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Dated 20-06-2022

Certificate

Response 3.3.3

It is certified that information about Number of books and chapters in edited volume/books published and papers in national/international conference proceedings year wise during the last five years is attached herewith.

It is further submitted that information is compiled to best of knowledge as provided by the teacher concerned.

Year	2016-17	2017-18	2018-19	2019-20	2020-21
Number	03	02	02	06	06

Principal

Principal
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ROHTAK

1 Amita Kumari

Plurality of Indian Minorities

Struggle for 'Development'

Editors
Shaik Iftikhar Ahmed
Aparna Joshi

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Education and Development of Muslims: A Case Study

Amita Kumari

Introduction

Islam is the second-largest religion in India, making up 13.2% of the country's population with about 172 million adherents (2011 census). Over the centuries, there has been significant integration of Hindu and Muslim cultures across India and the Muslims which has played a prominent role in India's economic rise and cultural influence.

Muslims simultaneously face, problems relating to security, identity and equity. A variety of factors have been identified to explain the observed relative deprivation among Muslims in India. These include differentials in endowments across social groups, actual or perceived discrimination, behavior patterns or attitudes and supply of educational and employment opportunities.

Officially, India has the third largest Muslim population next to Indonesia and Pakistan. India is home to 14.2% of the world's Muslim population. India has around 172 million Muslims (2011 census). Estimates show India may have more Muslims than Pakistan, though 2016 census in Pakistan will give the exact figure as overall population of Pakistan is estimated at around 191.71 million.

Muslims are seriously lagging behind in terms of most of the human development indicators. While the perception of deprivation is widespread among Muslims, there has been no systematic effort since independence to analyze the condition of religious minorities in the country. Today, globally Muslims show the lowest literacy rate.

It is found that two similarly endowed households (in terms of wealth, educational attainment, household size and composition), one Hindu and one Muslim, would come out with different educational gaps depending on which state they were located in, highlighting once again the importance of regional characteristics in deciding human development outcomes. But behavioral features are also found to be important because two similarly endowed households in the same state, one Hindu and one Muslim, have

Amita Kumari

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ORGANIC CHEMISTRY

For B. Sc. II Year (V and VI Semester) Students of M.D. University, Rohtak

Vol. III

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Syllabus

B. Sc. Illrd Year (Vth Semester)
Paper XVII (Theory) Organic Chemistry

Marks : 33 **Time : 3 Hrs.**

Note: Eight questions will be set, four questions from each section. The candidate will be required to attempt five questions in all, selecting atleast two questions from each section. As far as possible questions will be short answer type and not essay type

Section-A (23 Periods)

NMR Spectroscopy

Principle of nuclear magnetic resonance, the PMR spectrum, number of signals, peak areas, equivalent and nonequivalent protons positions of signals and chemical shift, shielding and deshielding of protons, proton counting, splitting of signals and coupling constants, magnetic equivalence of protons. Discussion of PMR spectra of the molecules: ethyl bromide, n-propyl bromide, isopropyl bromide, 1,1-dibromoethane, 1,1,2-tribromoethane, ethanol, acetaldehyde, ethyl acetate, toluene, benzaldehyde and acetophenone. Simple problems on PMR spectroscopy for structure determination of organic compounds.

SECTION - B (22 Periods)

Carbohydrates

Classification and nomenclature. Monosaccharides, mechanism of osazone formation, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses. Configuration of monosaccharides. Erythro and threo diastereomers. Conversion of glucose into mannose. Formation of glycosides, ethers and esters. Determination of ring size of glucose and fructose. Open chain and cyclic structure of D(+)-glucose & D(-) fructose. Mechanism of mutarotation.

Structures of ribose and deoxyribose.

An introduction to disaccharides (maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.

Organometallic Compounds

Organomagnesium compounds: the Grignard reagents-formation, structure and chemical reactions.

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3. Savita Pruthi

For B.Sc. III Student of Kurukshetra University, **KURUKSHETRA**,
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SYLLABUS

B.Sc. III Year (Kurukshetra University, KURUKSHETRA, C.D.L.U., SIRSA)
Paper-XXI (CH-307) Practicals

Max. Marks : 60 **Time : 7 Hrs.**

(One day in two sessions i.e. 9:00AM-12:30PM and 1:30PM-5:00PM)

SECTION–I (INORGANIC)

Semimicro qualitative analysis of mixture containing not more than four radicals (including interfering, combinations and excluding insolubles) :

Pb^{2+}, Hg^{2+}, Hg_2^{2+}, Ag^{+}, Bi^{3+}, Cu^{2+}, Cd^{2+}, As^{3+}, Sb^{3+}, Sn^{2+}, Fe^{3+}, Cr^{3+}, Al^{3+}, Co^{2+}, Ni^{2+}, Mn^{2+}, Zn^{2+}, Ba^{2+}, Sr^{2+}, Ca^{2+}, Mg^{2+}, NH_4^{+}, CO_3^{2-}, S^{2-}, SO_3^{2-}, $S_2O_3^{2-}$, NO_2^{-}, CH_3COO^{-}, Cl^{-}, Br^{-}, I^{-}, NO_3^{-}, SO_4^{2-}, $C_2O_4^{2-}$, PO_4^{3-}, BO_3^{3-}

SECTION–II (PHYSICAL)

1. To determine the strength of the given acid solution (mono acid only) conductometrically.
2. To determine the solubility and solubility product of a sparingly soluble electrolyte conductometrically.
3. To determine the strength of given Ferrous ammonium sulphate solution potentiometrically.
4. To determine the molecular weight of a non-volatile solute by Rast method.
5. Prepration of acidic and basic buffers and comparison of their pH with theoretical values.
6. To determine the specific rotation of optically active substance (any two).

SECTION–III (ORGANIC)

1. **Thin Layer Chromatography**
   (Determination of Rf values and identification of organic Compounds)
   Separation of a mixture of coloured organic compounds using common organic solvents.
2. To separate the binary liquid mixtures using distillation.
3. Synthesis of the following organic compounds:
   (a) To prepare salicylic acid from Aspirin.
   (b) To prepare p-bromoaniline from p-bromoacetanilide.
   (c) To prepare m-nitroaniline from m-dinitrobenzene.
   (d) To prepare S-Benzyl-iso-thiouronium chloride from Thiourea.

Distribution of marks

1. Section-A	15 marks	2. Section-B	15 marks
3. Section-C	15 marks	4. Viva-voce	05 marks
5. Lab Record	10 marks		

B.Sc. III YEAR (M.D.U. ROHTAK)
Paper XXI (Practical) (CH-307)

Max. Marks : 80 **Time : 7 Hrs.**

(Spread over two days)

SECTION–I (INORGANIC)

Semimicro qualitative analysis of mixture containing not more than four radicals (including interfering, combinations and excluding insolubles) :

Pb^{2+}, Hg^{2+}, Hg_2^{2+}, Ag^{+}, Bi^{3+}, Cu^{2+}, Cd^{2+}, As^{3+}, Sb^{3+}, Sn^{2+}, Fe^{3+}, Cr^{3+}, Al^{3+}, Co^{2+}, Ni^{2+}, Mn^{2+}, Zn^{2+}, Ba^{2+}, Sr^{2+}, Ca^{2+}, Mg^{2+}, NH_4^{+}, CO_3^{2-}, S^{2-}, SO_3^{2-}, $S_2O_3^{2-}$, NO_2^{-}, CH_3COO^{-}, Cl^{-}, Br^{-}, I^{-}, NO_3^{-}, SO_4^{2-}, $C_2O_4^{2-}$, PO_4^{3-}, BO_3^{3-}

This book is written in simple language and lucid style. Theoritical background of various experiment and summary along with all experiments is given at appropriate position.

