3.3.3 Number Of Books And Chapters In Edited Volumes/Books Published During The last five Year

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Sl. No	Name of the teacher	Depart ment	Title of the paper	Year of publication	ISBN number of the proceeding	Pg No
119	MH Annaiah	ME	Computer Aided Engineering Drawing (As per latest VTU Syllabus)	2018-2019	97893877 88909	119
120	Dr Ramesh Shahabadkar	CS	Intellectual property rights	2018-2019	97816432 48646	120
121	Blessy Baby Mathew	BT	Natural polymer	2018-2019		121
122	Vinutha Moses	BT	Natural polymer	2018-2019		122
123	Dr Veena S More	BT	Methods in microbiology	2018-2019		123
124	MH Annaiah	ME	Engineering graphics	2018-2019	97893887 16963	124
125	Jagadeesha gowda GV	PHY	Praseodymium Doped Silver Borate Glass	2018-2019	61394508 10	125
126	Kiran S	MAT	Flow and Transport in Subsurface Environment	2017-2018	978-981-10-8772-1	126
127	Dr. Yogish HK	CS	C Programming for problem solving	2017-2018	97881937 83801	127
128	Gurushanth	CHE	Enginnering Chemistry	2017-2018	97893529 93734	128
129	T Venkategowda	ME	Dynamics of Machines	2017-2018	97881926 26957	129
130	Agalya P	EC	Information Systems Design and Intelligent Applications	2015-2016	978-81-322-2756-4	130
131	MH Annaiah	MEC	Design of Machine Elements-II	2015-2016	97881224 28384	131
132	Rhoith KC	BT	Biochemistry	2015-2016	97893856 40254	132
133	Sasmita Mohapatra	EC	Advanced Engineering Research and Applications	2015-2016		133
134	MH Annaiah	ME	Design of Machine Elements-I	2015-2016	97881224 30462	134

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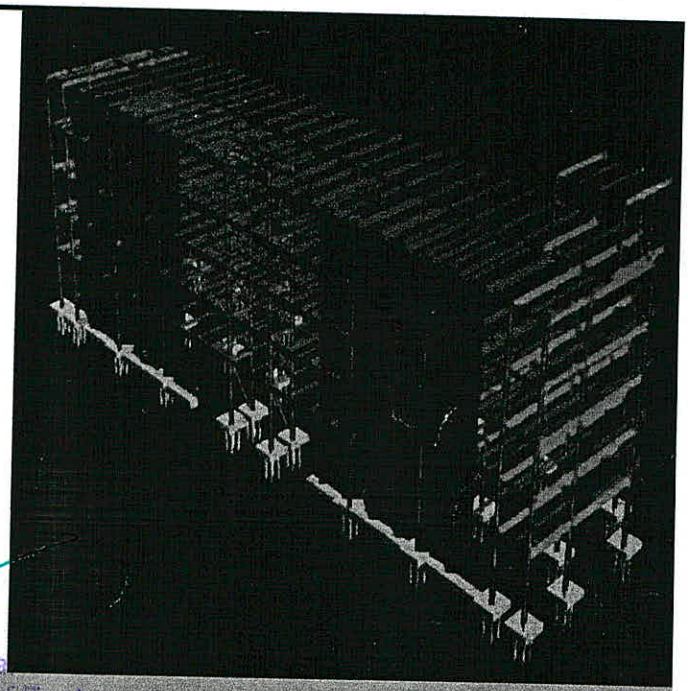

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Computer Aided Engineering Drawing is written to meet the requirements of first course in Engineering Drawing. It is a common subject for all students of Ist year engineering. This book is written using commands of "Solid Edge Software". It is a very useful book for both students and teachers of Engineering. The basic concepts of Engineering Drawing are explained using graded examples (300 worked out examples with equal number of exercise problems). Step by step explanation is followed for all problems in this book. Varieties of problems are included at the end of each chapter so that the students can practice them.

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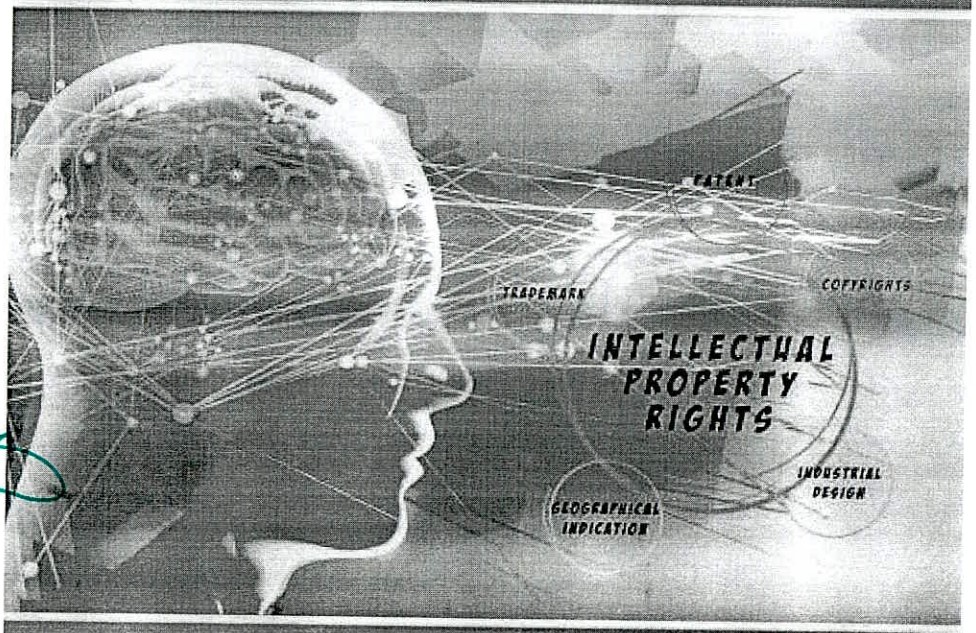

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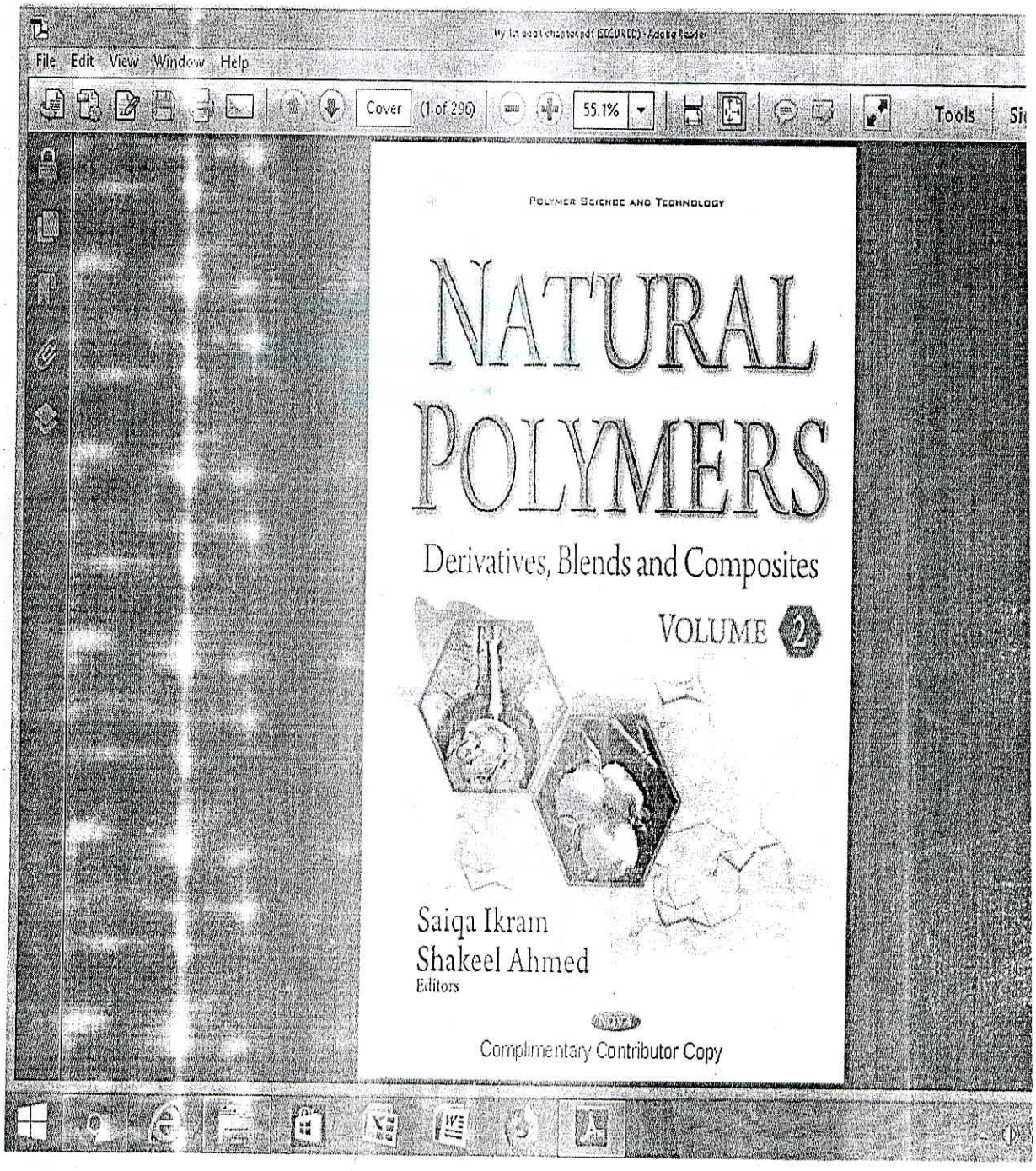

