

***Mechanical Engineering Nirali Prakashan***

EMERGING TRENDS IN MECHANICAL ENGINEERING (22652)Basic Mechanical Engineering (Fe Sem. I, Su)Nirali PrakashanSystems in Mechanical EngineeringFundamentals and ApplicationsTechnical Publications

Engineering Mathematics-III has been mapped to the syllabus of the third-semester mathematics paper taught to the students of electrical engineering, electrical and electronics engineering and electronics and communication engineering in Rajasthan Technical University, Kota. The book, a balanced mix of theory and solved problems, focuses on problem-solving techniques and engineering applications to ensure that students learn the mathematical skills needed for engineers. The last three years' solved question papers have been included for the benefit of the students.

Fundamentals and Applications

Mechanical Operations

DESIGN OF MACHINE ELEMENTS (Subject Code MEC 604)

EMERGING TRENDS IN MECHANICAL ENGINEERING (22652)

Engineering Mechanics 2

**Mechanical engineering, as its name suggests, deals with the mechanics of operation of mechanical systems. This is the branch of engineering which includes design, manufacturing, analysis and maintenance of mechanical systems. It combines engineering physics and mathematics principles with material science to design, analyse, manufacture and maintain mechanical systems. This book covers the field requires an understanding of core areas including thermodynamics, material science, manufacturing, energy conversion systems, power transmission systems and mechanisms. This book includes basic knowledge of various mechanical systems used in day to day life. My hope is that this book, through its careful explanations of concepts, practical examples and figures bridges the gap between knowledge and proper application of that knowledge.**

**Introduction - Conduction - Convection - Radiation - Heat Exchange Equipments - Evaporation - Diffusion - Distillation - Gas Absorption - Liquid Liquid Extraction - Crystallisation - Drying - Appendix I Try yourself - Appendix II Thermal conductivity data - Appendix III Steam tables**

**Tribology**

**Theory of Machines**

**Engineering Mathematics - III:**

**Fundamentals of Electrical Engineering I**

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Now in its second English edition, Mechanics of Materials is the second volume of a three-volume textbook series on Engineering Mechanics. It was written with the intention of presenting to engineering students the basic concepts and principles of mechanics in as simple a form as the subject allows. A second objective of this book is to guide the students in their efforts to solve problems in mechanics in a systematic manner. The simple approach to the theory of mechanics allows for the different educational backgrounds of the students. Another aim of this book is to provide engineering students as well as practising engineers with a basis to help them bridge the gaps between undergraduate studies, advanced courses on mechanics and practical engineering problems. The book contains numerous examples and their solutions. Emphasis is placed upon student participation in solving the problems. The new edition is fully revised and supplemented by additional examples. The contents of the book correspond to the topics normally covered in courses on basic engineering mechanics at universities and colleges. Volume 1 deals with Statics and Volume 3 treats Particle Dynamics and Rigid Body Dynamics. Separate books with exercises and well elaborated solutions are available.

Basic Mechanical Engineering covers a wide range of topics and engineering concepts that are required to be learnt as in any undergraduate engineering course. Divided into three parts, this book lays emphasis on explaining the logic and physics of critical problems to develop analytical skills in students.

Cad/cam and Automation

ENGINEERING CHEMISTRY-II (BASIC CHEMISTRY)

Understanding Engineering Mathematics

Material Science

Pharmaceutics-II

**1 Linear differential equations with constant coefficients 2 Simultaneous linear Differential Equations 3 Applications of Differential Equations 4 System of linear equations 5 Numerical solution of ordinary differential equations 6 Statistics correlation and regression 7 Probability and probability distributions 8 Vector algebra 9 Vector differentiation 10 Vector integration 11 Application of vectors to fluid mechanics 12 Application of partial differential equations**

**Studying engineering, whether it is mechanical, electrical or civil relies heavily on an understanding of mathematics. This new textbook clearly demonstrates the relevance of mathematical principles and shows how to apply them to solve real-life engineering problems. It deliberately starts at an elementary level so that students who are starting from a low knowledge base will be able to quickly get up to the level required. Students who have not studied mathematics for some time will find this an excellent refresher. Each chapter starts with the basics before gently increasing in complexity. A full outline of essential definitions, formulae, laws and procedures are introduced before real world situations, practicals and problem solving demonstrate how the theory is applied. Focusing on learning through practice, it contains examples, supported by 1,600 worked problems and 3,000 further problems contained within exercises throughout the text. In addition, 34 revision tests are included at regular intervals. An interactive companion website is also provided containing 2,750 further problems with worked solutions and instructor materials**