Viva-Voce Questions with answers have been included at the end of each chapter.

Beena Sethi

Dr. Beena Sethi, M.Sc., Ph.D. studied M.Sc. at Raj Rishi College, affiliated with university of Rajasthan, Rajasthan, India. Presently Associate Professor in Chemistry at K.L. Dayanand College for women, Faridabad, India. Published seven papers in different journals, completed two research projects funded by U.G.C. India

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श्री नितिन गर्ग द्वारा नमन प्रकाशन के लिए प्रकाशित तथा

एशियन ऑफसेट प्रिंटर्स, मौजपुर, शाहदरा, दिल्ली में मुद्रित।

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'व्यंजन-गुच्छ'

'र' की स्थिति
द्वित्व व्यंजन
संयुक्ताक्षर
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अल्प पद प्रयोग

अनुपयुक्त (बेमेल) पद प्रयोग

शिथिल वाक्य रचना

प्रत्यय सम्बन्धी अशुद्धियाँ

'कृपा' और 'कृपया'

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5. Jyoti Ahuja

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International Conference on Computational Intelligence and Data Science (ICCIDS 2018)

A Novel Fitness Computation Framework for Nature Inspired Classification Algorithms

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Abstract

Nature inspired algorithms have become popular for discovering classification rules due to their ability to effectively handle large and complex search spaces. However, nature inspired algorithms have to compute the fitness of individuals (candidate classification rules) over successive generations repeatedly. Each fitness computation requires scanning the training data. Since the database scan is computationally expensive operation, the execution time for nature inspired algorithms for discovering classification rules grows unreasonably faster for bulky datasets. This paper proposes a novel fitness computation framework for nature inspire algorithms by using a list structure. The indices of instances, covered by every possible attribute-value pair with respect to each class in the training data, are stored in the suggested list structure. The list is prepared only once in advance and stores all information to compute the fitness of any rule that may come up in the life time of the nature inspired algorithm. The existence of the pre-maintained list eliminates the need of scanning training data again and again for fitness computation. We have conducted experiments on 12 datasets from UCI machine learning repository. The results show that the suggested fitness computational framework brings significant speed gain without compromising predictive accuracy. Although, a Genetic Algorithm is used for classification rule discovery as the nature inspired algorithm in this paper, the fitness computation framework is general and can be used with any other nature inspired algorithm.

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Peer-review under responsibility of the scientific committee of the International Conference on Computational Intelligence and Data Science (ICCIDS 2018).

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For B.Sc. II Student of Kurukshetra University, **KURUKSHETRA**,
M.D. University, **ROHTAK**, C.D.L.U., **SIRSA** & Other State Universities

6. Savita Pruthi

UNIQUE

CHEMISTRY

LAB MANUAL

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Name : .....

Class : .....Sec. ..... Roll No.....

College .....

Address.....

concentration of the given $KMnO_4$/ solution.

3. **Preparation :** Preparation of cuprous chloride, prussion blue from iron fillings, tetraammine cupric sulphate, chrome alum, potassium trioxalatochromate (III).

SECTION B (PHYSICAL)

1. To determine the CST of phenol-water system.
2. To determine the solubility of benzoic acid at various temperatures and to determine the heat of dissolution process.
3. To determine the enthalpy of solution of solid calcium chloride.
4. To determine the enthalpy of neutralisation of weak acid/weakbase vs strong acid/strong base and determine the enthalpy of ionisation weak acid/weak base.
5. To study the distribution of iodine between water and CCl_4.

SECTION C (ORGANIC)

Systematic identification (detection of extra elements, functional groups, determination of melting point or boiling point and prpearation of at least one pure solid derivative) of the following simple mono and bifunctional organic compounds : Naphthalene, anthracene, acenaphthene, benzyl chloride, p-dichlorobenzene, m-dinitrobenzene, p-nitrotoluene, resorcinol, hydroquinone, α-naphthol, β-naphthol, benzophenone, ethyl methyl ketone, benzaldehyde, vanillin, oxalic acid, succinic acid, benzoic acid, salicylic, aspirine acid, aspiring, phthalic acid, cinnamic acid, benzamide, urea, acetanilide, benzanilide, aniline hydrochloride, p-toluidine, phenyl salicylate (salol), glucose, fructose, surcrose, o-, m, p- nitroanilies, thiourea.

DISTRIBUTION OF MARKS

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B.Sc. II Year (Kurukshetra University, KURUKSHETRA, C.D.L.U., SIRSA)

Paper XIV (CH-207) Practical

Max. Marks : 60 **Time : 7 Hrs.**

One day in two sessions i.e. 9:00AM-12:30PM and 1:30PM-5:00PM)

SECTION A (INORGANIC)

1. **Gravimetric Analysis :** Quantitative estimations of Cu^{2+} as copper thiocyanate and Ni^{2+} as Ni - dimethylglyoxime and Al^{3+} as oxinate.
2. **Colorimetry :** To verify Beer-Lambert law for $KMnO_4/K_2Cr_2O_7$ and determine the concentration of the given $KMnO_4/K_2Cr_2O_7$ solution.
3. **Preparation :** Preparation of Cuprous chloride, tetra ammine cupric sulphate, chrome alum, potas sium trioxalatochromate(III) and Nickel Hexammine chloride.

SECTION B (PHYSICAL)

1. To determine the CST of phenol – water system.
2. To determine the solubility of benzoic acid at various temperatures and to determine the ▲H of the dissolution process.
3. To determine the enthalpy of neutralisation of a weak acid/weak base vs. strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base.
4. To determine the enthalpy of solution of solid calcium chloride.
5. To study the distribution of iodine between CCl_4 and water.
6. Determine rate constant of hydrolysis of $CH_3COOC_2H_5$.

SECTION C (ORGANIC)

Systematic identification (detection of extra elements, functional groups, determination of melting point or boiling point and preparation of at least one pure solid derivative) of the following simple mono and bifunctiona l organic compounds: Naphthalene, anthracene, acenaphthene, benzyl chloride, p-dichlorobenzene, m-dinitrobenzene, p-nitrotoluene, resorcinol , hydroquinone, α -naphthol, β -naphthol, benzophenone, ethyl me thyl ketone, benzaldehyde, vanillin, oxalic acid, succinic acid, benzoic acid, salicyclic acid, aspirin, phthalic acid, cinnamic acid, benzamide, urea, acetanilide, benzanilide, aniline hydrochloride, p-toluidine, phenyl salicylate (salol), glucose, f ructose, sucrose, o-, m-, p-nitroanilines, thiourea.