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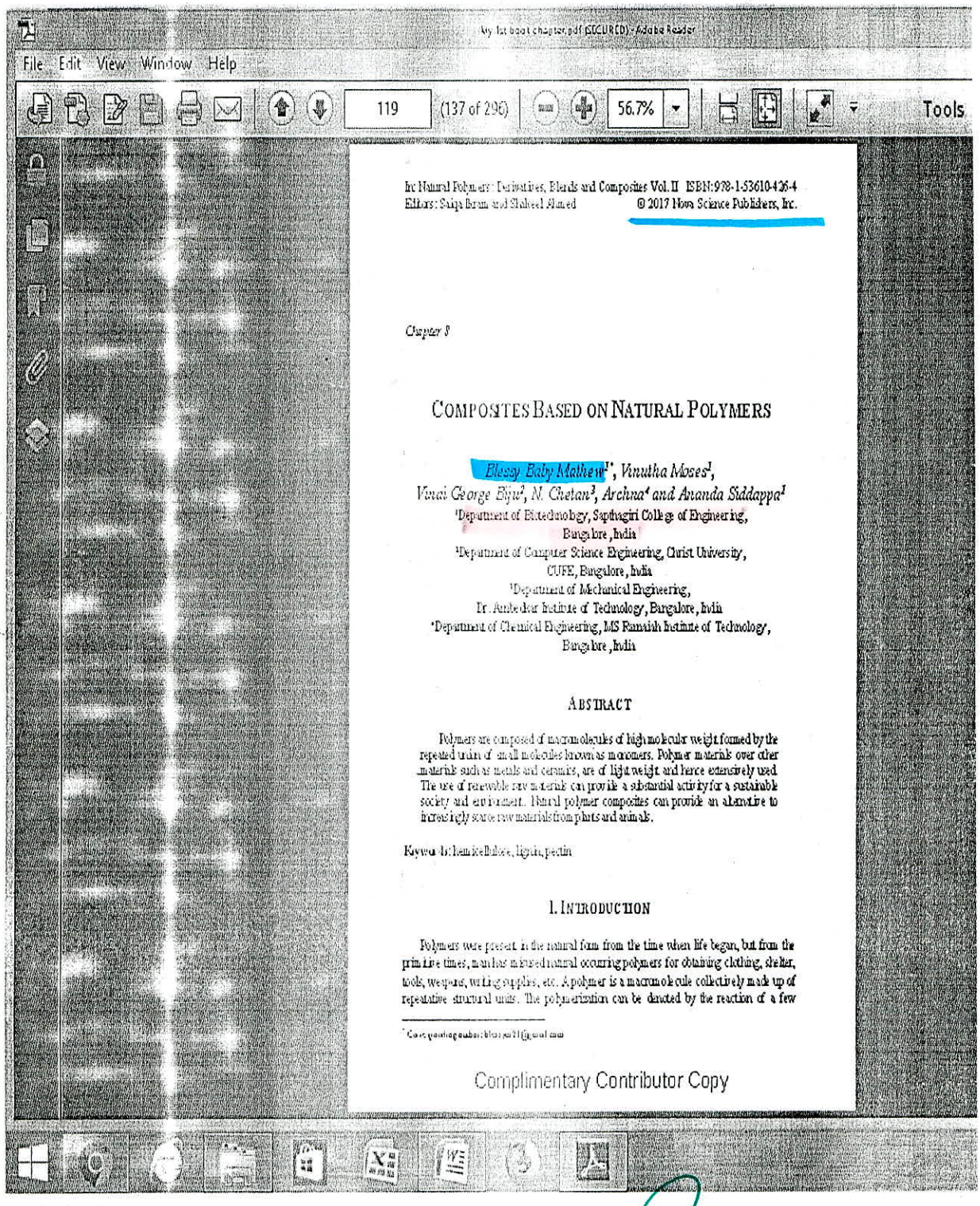

In: Natural Polymers: Derivatives, Blends and Composites Vol. II ISBN: 978-1-53610-426-4
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Chapter 8

COMPOSITES BASED ON NATURAL POLYMERS

Blessy Baby Mathew[1]*, Vinutha Moses*[1]*, Vinai George Biju*[2]*, N. Chetan*[3]*, Archna*[4] *and Ananda Siddappa*[1]
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[2]Department of Computer Science Engineering, Christ University, CUFE, Bangalore, India
[3]Department of Mechanical Engineering, Dr. Ambedkar Institute of Technology, Bangalore, India
[4]Department of Chemical Engineering, MS Ramaiah Institute of Technology, Bangalore, India

ABSTRACT

Polymers are composed of macromolecules of high molecular weight formed by the repeated union of small molecules known as monomers. Polymer materials over other materials such as metals and ceramics, are of light weight and hence extensively used. The use of renewable raw materials can provide a substantial activity for a sustainable society and environment. Natural polymer composites can provide an alternative to increasingly source raw materials from plants and animals.

Keywords: hemicellulose, lignin, pectin

I. INTRODUCTION

Polymers were present in the natural form from the time when life began, but from the primitive times, man has used natural occurring polymers for obtaining clothing, shelter, tools, weapons, writing supplies, etc. A polymer is a macromolecule collectively made up of repeatative structural units. The polymerization can be denoted by the reaction of a few

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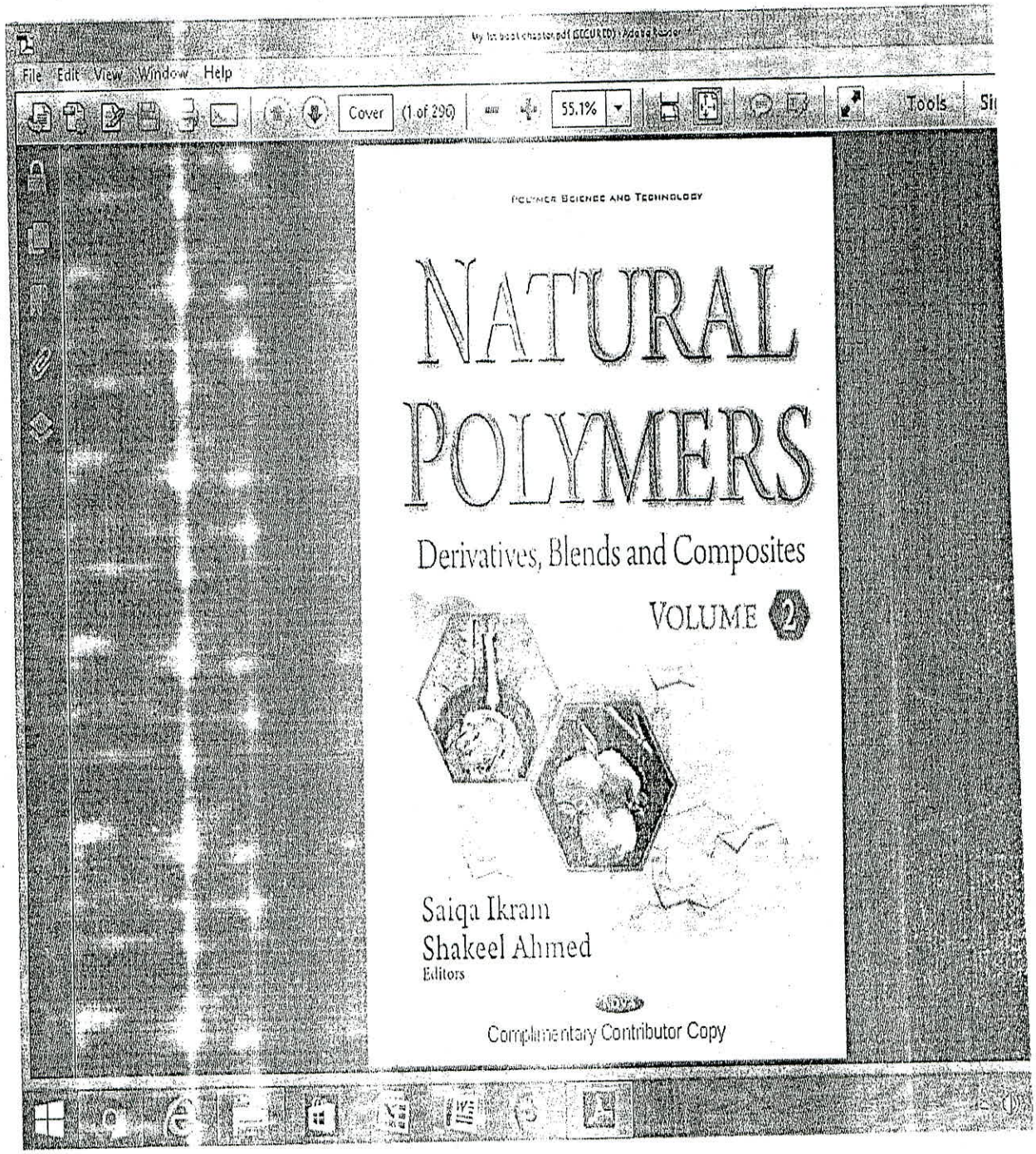

