उन्हें देश की मुख्य धारा से पृथक कर एक स्वस्थ एवं संतुलित समाज का निर्माण नहीं किया जा सकता। लेकिन वास्तविक स्थिति यह है कि आज की स्त्रियों को इन अधिकारों का पूर्ण लाभ नहीं मिल पाता।

#### साहित्य व मानवाधिकार

मानव अधिकार मनुष्य के अस्तित्व से जुड़े हुए हैं। जो हमारे अस्तित्व से जुड़ा होता है, वह तो साहित्य में होता ही है। मनुष्य न केवल जिंदा रहना चाहता है वरन् गरिमा के साथ जिंदा रहना चाहता है और साहित्य, मनुष्य को यह मानवीय गरिमा प्रदान करता है। चाहे स्त्री हो या पुरुष, साहित्य में वह जब भी अंकित होता है अपनी गरिमामयी उपस्थिति दर्ज करवाता है। रचनाकार अपने अनुभवों व अनुभूतियों से इसको वाणी प्रदान करता है।

किसी भी रचनाकार की चेतना अपने आसंदकपास के वातावरण, स्थितियों और व्यवस्थाओं से प्रभावित होती है। भारतीय समाज व्यवस्था पुरुष प्रधान होने के कारण समाज के







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## Use of Weeds as Bio-Repellent

Kharkate Sudhanshu and Shinkhede Milind

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### Abstract:

*Alternative methods of pest control research have been turned to plant essential oil, which considered lower risks than many synthetic products. In the last decade, there has been significant use of synthetic pesticides as conventional pesticides. The Promising benefit of this work is the use of weeds like Hyptis and some members of Lamiaceae as botanical repellent and pesticide to the society. Bio-repellent can be used as a alternative repellent and pesticide. They are eco-friendly and economical. It will reduce environmental pollution. It is expected that the technology developed will contribute for developing employment in rural region particular in agricultural industry through direct employment creation, enhance use of products and cost effective, energy efficient and optimized process will be known.*

**Keywords:** bio-repellant, *Hyptis suaveolens* (L.), Pesticides

### Introduction:

No one can deny a vital role of agriculture sector in development of India. Earlier traditional methods of farming were conservative type, now a day modern techniques, methods and up-gradation has been introduced in agricultural and farming sector.

In Vidarbha region of Maharashtra (India), farmers are facing problems in agriculture like poor production of crops, draught, lack of marketing strategies, poor irrigation facilities, other social and family issues. Due to this, financial crunch has occurred for farming. But apart from these, major constrains are,

- Failure in crop rotation
- Loss of fertility of soil due to chemical/synthetic insecticides
- Facing financial burdens
- Lack of awareness regarding alternative cash crops

These are the severe challenges facing by farmers in Vidarbha region. The crop plant productivity is still affected by biotic factors and abiotic factors. Biotic factors include insects, weeds and plant pathogens, alkalinity, salinity, soil activity, temperature, nutrients deficiencies and water.

Due to use of chemical / synthetic fertilizer, fertility of soil has been affected. Invasiveness of weeds is creating severe damage to crops. Unawareness about the alternative cash crops is also a major hurdle in the path of farmers. Use of chemical (Synthetic) based insecticides and pesticides also causes damage to soil fertility, pollution and adversely affect the flora and fauna. This article is aimed at to take close review an environmental impact pesticide use and proposed an alternative to synthetic pesticide. Chemicals that eliminate pests, insects, rodents, fungi called as pesticides. Use of pesticides is a routine culture of agriculture industry to protect crops from damage. To exterminate mosquitoes to check the spread of malaria, viral infections and fever, pesticides are commonly used. They are commonly known, depending on their target like insecticide, fungicide and herbicide. Pesticides have a large impact on environment, because they are spread over large area of farmland. Because of application of pesticides over large area of land and carried away by wind and water runoff, only 5% of herbicides and 2% insecticides reach to their targeted pest. These chemicals affect of plants and animal species, as they travel to other areas. Due to production, storage and transformation; certain qualities of pesticide entered into environment. When we apply to crop, pesticide work into soil and has devastating effects. The most lethal effect is biodiversity loss in soil, which results in lowering of soil quality overall and fertility. It also removes a large percentage of organic matter. Water retaining capacity of soil is improved by organic matter, which can be extremely helpful to farmers during draughts. Deficiency of organic matter also permits pesticides to continue to build in the soil rather than breaking down the complex material. Application of increased quantities of fertilizer for successful crop yields is due to less fertility of soil and less plant growth. Seeping of pesticides into the soil find their way into ground water, this leads to entry of pesticides into nearby rivers and streams. Research has shown that every stream and around 80% of all water well are polluted with pesticides in India. All these activities result in contamination of rain and groundwater sources. Many countries like India have passed bills on drinking



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Chapter  
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## SYNTHESIS AND CHARACTERIZATION OF NiO NANOPARTICLES

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### ABSTRACT

In the present work, Nickel oxide nanoparticles (NiO) were synthesized using Chemical precipitation method. It is simple and cost effective method. Nickel carbonate dihydrate was used as a starting material and starch used as capping agent for this synthesis. The prepared nanoparticles of metal oxide (NiO) were characterized by using Scanning electron microscopy (SEM) and Energy dispersive X-ray (EDAX) spectroscopy measurement. The structural functional groups were analyzed by using SEM. EDAX spectrum that showed the elemental composition of Nickel oxide. This simple and cost effective synthesis method will be useful for different industries for the preparation of Nickel oxide nanoparticles. In future this synthesized nanoparticle will be useful as an electrode material for supercapacitor applications.

### INTRODUCTION

Transition metal oxides have gained more interest as electrode materials in supercapacitor fast and reversible redox reactions occurring at the electrode-electrolyte interface. Considerable interest has been grown on the preparation and characterization of NiO nanoparticles for their unique applications such as solar energy conversion, non-linear optics, varistors, pigments, gas sensors, cosmetics catalysis, battery anodes, electrochromic films and magnetic materials, supercapacitors[1-7], and properties[8-9]. Various methods like mechano-chemical processing, metal alkoxide hydrolysis, nonhydrolytic sol-gel reaction process, nonaqueous synthesis and salt-assisted aerosol decomposition, chemical precipitation have been used to synthesize nickel oxide [10-12]. Among these methods chemical precipitation method is most promising method to prepare NiO nanoparticles. Furthermore, the products formed are poorly crystalline and exhibit broad particle size distribution[13].

### CHARACTERIZATION

SEM Analysis:



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