DISTRIBUTION OF MARKS

1. Section A	15 marks	2. Section B	15 marks
3. Section C	15 marks	4. Viva-voc e	05marks
5. Lab Record	10 marks		

B.Sc. II YEAR (M.D.U. ROHTAK)

Paper XIV (Practicals)

Max. Marks : 80 **Time : 7 Hrs.**

(Spread over two days)

SECTION A (INORGANIC)

1. **Gravimetric Analysis :** Quantitative estimations of Cu^{2+} as copper thiocyanate and Ni^{2+} as Ni - dimethylglyoxime.
2. **Colorimetry :** To verify Beer-Lambert law for $KMnO4/K_2Cr_2O_7$ and determine the

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& Ch. Devi Lal University, Sirsa

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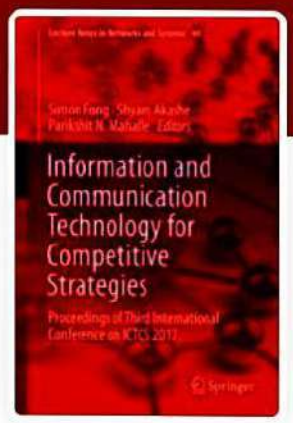

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Instance Selection Using Multi-objective CHC Evolutionary Algorithm

Seema Rathee ✉, Saroj Ratnoo & Jyoti Ahuja

Conference paper |

First Online: 31 August 2018

Abstract

Data reduction has always been an important field of research to enhance the performance of data mining algorithms. Instance selection, a data reduction technique, relates to selecting a subset of informative and non-redundant examples from data. This paper deals with the problem of instance selection in a multi-objective perspective and, hence, proposes a multi-objective cross-generational elitist selection, heterogeneous recombination, and cataclysmic mutation (CHC) for discovering a set of Pareto-optimal solutions. The suggested MOCHC algorithm integrates the concept of non-dominating sorting with CHC. The algorithm has been employed to eight datasets available from UCI machine learning repository. The MOCHC has

dominating sorting with CHC. The algorithm has been employed to eight datasets available from UCI machine learning repository. The MOCHC has been successful in finding a range of multiple optimal solutions instead of yielding a single solution. These solutions provide a user with several choices of reduced datasets. Further, the solutions may be combined into a single instance subset by exploiting the promising characteristics across the potentially good solutions based on some user-defined criteria.

Keywords

Multi-objective optimization

CHC algorithm **Instance selection**

KNN

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8. Jyoti Ahuja and Seema Rathee

Simultaneous Instance and Feature Selection using Multi-objective CHC Algorithm

Seema Rathee[a], *Saroj Ratnoo*[a] *and Jyoti Ahuja*[b]

[a]*Guru Jambheshwar University of Science & Technology, Hisar, India,* [b]*Government Post Graduate College for Women, Rohtak, India*

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Instance selection (IS),
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CHC genetic algorithm.

ABSTRACT

Presence of superfluous and undesirable features and instances influences the performance of classification algorithm in a negative manner. The task of removing these redundant features and instances is considered important to arrive at accurate and comprehensible classification models. It is all the true about KNN classifier which suffers from curse of dimensionality problem and higher computation complexity in incidence of large number of features and instances. The problem of instance and feature selection is well conceived as a multi-objective problem. In this paper, we apply a CHC (cross generational, heterogeneous recombination, elitist selection and cataclysmic mutation operator) approach in multi-objective environment for selecting representative features and instances simultaneously. The hybridized form of multi-objective genetic algorithm (NSGAII) and CHC algorithm has proved its appropriateness for the simultaneous selection of instances and features. The effectiveness of the proposed algorithm is confirmed by comparing it with other standard algorithms. The proposed approach achieves higher accuracies and competitive reduction rates.

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1. Introduction

Classification is an essential task in data mining. KNN is considered as the one of the well-known and most efficient classifiers because of its simplicity and comprehensibility. However, KNN starts losing its benefits with high dimensional data with a large number of instances. In such cases, it suffers from curse of dimensionality problem and computational overheads of computing a large distance matrix. Numerous studies have been carried out to address the challenges posed by high dimensional data that contains redundant instances [3, 4, 9]. This paper intends to simultaneously reduce unnecessary/surplus features and instances without effecting classification performance of the KNN classifier to a large extent. The objective this research is to simultaneously reduce the data but maintain good accuracy rate of the KNN classification algorithm. The problem of instance and feature selection is of multi-objective nature [1, 18, 20, 22].

Genetic algorithms are a well-tested tools for search complex and exhaustive search space to solve various optimization problems. In the literature, CHC (cross generational, heterogeneous recombination, elitist selection and cataclysmic mutation operator) has established itself as a promising algorithm for the problem of instance and feature selection [2, 3, 11, 20, 21]. The problem of selecting the relevant features and instances simultaneously is called dual selection. NSGA II (Non Dominated Sorting Genetic Algorithm) [7] is a well-known algorithm for solving multi-objective problems. The multi-objective feature selection was first introduced by Hisao and Nakashima in 2000 [14]. Subsequently, many other authors have tried to reduce both features and instances simultaneously by using multi-objective meta-heuristic in various ways [15, 22, 23].

This paper proposes a multi-objective variant of CHC genetic algorithm based on NSGA II, and a highly disruptive HUX crossover. We name the algorithm as SIFS-MOCHC, which is a multi-objective CHC genetic algorithm for simultaneous instance and feature selection. It is an extension of our previous work [20] which is based on core instance selection. The suggested algorithm reduces the dimensionality problem and computational overhead of the KNN classifier used as the classification algorithm in this work.

The remaining paper is structured as below. Section 2 provides several correlated works for instance, feature selection based on multi-objective methods. Section 3 lays the background details of Multi-objective Optimization. Section 4 describes the proposed approach for feature and instance selection. Experimental details and the results are presented and discussed in section 5. Last, section 6 concludes the paper.

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2. Simultaneous IS and FS

Simultaneous selection of instances as well as features is deemed as a stimulating issue in data mining. A lot of researchers have attempted to scale down the datasets in term of features and instances. A range of research work has been done so far in the area of data reduction [8, 9, 11–13, 21]. Researchers have used various evolutionary algorithms for the reduction of instances and features. However, recent studies report that CHC genetic algorithm performs better for selecting relevant and non-redundant instances and features [2, 3, 8, 9, 11, 20, 21]. The concerned literature confirms that the problem of feature and instance selection have been addressed by applying multi-objective perspective. Therefore, a few authors have implemented multi-objective algorithms to deal with simultaneous instance and feature selection (dual selection) [4, 22, 23].

3. Multi-objective Optimization

Evolutionary Algorithms (EAs) are the search methods enthused by normal progression of Darwin's hypothesis. The evolutionary algorithms are appropriate to solve multiple objective based optimization problems. Evolutionary algorithms can discover a range of most favorable solutions in a single run. Pareto optimal solutions are those solutions which are not inferior to any of the other solutions and are not superior to any of the solutions in solution

Sanket (1)

9. Sanket Malik

Synthesis and Structural Characterization of Light-Weight Ferrite-Reduced Graphene Oxide Composite

Sanket Malik[1], Suman Kumari[1], Anil Ohlan[1], Sajjan Dahiya[1], Rajesh Punia [1,a)] and A.S. Maan[1]

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[a)]Corresponding author: rajeshpoonia13@gmail.com

Abstract. The synthetic concept of mesoporous magnetic nanocomposites is a centre of attraction for the scientists as well as technologists. In this work, mesoporous $NiFe_2O_4$/reduced Graphene Oxide (rGO) was synthesized based on the nanocasting method, highly ordered mesoporous $NiFe_2O_4$ was synthesized via the incipient wetness method using a mesoporous SBA-15 template. An ordered three-dimensional structure is preserved for the $NiFe_2O_4$/SBA-15 composite after nanocasting. To dissolve the SBA-15 template hot NaOH solution was used, and then the silica free mesoporous structure of $NiFe_2O_4$ was obtained similar to the parent SBA-15. The structural properties were determined by XRD and FT-IR spectroscopy.