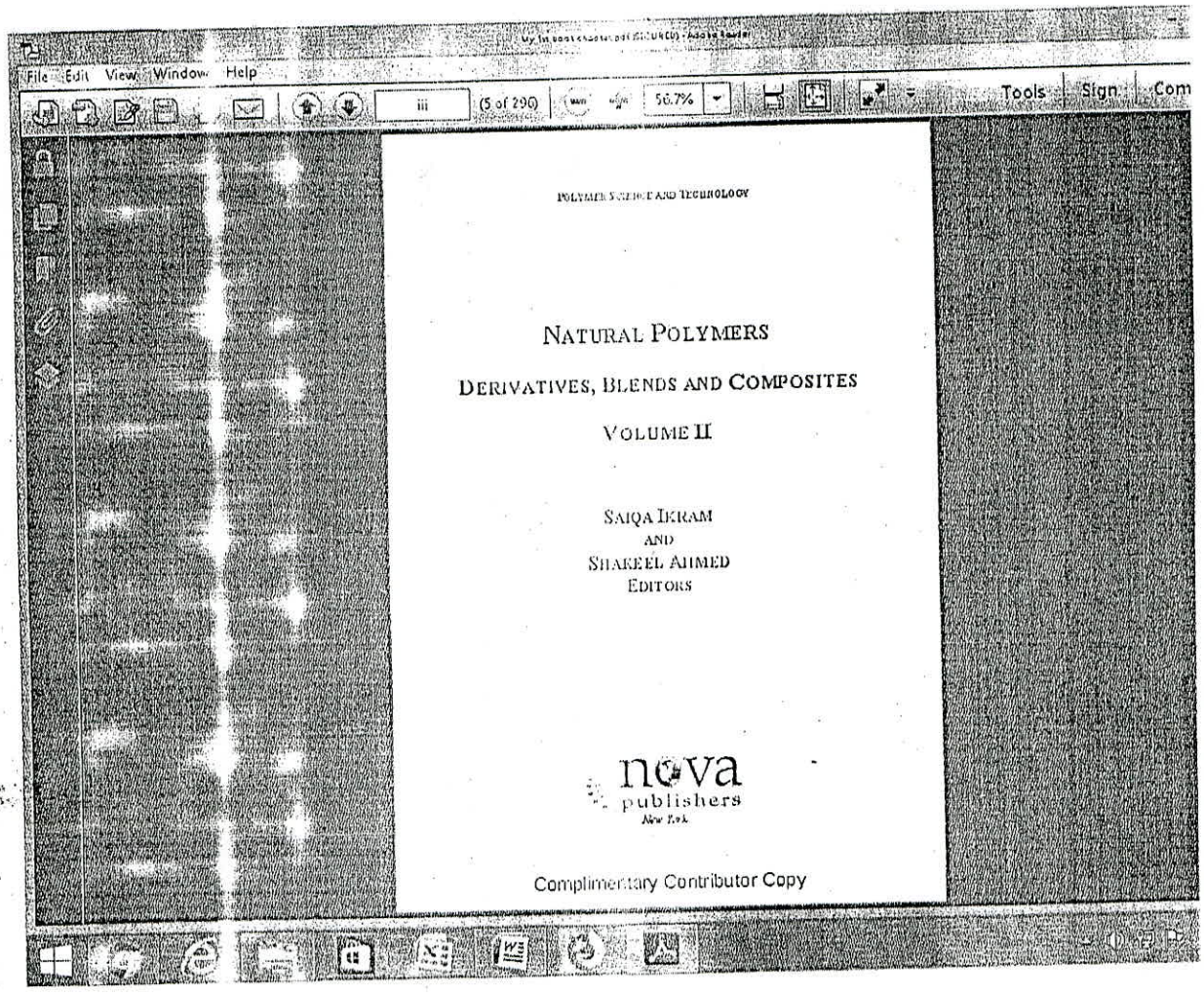

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NATURAL POLYMERS

DERIVATIVES, BLENDS AND COMPOSITES

VOLUME II

SAIQA IKRAM
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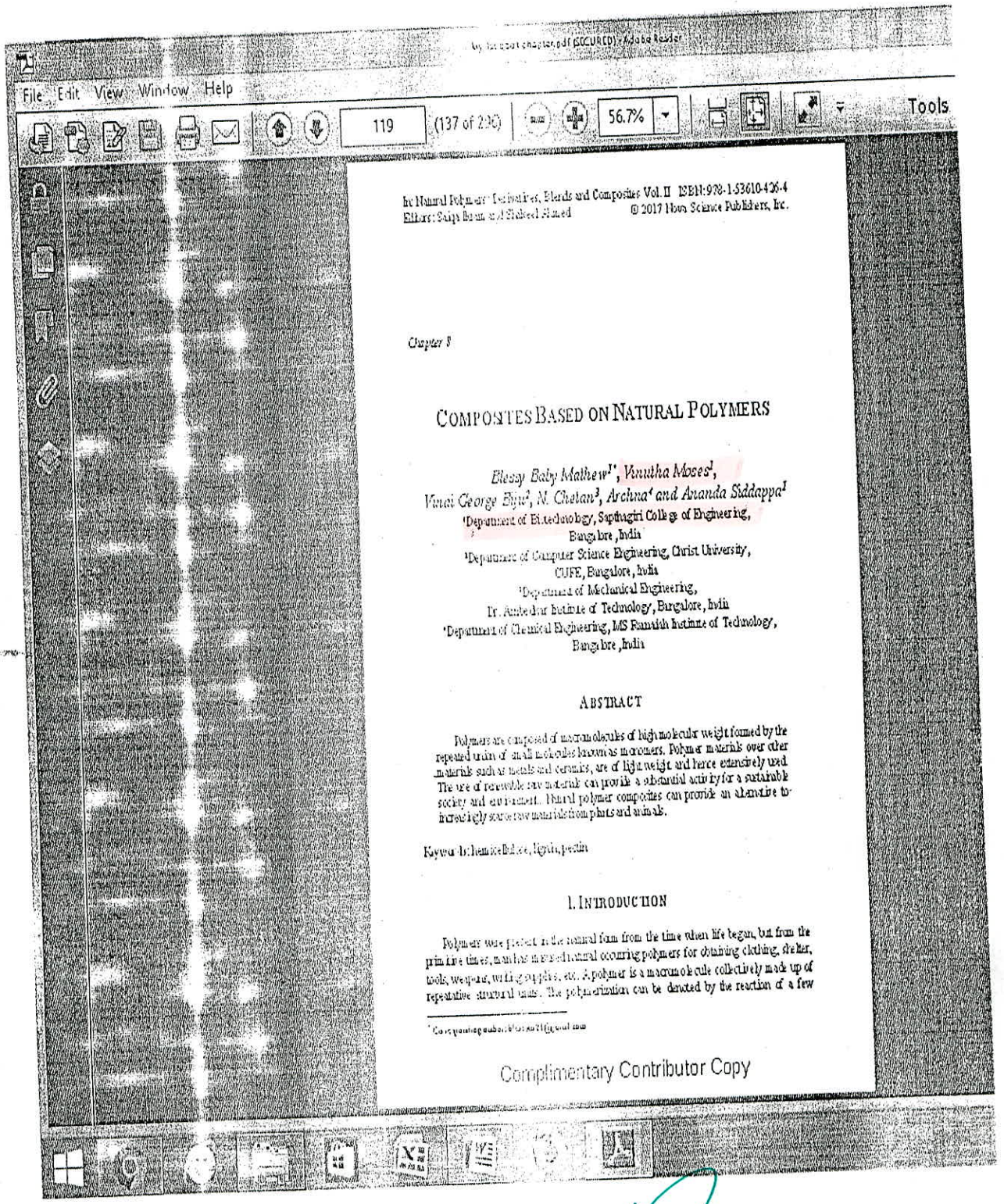