INTRODUCTION

The synthesis of the nanostructured magnetic material have attracted the researchers in the field of basic sciences as well as the technologists because of their interesting properties in biosciences[1], magnetic storage devices[2], drug delivery[3], electromagnetic interference[4] etc. With the technological development, the demand of thin, light-weight, flexible, high surface areas, high magnetic permeability, electrical conductivity are becoming the latest design conceptions especially for the stealth technology and electrochemical applications.

Several chemical and physical methods have been developed to produce nano-sized ferrites and its composites such as co-precipitation[5], sol-gel[6], organic precursor decomposition[7], solvothermal[8], microwave solvothermal process[9]. However most of these synthetic routes synthesis the ferrite particles of diameter below 30nm. There were very few reported the size of nanoparticles similar to protein molecules[10].

The light-weight ferrites, i.e. hollow-fibers ferrite[11], microfibers[12], ordered mesoporous ferrites[13] etc. owing to their captivating properties under different conditions and with different soft and hard templates have been synthsized by many researchers in the field of nanostructured particles. Use of soft and hard template is the main strategies to nanocast mesoporous materials with different shapes and sizes[14]. There are various methods for the nanocasting using the templates but 'incipient wetness impregnation' and 'two-solvent' methods are commonly used. In case of incipient wetness impregnation method two step impregnation was followed because excess impregnation can lead to aggregation of ferrite particles on the surface of the template which is followed by the blocking of mesopores and insufficient amount of the precursor will enter the pores. Also, the dispensability of the precursor in solvent affects the impregnation. A solvent that amplify the capillary force of the template will be the first choice.[15] Studies shows that the lesser is the interfacial tension towards the water of alkane solvent will increases the dispersal of the precursor inside the porous network of template.[16] In this work the ordered mesoporous three-dimensional $NiFe_2O_4$ was synthesized using the SBA-15 as template via incipient wetness impregnation method. However, to the best of our knowledge, synthesis of mesoporous metal ferrite and reduced graphene oxide composite will be reported probably for the first time

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last

(2)

10. Sanket Malik

Excellent Photoelectrical Properties of ZnO Thin Film based on ZnO /epoxy-resin Ink for UV-Light Detectors

Suman Kumari[1], Sanket Malik[1], Sandeep Kumar[2,a)], Jasvir Dalal[1], Sajjan Dahiya[1], Anil Ohlan[1], Rajesh Punia[1)]andA. S. Maan[1]

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[2]*UIET, Kurukshetra University, Kurukshetra-136119, India*
[a)]Corresponding author: sk.kduiet@gmail.com

Abstract: This paper presents the photoconductive properties of ZnO thin film prepared by simple drop-cast technique using an ink of ZnO epoxy-resin on glass substrate. The prepared film is investigated for structural analysis under X-ray diffraction technique which confirms the nanocrystalline nature of the prepared thin film whereas, the UV-photodetection ability of the prepared film has been investigated under UV light of wavelength 365nm light in ambient environment at room temperature in parallel electrode geometry (silver ZnO-silver). The prepared thin film showed excellent UV photodetection ability with a change in current greater than two orders (10^2) and a photoresponse better than $5x10^2$ (%). Thus, the present technique pave the way to use a cost effective approach to develop excellent UV photodetectors contrary the existing complex and expensive sensor technology.

INTRODUCTION

In recent years, a colossal deal of interest has been attracted by UV detectors because of the increasing demands in civilian, medical and military applications for water sterilization, arms, fire and missile plumesdetection, environmental and biological research, space communication systems, and the monitoring of depletion of ozone layer (1–4). An ideal photodetectors must satisfy the three "S" of sensor viz sensitivity, selectivity and stability along with the fast response and recovery times and low power consumption. Most of the UV-photodetectors currently used for these applications are either having performance related issues like bulky in nature, having poor selectivity (200-1100 nm), low sensitivity and having high power consumption or having complex and time consuming preparation method. For example, the most widely used UV photodetectors are based on silicon but the silicon deposition technology is quite complex and requires sophisticated deposition system. Moreover, the band gap of silicon is verylow (~1.1 eV), which forced to use low energy filters to block the visible and infrared radiations that increase the process complexity. On the other, that metal oxides are intrinsically solar blind having the optical band gap suitable high for UV photodetectors(5,6). Out of the well employed metal oxides for UV photodetectors, ZnO is considered to best candidate because of its wide optical band gap (~3.37eV) and large excitation energy (~60 meV) (7–9). Therefore, in the present study, we have prepared the thin film of ZnO by simple drop-cast technique using an ink of ZnO/epoxy-resin and the prepared thin film is analyzed for structural analysis under X-ray diffraction studies and test for UV photodetection ability under UV-light of wavelength 365 nm.

EXPERIMENTAL SECTION

The ink of ZnO and epoxy-resin was prepared using agitator bead-mill machine at 300 rpm. In a typical preparation technique, a solution of 17 gm of ZnO(Merck India, 99.9%) was prepared in 100ml de-ionized water solution in the presence of10gm of epoxy-resin. After that the solution was milled in the bead-mill machine containing bead of 1mm diameter for 2 h resulting in aZnO/epoxy-resin ink. Finally the film of ZnO/epoxy-resinink

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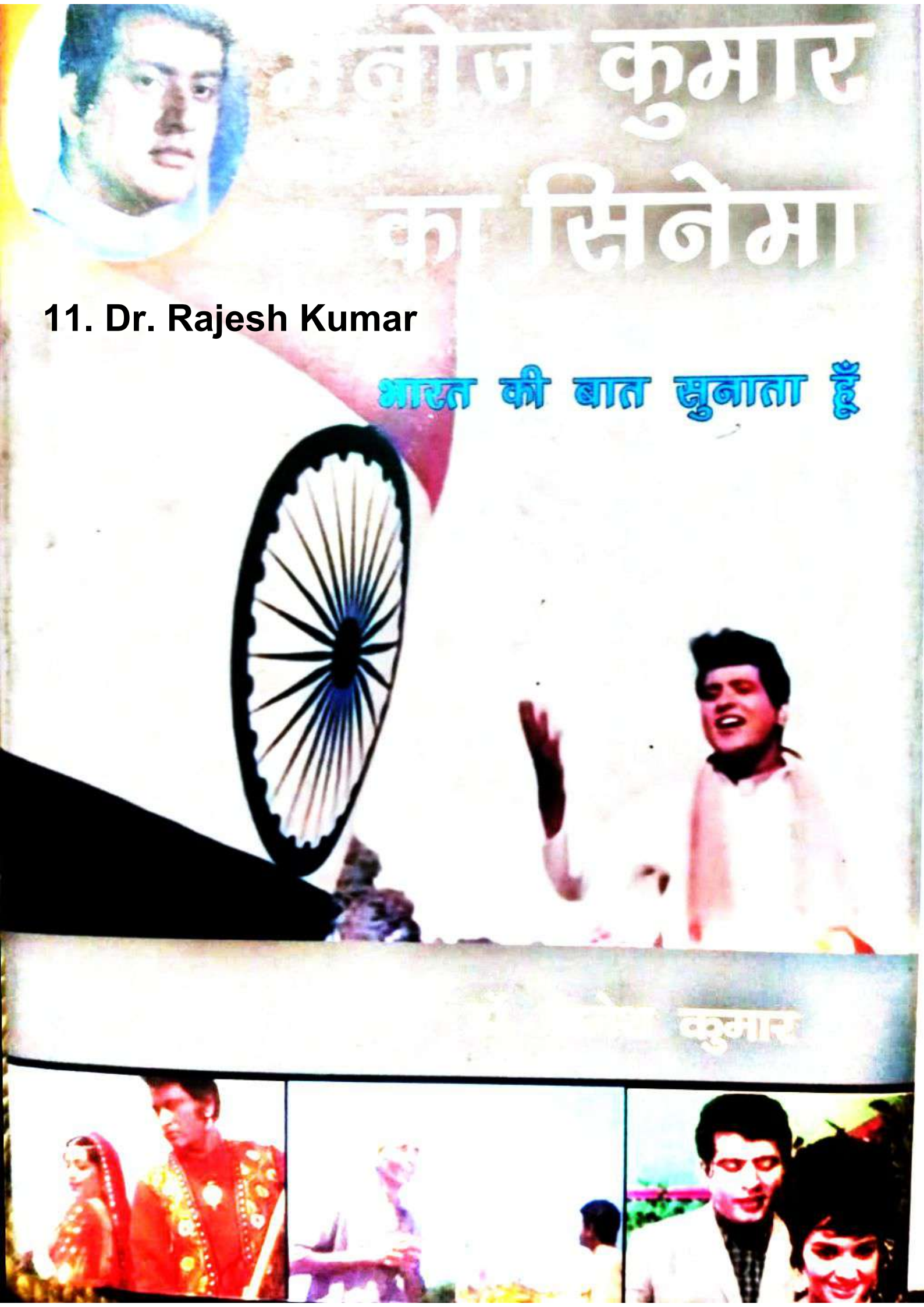
Sanket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11. Dr. Rajesh Kumar
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12. Dr. Rajesh Kumar