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VOLUME 46

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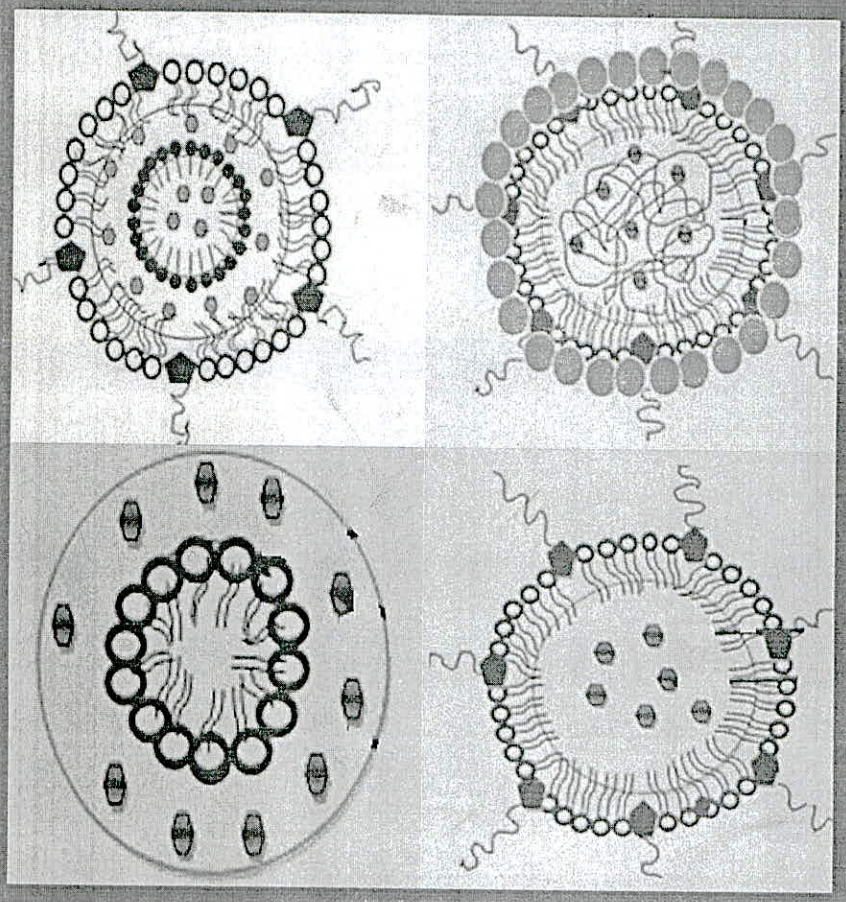

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Volume 46

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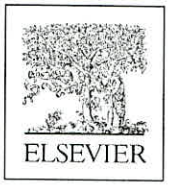

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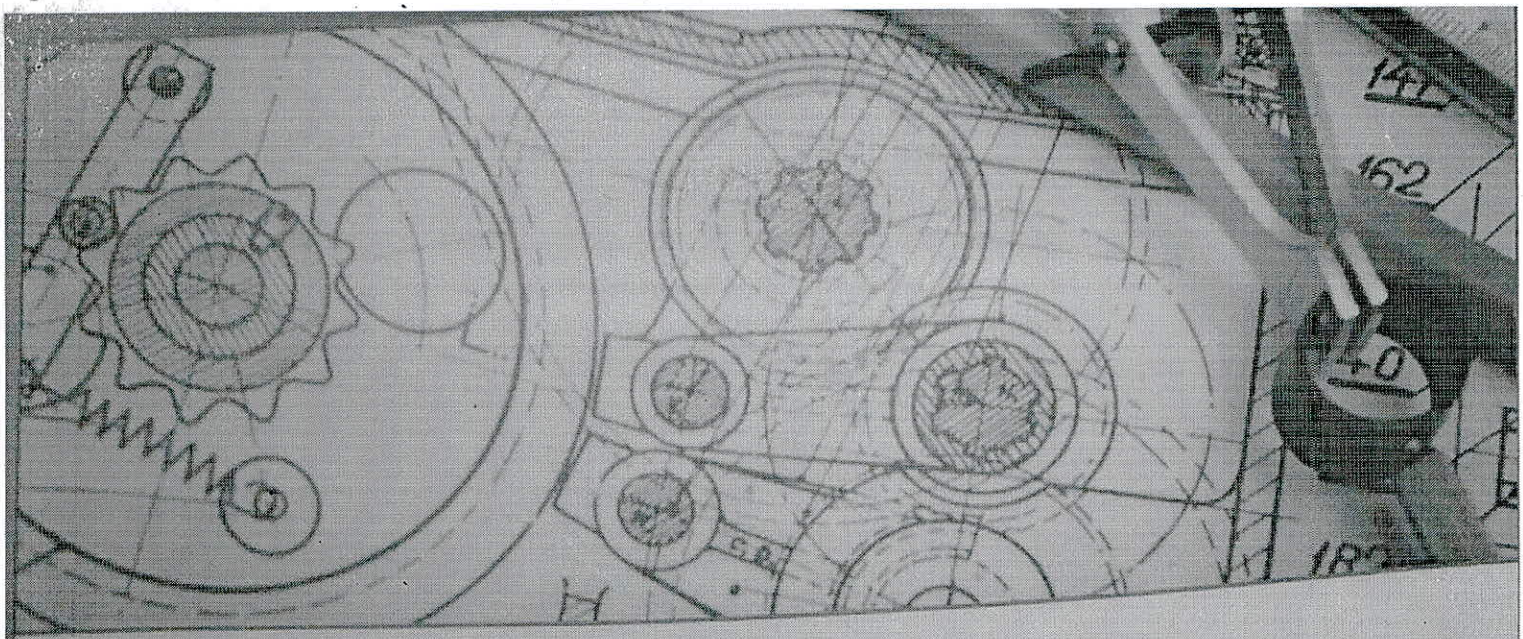

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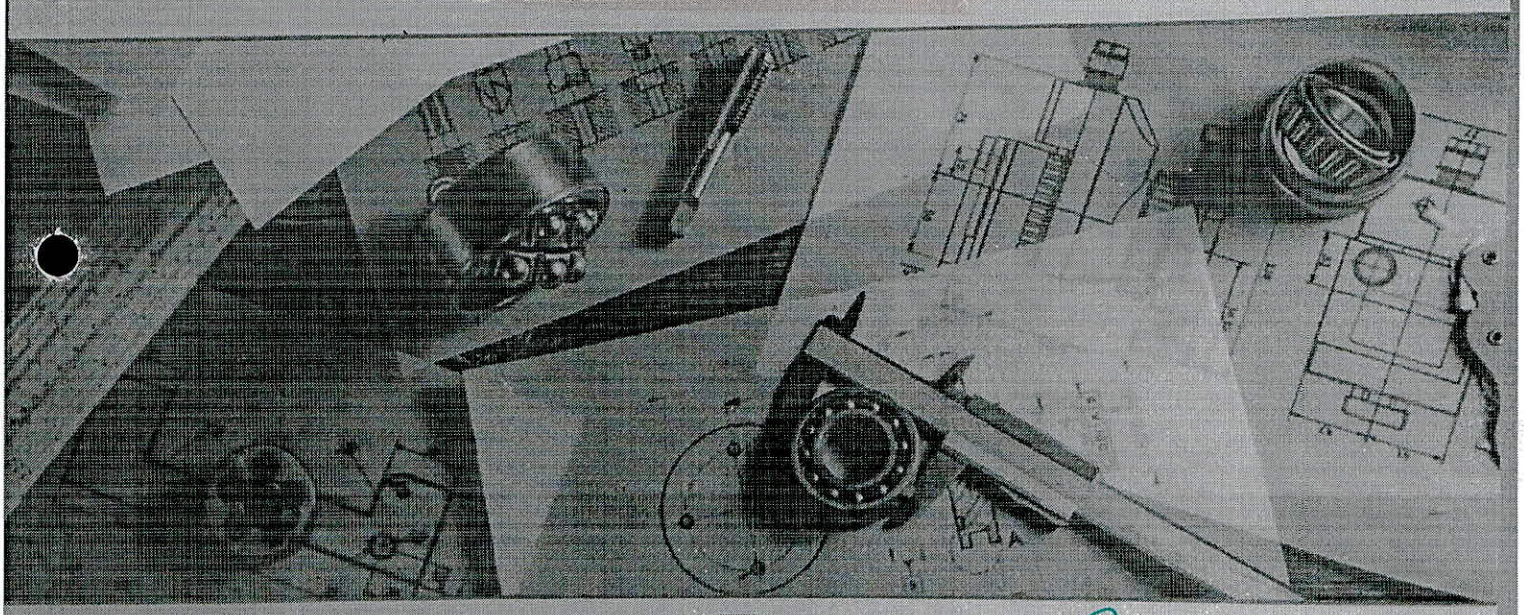

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Contents

Question Paper

Semester	*: I / II*	*CIE Marks : 40*
Course Code	*: 18EGDL 15/25*	*SEE Marks : 60*
Teaching Hours / Week (L:T:P)	*: 2:0:2*	*Exam Hours : 03*

Course Learning Objectives:

This course will enable students to

CLO1 To expose the students to standards and conventions followed in preparation of engineering drawings.
CLO2 To make them understand the concepts of orthographic and isometric projections.
CLO3 Develop the ability of conveying the engineering information through drawings.
CLO4 To make them understand the relevance of engineering drawing the different engineering domains.
CLO5 To develop the ability of producing engineering drawings using drawing instruments.
CLO6 To enable them to use computer aided drafting packages for the generation of drawings.

Module-I

Introduction to Computer Aided Sketching:

Introduction, Drawing Instruments and their uses, relevant BIS conventions and standards. Lettering, line conventions, dimensioning, material conventions, and free hand practicing.

Computer screen, layout of the software, standard tool bar I menu and description of most commonly used tool bars, and navigational tools.

Co-ordinate system and reference planes HP, VP, RPP & LPP of 2D/3D environment. Selection of drawing sheet size and scale.

Commands and creation of Lines, coordinate points, axes, poly-lines, square, rectangle, polygons, splines, circles, ellipse, text, move, copy, off-set, mirror, rotate, trim, extend, break, chamfer, fillet, curves, constraints viz., tangency, parallelism, inclination and perpendicularity.

Module-2

Orthographic projections of points, straight lines and planes:

Introduction, Definitions-Planes of projection, reference line and conventions employed. First angle and Third angle projection.

Projections of points in all the four quadrants.

Projections of straight lines (located in first quadrant/first angle only), true and apparent lengths, true and apparent inclinations to reference planes (No application problems and midpoint problems).

Orthographic projections of plane surfaces (First angle projection only):

Projections of regular plane surfaces-triangle, square, rectangle, pentagon, hexagon and circle-in simple positions inclined to both the planes; planes in different positions by change of position method only. (No problems on punched plates and composite plates).

Module-III

Projections of solids:

Introduction, definitions -projections of right regular tetrahedron, hexahedron (cube), prisms, pyramids, and cones with axis inclined to both the planes. (Solids resting on HP only and no problems on octahedrons, and freely suspended solids.)

Module-IV

Development of Lateral Surfaces of Solids:

Introduction to section planes and sectional views.
Development of lateral surfaces of right regular prisms, cylinders, pyramids, and cones resting with base on HP only. Development of their frustums and truncations. (No problems on lateral surfaces of trays, tetrahedrons, spheres and transition pieces).

Module-V

Isometric Projection (using isometric scale only):

Introduction, Isometric scale, Isometric projection of simple plane ftgures, Isometric projection of hexahedron(cube), right regular prisms, pyramids, cylinders, cones, and spheres. Isometric projection of combination of two simple solids. Conversion of given isometric/ pictorial views to orthographic views of simple objects

Course Outcomes:

Upon completion of this course, students will be able to

CO1 Prepare engineering drawings as per BIS conventions mentioned in the relevant codes.
CO2 Produce computer generated drawings using CAD software.
CO3 Use the knowledge of orthographic projections to represent engineering information I concepts and present the same in the form of drawings.
CO4 Develop isometric drawings of simple objects reading the orthographic projections of those objects.
CO5 Convert pictorial and isometric views of simple objects to orthographic views.

Question paper pattern:

- Module -1 is only for practice and CIE and not for examination.
- Question paper for each batch of students will be sent online by VTIJ and has to be downloaded before the commencement of Examination of each batch. The answer sheets will have to be jointly evaluated by the Internal & External examiners.
- A maximum of THREE questions will be set as per the following pattern (No mixing of questions from different Modules).

ENGINEERING

Engineering Graphics

This book is written to meet the requirements of first course in Engineering Programme. It is a subject for First Year B.E / B.Tech of all Universities in India. The basic concepts of Engineering are explained using graded examples. Step by step explanation is adopted in this book.

Dr. Mylappanahalli Hanumaiah Annaiah is working as Professor in the Department of Mechanical Engineering at Sapthagiri College of Engineering, Bengaluru, Karnataka (Former Professor of Mechanical Engineering, M.S. Ramaiah Institute of Technology, Bengaluru, Professor of Automobile Engineering and Aeronautical Engineering, Acharya Institute of Technology, Bengaluru and Principal Dr. Sri. Sri. Sri. Shivakumara Mahaswamy College of Engineering, Bengaluru). A Double Post Graduate in Engineering and Management, Dr. M.H. Annaiah graduated in Mechanical Engineering from B.M.S. College of Engineering, Bengaluru in 1975, obtained ME (Machine Design) from University Visvesvaraya College of Engineering (UVCE, Bengaluru) in 1977, M.B.A from Bangalore University and Ph.D from JNTU, Hyderabad, AP. He is guiding six Research Scholars for Ph.D. program in VTU, Belagavi. A former chairman BOE (Bangalore University) he has been teaching "Engineering Graphics" and "Machine Design" for more than four decades.

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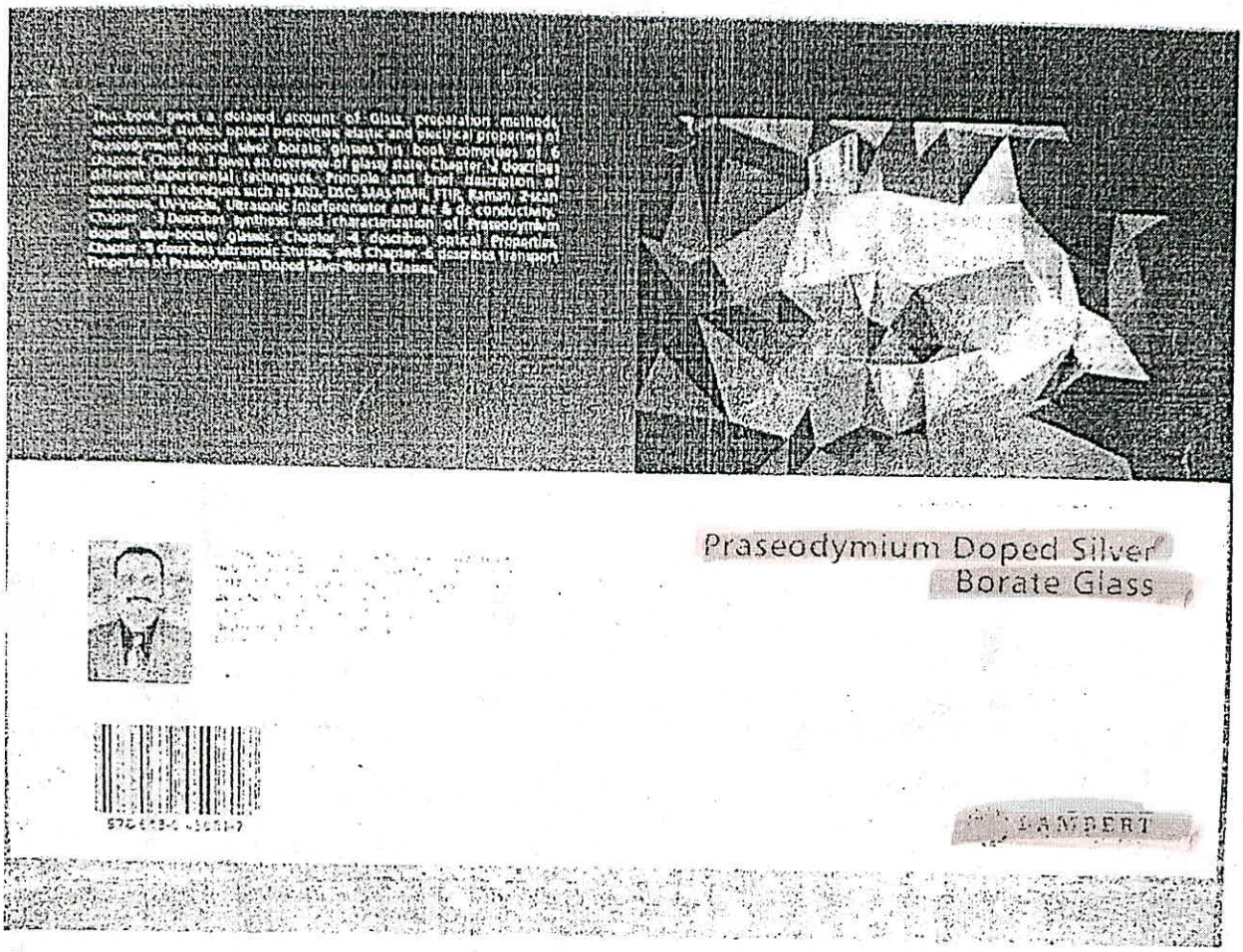

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Effect of Nonuniform Heating on Natural Convection in a Vertical Porous Annulus

M. Sankar, S. Kiran and Younghae Do

Nomenclature

Ar	Aspect ratio
A_1	Amplitude at inner wall (m)
A_r	Amplitude at outer wall (m)
D	Width of the annulus (m)
Da	Darcy number
g	Acceleration due to gravity (m/s^2)
H	Height of the annulus (m)
K	Permeability of the porous medium (m^2)
k	Thermal conductivity (W/m K)
$\overline{Nu}$	Average Nusselt number
Nu_1	Nusselt number at inner wall
Nu_r	Nusselt number at outer wall
p	Fluid pressure (Pa)
Pr	Prandtl number
Ra	Rayleigh number
Ra_D	Darcy–Rayleigh number
T_1, T_2	Dimensionless temperatures at the inner and outer walls
t^*	Dimensional time (s)
t	Dimensionless time
(r_i, r_o)	Radius of inner and outer cylinders (m)

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N. Narayanan et al. (eds.), *Flow and Transport in Subsurface Environment*, Springer Transactions in Civil and Environmental Engineering,
https://doi.org/10.1007/978-981-10-8773-8_8

(r, z) Dimensional radial and axial coordinates (m)
(R, Z) Dimensionless radial and axial coordinates
(u, w) Dimensional velocity components in (r, z) direction (m/s)
(U, W) Dimensionless velocity components in (R, Z) direction

Greek Letters

β Coefficient of thermal expansion (1/K)
ε Amplitude ratio
ζ Dimensionless vorticity
θ_1, θ_2 Dimensional temperatures at inner and outer walls (K)
κ Thermal diffusivity (m^2/s)
λ Radius ratio
Λ Viscosity ratio
ν_e Effective kinematic viscosity of the porous medium (m^2/s)
ν_f Fluid kinematic viscosity (m^2/s)
ρ Fluid density (kg/m^3)
σ Heat capacity ratio
φ Porosity
ϕ Phase deviation
ψ Dimensionless stream function
ψ_{max} Maximum value of the dimensionless stream function

1 Introduction

Natural convection in finite enclosures filled with fluid-saturated porous media is an essential transport mechanism encountered in a wide range of engineering and scientific applications. These applications include geothermal engineering, thermal insulation systems, packed bed chemical reactors, porous heat exchangers, oil separation from sand by steam, underground disposal of nuclear waste materials, food storage, and electronic device cooling. Due to these applications, several investigations have been made on convective heat transfer in porous media and a detailed literature on this topic can be found in the books of Vafai (2005), Ingham and Pop (2005) and Nield and Bejan (2006).