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संपादक

डॉ. राजेन्द्र सिंह

निराला का काव्य संसार

संपादक

डॉ. राजेन्द्र सिंह

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निराला के काव्य में वेदना के स्वर

डॉ. राजेश कुमार
हिन्दी विभाग, राजकीय महाविद्यालय
बिरोहड़ (झज्जर)

वेदना : अर्थ एवं स्वरूप

वेदनम् या वेदना संस्कृत का शब्द है। इसकी व्युत्पत्ति 'विद्' धातु में 'ल्युट्' प्रत्यय (विद्+ल्युट्) लगकर हुई है। वेदना का व्युत्पत्ति लभ्य अर्थ है–अनुभूति। शब्दकोशों में सन्दर्भानुसार इसके कई अर्थ उपलब्ध हैं; यथा–पीड़ा, दुःख, सन्ताप, उपहार, विवाह, जताना आदि। साहित्य में वेदना से अभिप्राय हार्दिक या मानसिक पीड़ा अथवा दुःख है। वस्तुतः वेदना मानवमन की एक रागात्मिक वृत्ति है। यह दुःख-भाव का ही विकसित रूप है। शोक भी इसी वेदना का रूप है जो करुण रस का स्थायी भाव है। करुण रस के रूप में यही शोक; यही दुःख; यही वेदना साहित्य के मूल में अनुस्यूत रहे हैं। यही वेदना कारयित्री प्रतिभा की जननी है। इसी के मार्मिक आघात की तीव्र अनुभूति काव्य के रूप में अभिव्यक्त होती है। कामासक्त क्रौंच मिथुनों में से एक को जब व्याघ्र ने निर्ममता से मार डाला तो करुणा-कातर मुनि वाल्मीकि के मन की पीड़ा शोक-वाणी के रूप में अनायास प्रस्फुटित हो उठी–

"मा निशाद प्रतिष्ठां त्वमगमः शाश्वतीः समाः।
यत्क्रौंच मिथुना मेकमवधीः काममोहितम्।।"

आदिकवि का यह अनुष्टुप छन्द शोक-प्रक्षेप कवि-मानस की वेदना को ही स्वर प्रदान करता है। वेदना के इसी स्वर से प्रभावित होकर स्वयं ब्रह्मा ने वाल्मीकि से भगवान् राम के चरित्र को काव्य रूप प्रदान करने का अनुरोध किया। फलतः आदिग्रन्थ 'रामायण' का प्रणयन हुआ, जिसमें विरह-जनित वेदना के अनेक भाव-रूप उपस्थित हैं। इसी प्रकार महाकवि कालिदास के 'मेघदूत' भवभूति के 'उत्तर रामचरित', जायसी के पद्मावत (नागमती विरह-वर्णन), सूरदास के 'भ्रमरगीत' आदि में परिव्याप्त वेदना के स्वर ने इन्हें कालातीत बना दिया है। कबीर और घनानन्द जैसे कवियों की 'प्रेम की पीर' में यही वेदना समायी हुई है। मीरा का काव्य तो करुणा-प्लावित अश्रुधारा से सराबोर है ही; कविवर सुमित्रानन्दन पन्त ने भी 'शून्य

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Computer Science
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13. Seema Rathi and Jyoti Ahuja

Chapter 16
A Proposal for Dual Data Selection Using Parallel Genetic Algorithm

Seema Rathee and Jyoti Ahuja

16.1 Introduction

Nowadays, data is breeding unexpectedly fast in almost all the areas of data sciences. Researchers are recognizing to facilitate successful data mining, and instance and feature selection is a requisite component. It is a procedure to select a subset of dataset in both the dimensions called as dual selection. It removes irrelevant, redundant, or noisy data, and takes about discernible possessions for mining algorithms and also improves predictive accuracy, therefore, leading to superior classifier comprehensibility.

Searching optimal subset of features and instances is identified as an NP-hard problem and the number of local minima can be quite large. The search space includes all the possible subsets of instances as well as features. For any dataset with n features and m instances, comprehensive evaluation of all feasible subsets (2^{m+n}) is generally infeasible in carried out due to the huge amount of effort required [1–4].

The evolutionary algorithms (EAs) paradigms especially genetic algorithms (GAs) have many benefits for optimization problems in data mining [5]. But, traditional GA needs all the data should be in memory and replicate the iterations of the algorithm. Therefore, GAs performance is not satisfactory for very large databases because of exponential increment in computational time. Thus, there is a need of parallel processing based on genetic algorithm also called PGA. Parallel processing is capable of addressing the problem of scalability efficiently by quick convergence. In addition, PGAs are known to find better optimal solutions. One can state that the PGAs outperform the simple GAs in terms of efficiency as well as efficacy.

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An Evaluative Study of New Pension Scheme in Service Sector

Dr. Sanjay Kumar Hooda
Dr. Parmod Gulia

An Evaluative Study of New Pension Scheme in Service Sector

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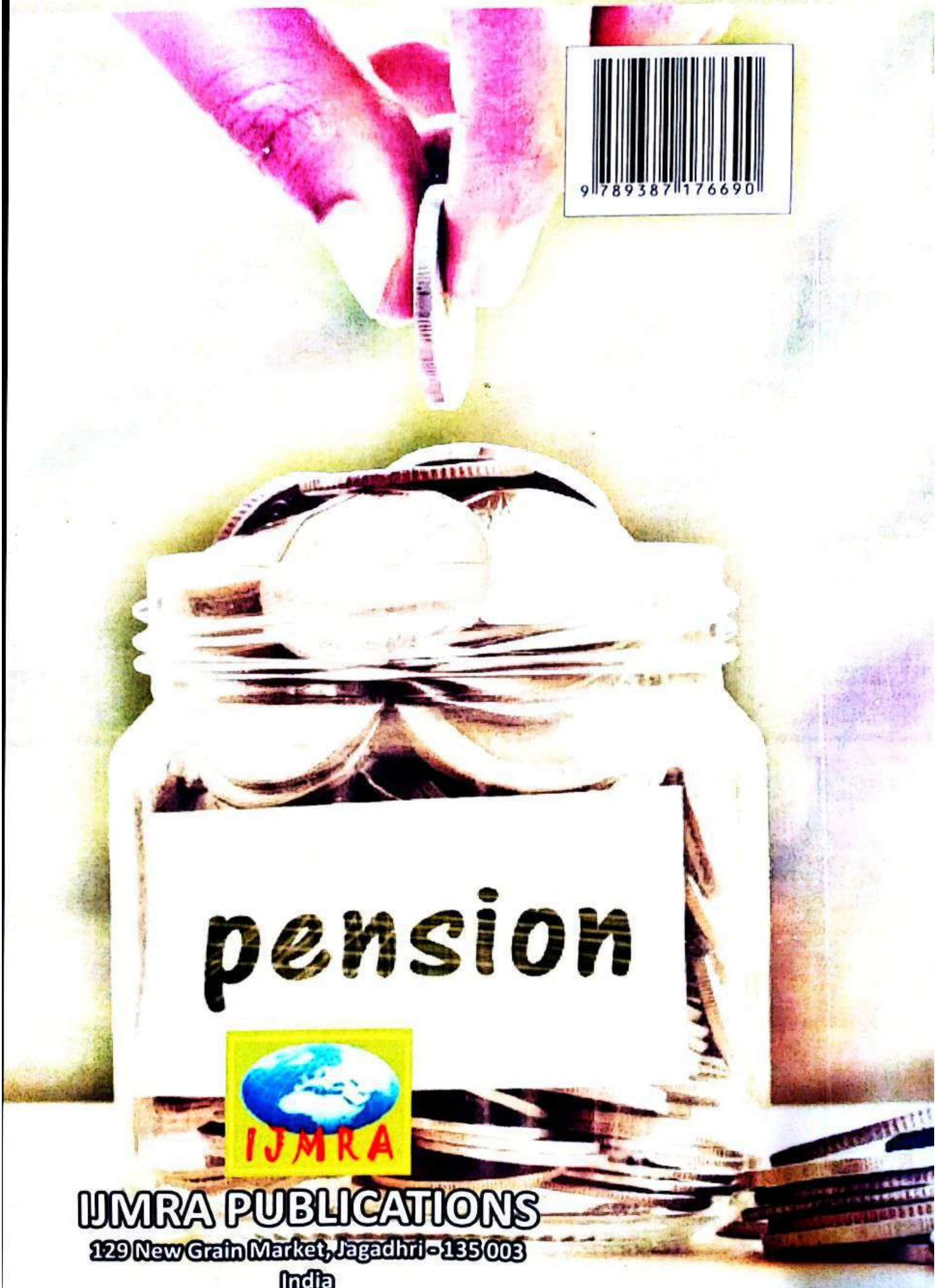

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और साहित्यिक विमर्श

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जगदीशपुर स्नातकोत्तर महाविद्यालय जगदीशपुर

जे.टी.एस. पब्लिकेशन्स, दिल्ली

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Reviewed &

किस युग से घुस गई है कि उसे

का सामान्य चित्र है। कोमा ऐसी बालवी
थी। ध्रुवस्वामिनी अपने अतीत का
बनाने का उत्तरदायित्व देती है। ध्रुवस्व
मुझे निर्वासित किया गया , तब मैं अपनी
की प्रभुता मुझे निर्दिष्ट पथ पर ले ही
किनी भी प्रश्न उठाती कि जिस विवाह में स्त्री
हाथ की कठपुतली बना दिया जाता है।
बंधन में बॉधकर, उनकी सम्मति के बिना
क्या धर्म के पास कोई प्रतिकार, कोई संरक्षण
आपत्ति में अवलंब मॉग सकें? क्या भविष्य के
टुट रहने की आज्ञा देकर विश्राम ले लेते है?
र निहित है पुरोहित द्वारा ध्रुवस्वामिनी को
की शास्त्रअनुमोदित व्यवस्था स्तुत्य है–
और प्रव्रजित तो नहीं, पर गौरव से नष्ट, आचरण
में रामगुप्ता का ध्रुवस्वामिनी पर कोई अधिकार
आपत्ति करने वाले शिखरस्वामी को फटकारते हुए
हुए कहता है –"राजनीतिक दस्यु! तुम शास्त्र
को क्लीव किस लिए इसलिए कहा था? जिसे
भेजने के लिए भेजने में कुछ भी संकोच नहीं, वह
कह देता हूं कि धर्मशास्त्र रामगुप्त से ध्रुवस्वामिनी

सकता है स्त्रियो की जटिल समस्याओं को ध्रुवस्वामिनी
या है। नारी समस्याओं की प्रत्येक बिन्दुओं पर
ध्यान की ओर संकेत भी किया है। वर्तमान संदर्भ में
हो जाती है। हिंदू कोड बिल के पास हो जाने और
जाने के बाद भी सामाजिक स्थिति क्या है वह किसी से
स्ता इस कानून से सामंजस्य स्थापित नहीं कर पायी है।
लेकर यह सिद्ध करने का प्रयास किया है कि
शन भारतीय समाज की ही वस्तु है। इस प्रकार हम कह
इतिहास की पृष्ठभूमि नारी समस्या को लेकर लिखा
न केवल नारी समस्याओं को उठाया को गया है
के माध्यम इसका समाधान भी करने का प्रयास किया

❑❑❑

...नों के साहित्य में नारी चरित्रों की मनोवैज्ञानिक समीक्षा

...लम रायपुरिया मंगला
...ट प्रोफेसर
... महिला महाविद्यालय, रोहतक

साहित्य समाज का दर्पण है। हमारा समाज कैसा होना चाहिये इसका आदर्श ...रण हम साहित्य से जान पाते है। प्राचीन काल में हमारा समाज कैसा था उसकी ... छवि हमें साहित्य से मिलती है यही हमें हमारी संस्कृति ,आचार ,व्यवहार व ...जिक जीवन की झलक दिखाता है। जो कुछ भी साहित्य हमारे मन में पोषित करता ...ी आदर्श स्थिति की कल्पना हम हमारे व्यावहारिक जीवन में करने लगते हैं और ... बाना बुनते हुये अपने आने वाले जीवन की कल्पना करने लगते हैंद्य साहित्य के ...रात्मक और नकारात्मक दोनों पहलू हमारे मन व मस्तिष्क को प्रभावित करते हैंद्य