Investigations on natural convection heat transfer in porous enclosures of different shapes are abundant in the literature. Based on the requirement of an application, the enclosure of appropriate shape will be chosen to estimate the flow field, temperature distribution, and heat transfer, and in turn these data can be used in design process. Among the different enclosures, natural convection in a vertical porous annulus has been widely studied and well-documented in the literature,

PROGRAMMING FOR PROBLEM SOLVING

Dr. Yogish H. K

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A Textbook for I/II Semester B. E. (All Branches) students of VTU Belgaum

[Effective from the Academic Year 2018-19]

Dr. Yogish H.K

Professor and Head
Department of Computer Science & Engg.,
Sapthagiri College of Engineering
Bengaluru – 560 057.

2018

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DR. YOGISH H.K.

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The satisfaction and euphoria that accompany the successful completion of any task would be incomplete without the mention of people who made it possible because "Success is the abstract of hard work and perseverance, but steadfast of all is encouragement guidance". So I would like to acknowledge all those whose guidance and encouragement served as a beacon light and crowned my efforts with success.

It would not have been possible to write this Book without the blessings of almighty. I praise God, the almighty for providing me this opportunity and granting me the capability to proceed successfully.

I would like to express my deep sense of gratitude to beloved Chairman Sri. G Dayanand, Executive Director Sri. G D Manoj Principal Dr. K L SHIVABASAPPA, Dr. K R Nagabhushana Administrative Officer and Mrs. Suma Group Head - HRD Sapthagiri College of Engineering, for their support and encouragements during the development of this book.

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I extend my hearty thanks to Prof. Arun Kumar S, Prof. Ramanagouda S Patil, Prof. Suriya Prakash J, Assistant Professors and Mr. Nithin Mundara Student, Department of Computer Science and Engineering, Sapthagiri College of Engineering, for their meticulous support, continuing co-operation, valuable suggestion and encouragements.

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Above all I wish to thank the entire Computer Science Department.for their help, encouragement, inspiration and co-operation at all stages of the development of this book otherwise it would not have been a success.

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Last but not least, my warm thanks to my wife, kids, parents, relatives and friends for their moral and encouragement support to develop this book.

A good book is the result of the symbiosis achieved by a number of people working together. I would like to acknowledge all the people-readers, editors, and others-who have taken the time to provide comments and feedback on this book.

- Dr. Yogish. H.K

SYLLABUS

C PROGRAMMING FOR PROBLEM SOLVING

(Effective from the academic year 2018 -2019)

SEMESTER – I/II

Subject Code	**18CPS13/23**	CIE Marks	**40**
Number of Contact Hours/Week	**2:2:0**	SEE Marks	**60**
Total Number of Contact Hours	**40**	Exam Hours	**3 Hrs**

CREDITS – 3

Module - 1

Introduction to computer Hardware and software: Computer generations, computer types, bits, bytes and words, CPU, Primary memory, Secondary memory, ports and connections, input devices, output devices, Computers in a network, Network hardware, Software basics, software types. 08 Hrs.

Overview of C: Basic structure of C program, executing a C program. Constant, variable and data types, Operators and expressions.

Reference 1: Chapter 1, Chapter 2 (2.2, 2.3) Text book 1: Ch 1, 2 and 3

Module - 2

Managing Input and output operations. Conditional Branching and Loops. Example programs, Finding roots of a quadratic equation, computation of binomial coefficients, plotting of Pascals triangle. **Text book 1: 4, 5 and 6** 08 Hrs.

Module - 3

Arrays: Arrays (1-D, 2-D), Character arrays and Strings, Basic Algorithms: Searching and Sorting Algorithms (Linear search, Binary search, Bubble sort and Selection sort). **Text book 1: Ch 5, 6, 7 (7.1 to 7.6) and 8 (8.1 to 8.8)** 08 Hrs.

Module - 4

er Defined Functions and Recursion. Example programs, Finding Factorial of a positive integers and Fibonacci series. **Text book 1: Ch 9 (9.1 to 9.18)** 08 Hrs.

Module - 5

Structure and Pointers, Preprocessor Directives.
Text book 1: Ch 10 (10.1 to 10.9) and 11(11.1 to 11. 6 and 11.16) 08 Hrs.

Course Outcomes: The student will be able to :

- Illustrate simple algorithms from the different domains such as mathematics,
  etc.
- Construct a programming solution to the given problem using C.
- Identify and correct the syntax and logical errors in C programs.
- Modularize the given problem using functions and structures.

Question Paper Pattern:

The question paper will have ten questions. Each full Question consisting of 20
There will be 2 full questions (with a maximum of four sub questions) from each
Each full question will have sub questions covering all the topics under a modu
students will have to answer 5 full questions, selecting one full question fro
module.

Textbooks:

1. E. Balaguruswamy, Programming in ANSI C, 7th Edition, Tata McGraw-Hill
2. Brian W. Kernighan and Dennis M. Ritchie, The C Programming La
   Prentice Hall of India.

Reference Books:

1. Sumitabha Das, Computer Fundamentals & C Programming, Mc Graw Hill Ed
2. V Rajaraman: Computer Programming in C, PHI, 2013.

CONTENTS

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10. Write functions to implement string operations such as compare, concate
length. Convince the parameter passing techniques.
11. Develop a program to sort the given set of N numbers using Bubble sort.
12. Develop a program to find the square root of a given number N and exe
possible inputs with appropriate messages. Note: Don't use library functi
13. Implement structures to read, write, and compute average - marks and t
scoring above and below the average marks for a class of N students.
14. Develop a program using pointers to compute the sum, mean and standar
of all elements stored in an array of n real numbers.
15. Implement recursive function for Binary to Decimal Conversion.

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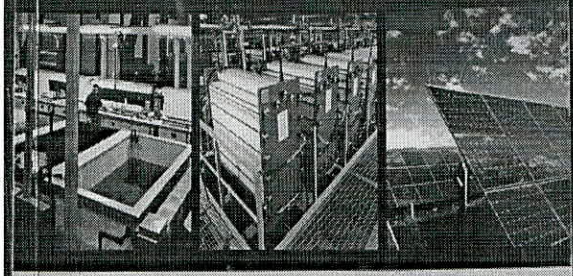

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• Dr. Gurushantha K.

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VTU Syllabus

(2018 Scheme)

MODULE-I

Electrochemistry and Energy Storage Systems

Use of free energy in chemical equilibria: Thermodynamic functions: Definitions of free energy and entropy. Cell potential, derivation of Nernst equation for single electrode potential, numerical problems on E, E_0, and E_{cell}

Electrochemical energy systems: Reference electrodes: Introduction, construction, working and applications of Calomel electrode. Ion-selective electrode- Definition, construction and principle of Glass electrode and determination of pH using glass electrode. Electrolyte concentration cells, numerical problems

Energy storage systems: Introduction, classification – primary, secondary and reserve batteries. Construction, working and applications of Ni-MH and Li-ion batteries

MODULE-II

Corrosion and Metal Finishing

Corrosion: Introduction, Electrochemical theory of corrosion, Factors affecting the rate of corrosion: ratio of anodic to cathodic areas, nature of corrosion product, nature of medium—pH, conductivity and temperature. Types of corrosion - Differential metal and differential aeration - pitting and water line). Corrosion control: Anodizing — Anodizing of aluminium, Cathodic protection - sacrificial anode and impressed current methods, Metal coatings — Galvanization

Metal finishing: Introduction, Technological importance. Electroplating: Introduction, principles governing electroplating-Polarization, decomposition potential and overvoltage. Electroplating of chromium (hard and decorative). Electroless plating: Introduction, electroless plating of nickel and copper, distinction between electroplating and electroless plating processes

MODULE-III

Energy Systems

Chemical Fuels: Introduction, classification, definitions of CV, LCV, and HCV, determination of calorific value of solid/liquid fuel using bomb calorimeter, numerical problems. Knocking of petrol engine- Definition, mechanism, ill effects and prevention. Power alcohol, unleaded petrol and biodiesel

Fuel Cells: Introduction, differences between conventional cell and fuel cell, limitations and advantages. Construction, working and applications of methanol- oxygen fuel cell with H_2SO_4 electrolyte, and solid oxide fuel cell (SOFCs)

Solar Energy: Photovoltaic cells- introduction, construction and working of a typical PV cell, Preparation of solar grade silicon by Union Carbide Process/Method. Advantages and disadvantages of PV cells

MODULE-IV

Environmental Pollution and Water Chemistry

Environmental Pollution: Air pollutants: Sources, effects and control of primary air pollutants: Carbon monoxide, Oxides of nitrogen and sulphur, hydrocarbons, Particulate matter, Carbon monoxide, Mercury and Lead. Secondary air pollutant: Ozone, Ozone depletion

Waste Management: Solid waste, e-waste and biomedical waste: Sources, characteristics and disposal methods (Scientific land filling, composting, recycling and reuse)

Water Chemistry: Introduction, sources and impurities of water, boiler feed water, boiler troubles with disadvantages -scale and sludge formation, boiler corrosion (due to dissolved O_2, CO_2 and $MgCl_2$). Sources of water pollution, Sewage, Definitions of Biological oxygen demand (BOD) and Chemical Oxygen Demand (COD), determination of COD, numerical problems on COD. Chemical analysis of water: Sulphates (gravimetry) and Fluorides (colorimetry). Sewage treatment: Primary, secondary (activated sludge) and tertiary methods. Softening of water by ion exchange process. Desalination of sea water by reverse osmosis

MODULE-V

Instrumental Methods of Analysis and Nanomaterials

Instrumental methods of analysis: Theory, Instrumentation and applications of Colorimetry, Flame Photometry, Atomic Absorption Spectroscopy, Potentiometry, Conductometry(Strong acid with a strong base, weak acid with a strong base, mixture of strong acid and a weak acid with a strong base)

Nanomaterials: Introduction, size dependent properties (Surface area, Electrical, Optical, Catalytic and Thermal properties). Synthesis of nanomaterials: Top down and bottom up approaches, Synthesis by Sol-gel, precipitation and chemical vapour deposition, Nanoscale materials: Fullerenes, Carbon nanotubes and graphenes-properties and applications.

ABOUT THE BOOK

The textbook is intended to cater to the needs and aspirations of both 1st and 2nd Semester Bachelor of Engineering (B.E.) students of Visvesvaraya Technological University (VTU).

Some key features to note are:

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- Simple and lucid style of writing.
- Linking of topics and sizing according to the scheme of evaluation followed by VTU.
- Solved and unsolved numerical problems.
- Points to remember at the end of each module.
- Review questions based on recent VTU question papers.
- Last but not the least, learning activities that motivate students to develop critical thinking and real-world problem-solving skills.

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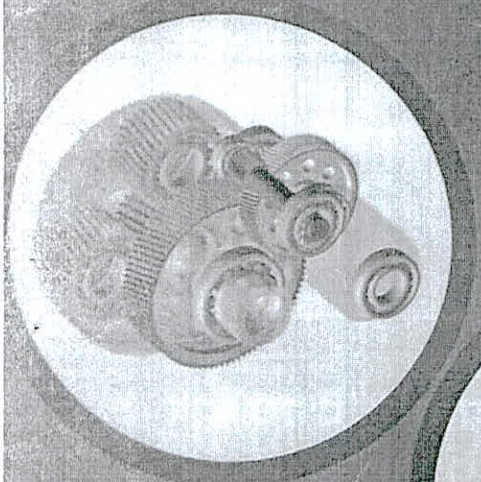

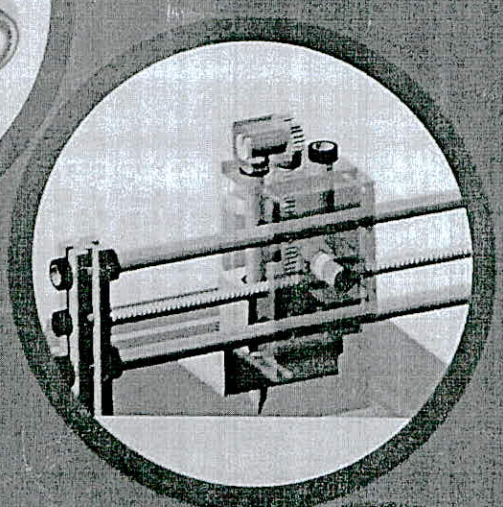

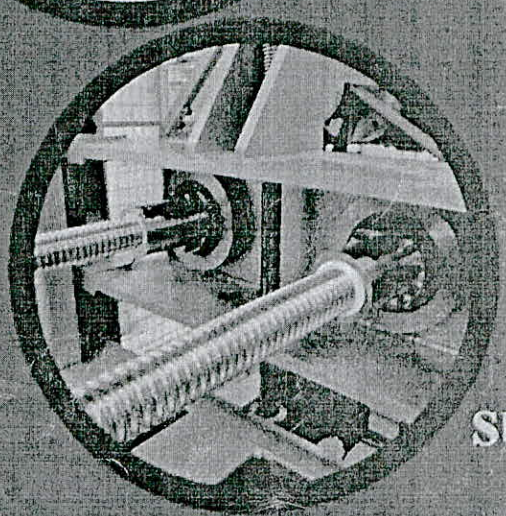

A Detailed Review of Color Image Contrast Enhancement Techniques for Real Time Applications

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3. Department of Computer Science Engineering, Kammavar Sangam School of Engineering & Management, , Bangalore, India

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Abstract

Real-time video surveillance, medical imaging, industrial automation and oceanography applications use image enhancement as a preprocessing technique for the analysis of images. Contrast enhancement is one of a method to enhance low contrast images obtained under poor lighting and fog conditions. In this paper, various variants of histogram equalisation, Homomorphic filtering and dark channel prior techniques used for image enhancement are reviewed and presented. Real-time processing of images is implemented on Field Programmable Gate Array (FPGA) to increase the computing speed. Further this paper focus on the review of contrast enhancement techniques implemented on FPGA in terms of device utilization and processing time.

Keywords

Histogram equalisation CLAHE Homomorphic filtering Dark channel prior Fog images Poor lighting image

References

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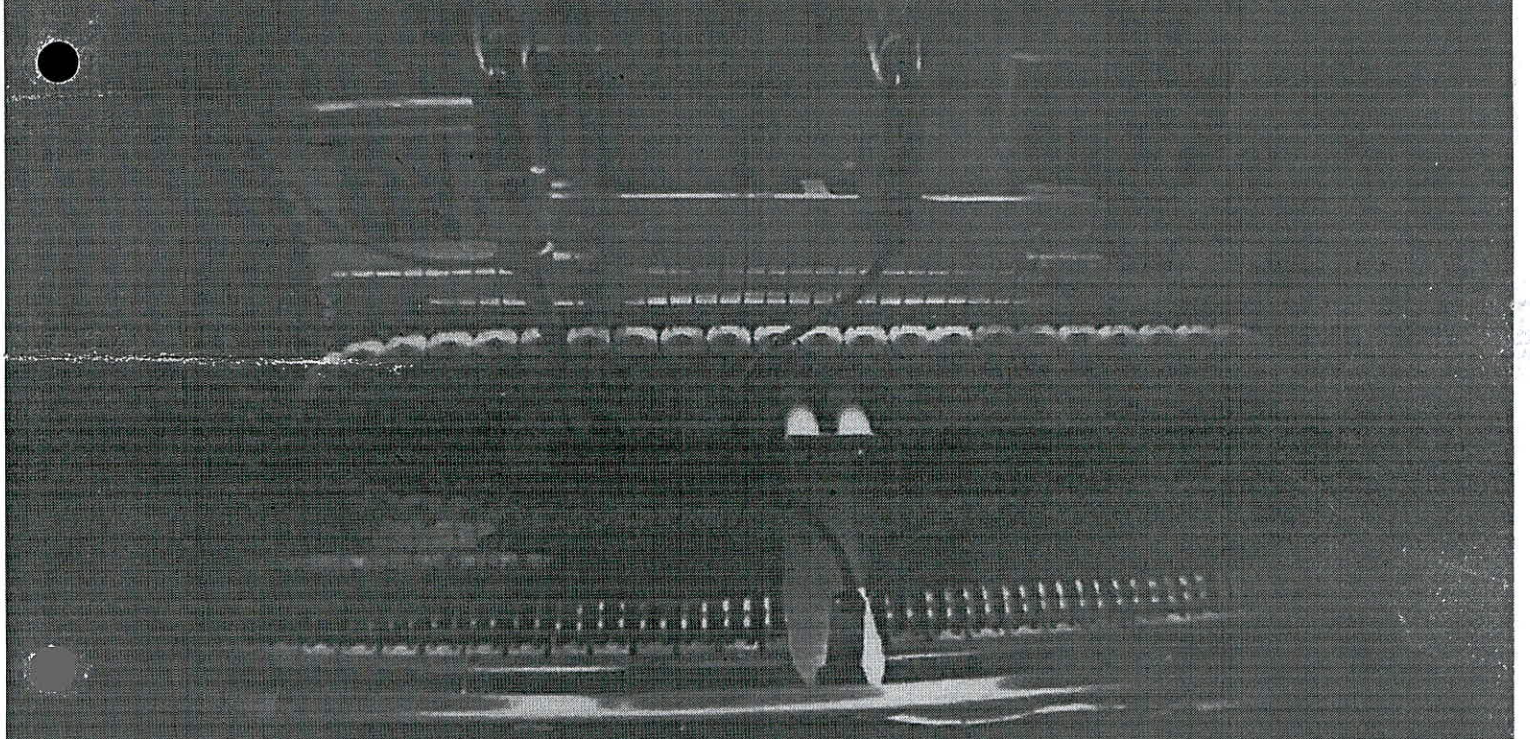

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It is a useful book for students appearing for various state public services, GATE, IAS, IES and other competitive exams, and a good reference book for practising engineers.