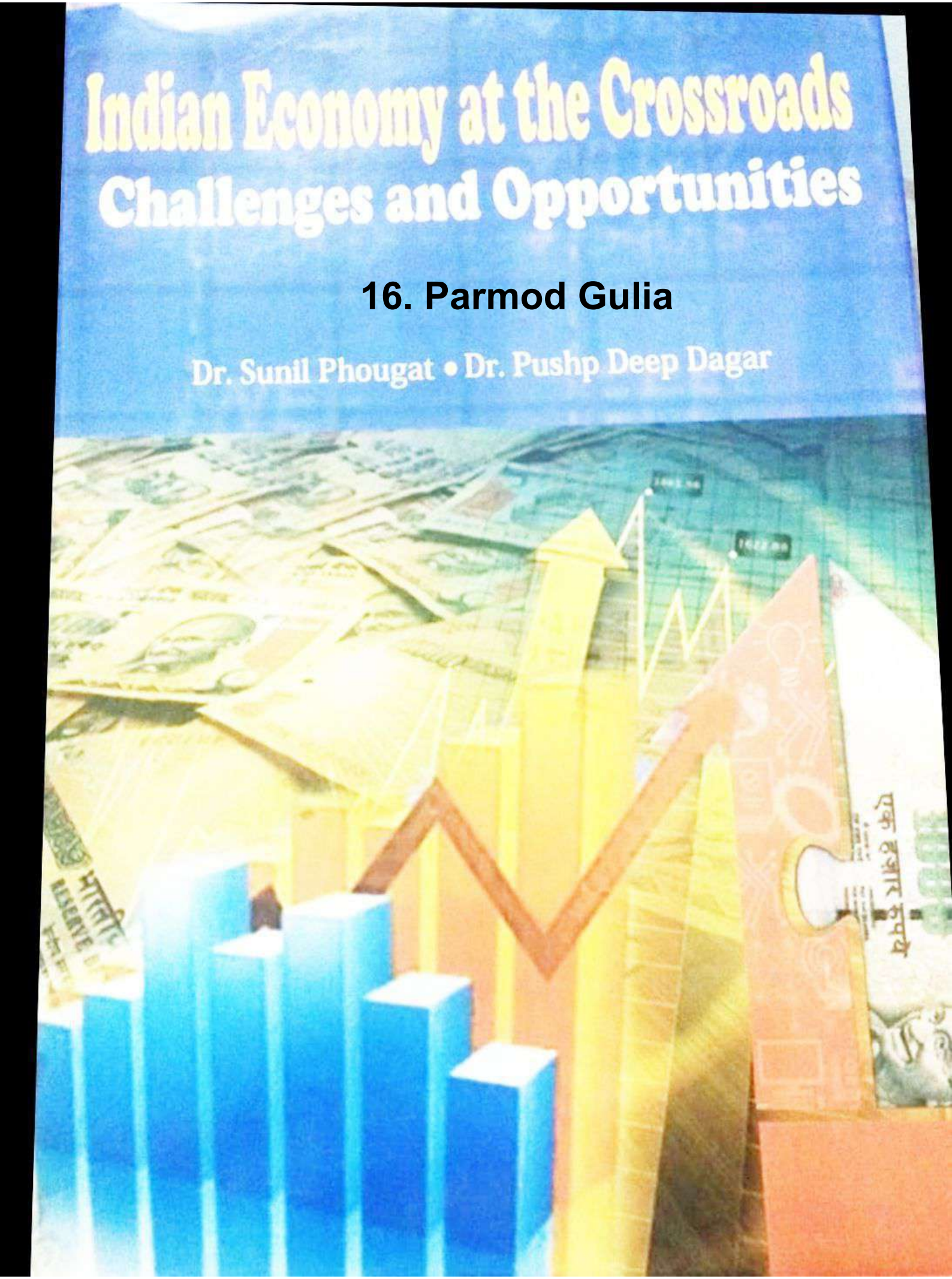
भारतीय साहित्य में नारी के चित्रण की स्थिति देखें तो संतोषजनक स्थिति तो हम ...ी भी नहीं पातेद्य वर्तमान समाज में एक तरफ तो महिलाएं आसमान की बुलंदियों को ...ही हैं तो दूसरी तरफ एक दयनीय जीवन जीने के लिए बाध्य हैं और सामान्य से ...धिकार भी उसके पास नहीं हैंद्य नारी को अपने अधिकारों की सबसे अधिक वंचना और ...ड़ सबसे ज्यादा अपनों से ही मिलती है। समाज वाले भी गाहे–बगाहे कटाक्ष करने ...कोताही नहीं बरततेद्य

गौरा पंत शिवानी का नाम हिंदी साहित्य में एक महत्वपूर्ण स्थान रखता है।'शिवानी ...उपन्यास नारी प्रधानता पर आधारित हैं और नारी के विविध रूपों का अंकन उन्होंने ...ुत ही खूबसूरती से किया है। उन्होंने लगभग 21 उपन्यास लिखे हैंद्य प्रस्तुत प्रपत्र ...नके उपन्यासों सुरंगमा ,कैंजा ,अतिथि चौदह फेरे और .ष्णकली पर आधारित है। इन ...ी उपन्यासों में पर्वतीय अंचल की समस्याओं पर ध्यान केन्द्रित किया गया है। अपने ...ेत्रीय नारी पात्रो को उन्होंने विवश ,दुखी व शोषित तो चित्रित किया है पर दूसरी ओर ...दम्य सुंदरी भी दिखाया है। इनमे उन्होंने आधुनिक व प्राचीन दोनों विचारधाराओं को ...षित किया है।

नारी वस्तु के रूप में

शिवानी ने अपने उपन्यासों की नायिकाओं को सौन्दर्य की प्रतिमूर्ति के रूप में प्रस्तुत किया है। सुरंगमा में उन्होंने नायिका के रूप का वर्णन करते हुए लिखा है "लाल रंग की टेम्पल साडी में उसका उज्जवल रंग और भी शुभ्र होकर निखर आया था, उसका जूडा बनाकर उसमें गीरा ने कटकी जडाऊ कंघा तिरछा खोंस दिया था, वह अर्धचन्द्राकार कंघा किसी विश्वसुन्दरी के किरीट सा जगमगा रहा थाद्य कानों में दक्षिणी झुमके, हाथों में गोमेद की अंगूठी, प्लम कलर्ड लिपस्टिक, कंठ में पड़ी बसरा के मोतियों की माला स्वामिनी की दुधिया त्वचा से घुल मिल गयी थीद्य उसे देखते ही पूरे शामियाने में खूब खलबली मच गयी।"

इसी तरह कैंजा की नायिका नंदा के सौंदर्य का वर्णन करते हुए लेखिका ने लिखा


Indian Economy at the Crossroads
Challenges and Opportunities
16. Parmod Gulia
Dr. Sunil Phougat • Dr. Pushp Deep Dagar

INDIAN ECONOMY AT THE CROSSROADS
CHALLENGES AND OPPORTUNITIES

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Preface

The new economic policies have caused a total change in the way in which India does business. There are various challenges facing with the hope for more initiative and creativity, leading to success for Indian economy. The long-term growth prospective of the Indian economy is moderately positive due to its young population, corresponding low dependency ratio, healthy savings and investment rates and increasing integration into the global economy. Indian economy seems to be in a better position to handle a new round of instability in the global financial markets.

India is set to emerge as the world's fastest growing major economy by 2015 ahead of China, as per the recent report by World Bank. India's gross domestic product is expected to grow at 7.5 percent in financial year 2015-16, as per the report. The improvement in India's economic fundamentals has accelerated in the year 2015 with the combined impact of strong government reforms, RBI's inflation focus supported by benign global commodity prices. Thus, Indian economy is now at a stage where it is fully capable of responding to the new economic environment.

The present book titled "Indian Economy at the Crossroads: Challenges and Opportunities" is a collection of various research papers on different aspects of Indian economy. The whole book is divided in five sections and these sections deal with various issues related to Indian economy like international capital flow, WTO, rupee volatility, foreign trade, economic development, food security bill, corruption, women empowerment, various agricultural issues, infrastructural and social issues, sustainable development and environmental issues etc. This book explores how different sectors are growing and have influenced our Indian economy. Finally, we hope that the book will be beneficial to the researchers, teachers and students of Economics, Commerce and Management.

EDITORS

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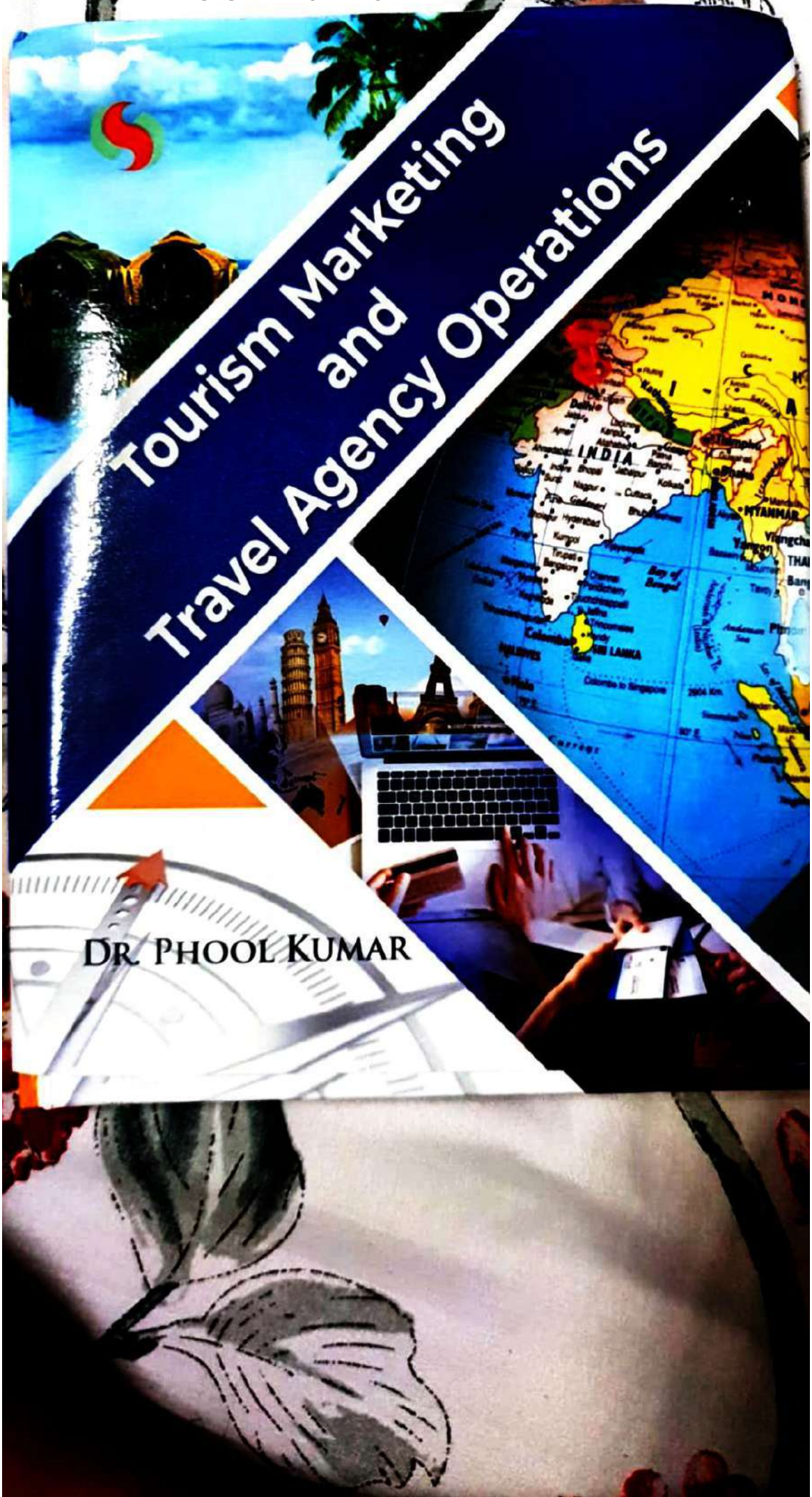

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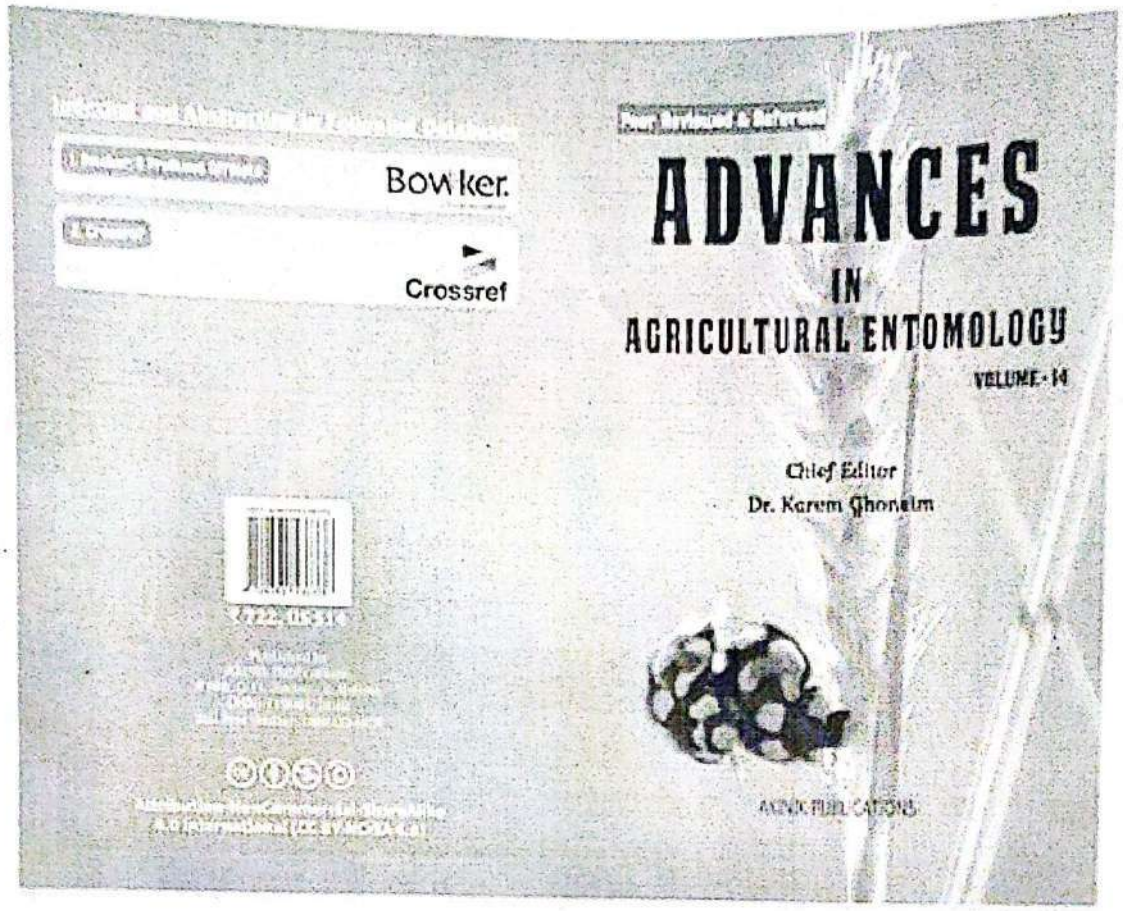
Zoology
Santosh Hooda.



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TOURISM AND TRANSPORTATION GEOGRAPHY

BOOKS ARCADE

Dr. Phool Kumar

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