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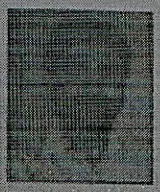

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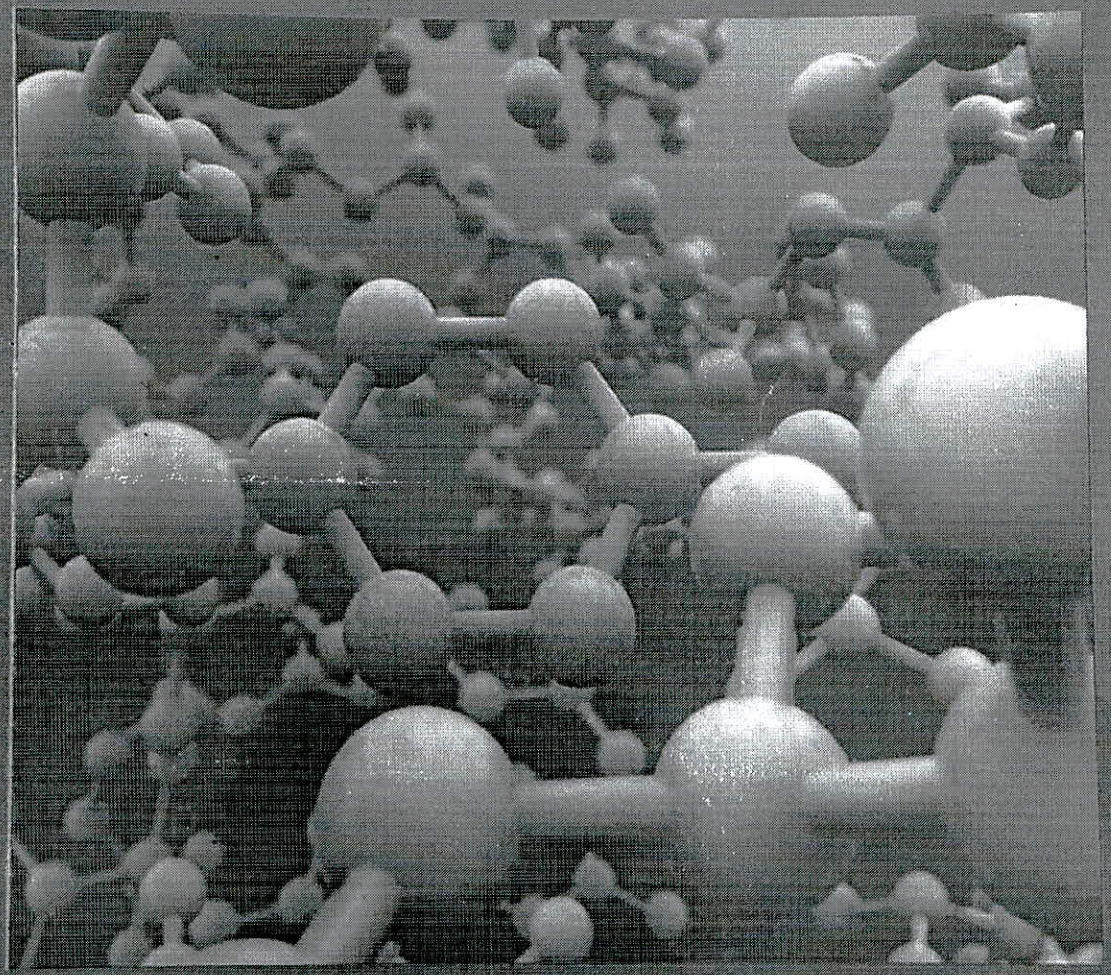

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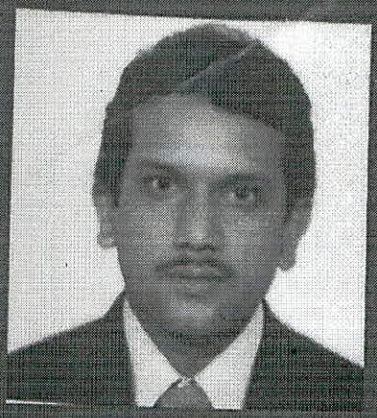

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Dr. ROHIT K.C, Department of Biotechnology, Sapthagiri College of Engineering has served the teaching and educational fraternity for about 15 years and has illustrious, distinguished and brilliant academic career. He obtained his Bachelor of Science, Bachelor of Education, Master of Science in Microbiology (Bangalore University), Chemistry and Environmental Studies, Master of Philosophy in Microbiology and Biotechnology, Doctor of Philosophy in Biotechnology, Master of Business administration, PGDIPR- Intellectual Property Rights, (National Law School), PGDNBT-Nanobiotechnology.

He has been participated in more than 50 National / International / Conferences/Workshops/Seminar/Symposium. He has presented and published over 20 professional research papers in International and National refereed Journals. He was Board of member (BOE-Biotechnology 2013-2014-VTU), He was BOE member of Karnataka PGCET-2014, He has been included as Editor in various International and National Journals and recognized by many professional bodies. Life member of Indian Society for Technical Education, All India Science Congress, Society for Biotechnologist, Association of microbiologists of India and Kannada Sahitya Parishath. His achievements were recognized to get awards like "Young Scientist Award-2012", "Sadana ratna award-2013", "Glory of Excellence award 2013" and "Bangalore Youth Award-2014".

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CHAPTER - 27

Bee-Ad Hoc-C: An Energy-Efficient and Scalable Multipath Routing Protocol for MANETs

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Abstract

Mobile ad hoc network (MANET) is one of the most important and unique network in wireless network which has brought maximum mobility and scalability. High efficient routing is an important issue in the design of limited energy resource MANETs. Many research work have been conducted by the researchers in the field of routing protocols for MANETs for making it energy efficient as the nodes are with limited resources in terms of battery supplied energy, storage and processing capability. In this paper we have proposed a new technique of routing protocol which utilizes the concept of swarm intelligence in which bee inspired routing is chosen as the ultimate routing protocol for energy efficient MANETs. To make the system more energy efficient we have chosen the clustered based approach as Bee-Ad Hoc-C. Bee-Ad Hoc-C is an evolution from Bee-Ad Hoc which is a bee inspired routing protocol for MANETs. This

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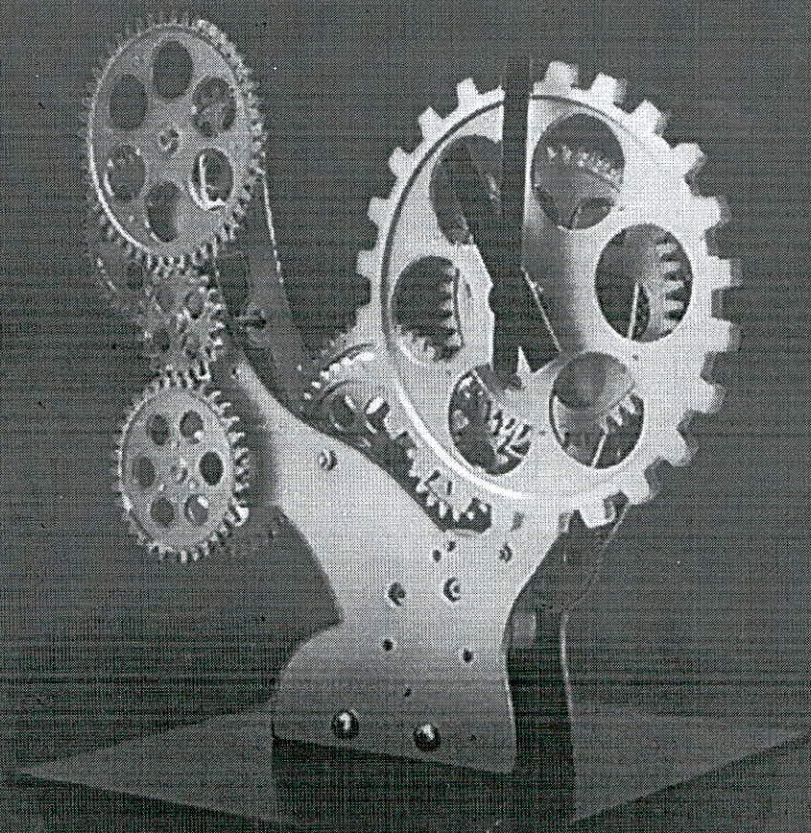
DESIGN OF MACHINE ELEMENTS-I



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