**Textbook of Thermal Engineering**

**(in S.I. Units)**

**Systems in Mechanical Engineering**

**Theory of Machines and Mechanisms - II**

While writing the book,we have continuously kept in mind the examination requirments of the students preparing for U.P.S.C.(Engg. Services)and A.M.I.E.(I)examinations.In order to make this volume more useful for them,complete solutions of their examination papers up to 1975 have also been included.Every care has been taken to make this treatise as self-explanatory and amply illustrated by incorporating a good number of solved,unsolved and well graded examples of almost every variety.

I-Dispensing Pharmacy - II-Dispensed Medications - a-Monophasic Liquid Dosage Forms - b-Biphasic Liquid Dosage Forms - c- Semi-solid Dosage Forms - III - Sterile Dosage Forms

DIGITAL ELECTRONICS AND MICROCONTROLLER APPLICATIONS (22421)

ECE 504)

A Textbook of Strength of Materials

Basic Mechanical Engineering (Fe Sem. I, Su)

INDUSTRIAL ENGINEERING AND QUALITY CONTROL Course Code 22657

Unit 1: Interference, Diffraction and Its Engineering Applications, Unit 2: Sound Engineering, Unit 3: Polarization And Laser, Unit 4: Solid State Physics, Unit 5: Wave Mechanics, Unit 6: Sperconductivity And Physics Of Na

1 Non- Traditional Machining 2 Introduction to CNC 3 Other Machining Methods 4 Milling And Gear Cutting 5 Surface Finishing 6 Maintenance of Machine Tools

MEASUREMENT AND AUTOMATION (Subject Code

Theory of Machines and Mechanisms I.

Mechanics of Materials

Introduction to Process Calculations Stoichiometry

Mass Transfer-II

Unit I Structure of metals and materials Unit II Mechanical behaviours of metal and materials Unit III Destructive and non destructive testing Unit IV metals corrosions and its prevention Unit V Surface Modification methods Unit VI Powder metallurgical technology

Chemical Engineering Design, Second Edition, deals with the application of chemical engineering principles to the design of chemical processes and equipment. Revised throughout, this edition has been specifically developed for the U.S. market. It provides the latest US codes and standards, including API, ASME and ISA

design codes and ANSI standards. It contains new discussions of conceptual plant design, flowsheet development, and revamp design: extended coverage of capital cost estimation, process costing, and economics; and new chapters on equipment selection, reactor design, and solids handling processes. A rigorous pedagogy

assists learning, with detailed worked examples, end of chapter exercises, plus supporting data, and Excel spreadsheet calculations, plus over 150 Patent References for downloading from the companion website. Extensive instructor resources, including 1170 lecture slides and a fully worked solutions manual are

available to adopting instructors. This text is designed for chemical and biochemical engineering students (senior undergraduate year, plus appropriate for capstone design courses where taken, plus graduates) and lecturers/tutors, and professionals in industry (chemical process, biochemical, pharmaceutical,

petrochemical sectors). New to this edition: Revised organization into Part I: Process Design, and Part II: Plant Design. The broad themes of Part I are flowsheet development, economic analysis, safety and environmental impact and optimization. Part II contains chapters on equipment design and selection that can be

used as supplements to a lecture course or as essential references for students or practicing engineers working on design projects. New discussion of conceptual plant design, flowsheet development and revamp design Significantly increased coverage of capital cost estimation, process costing and economics New chapters

on equipment selection, reactor design and solids handling processes New sections on fermentation, adsorption, membrane separations, ion exchange and chromatography Increased coverage of batch processing, food, pharmaceutical and biological processes All equipment chapters in Part II revised and updated with current

information Updated throughout for latest US codes and standards, including API, ASME and ISA design codes and ANSI standards Additional worked examples and homework problems The most complete and up to date coverage of equipment selection 108 realistic commercial design projects from diverse industries A rigorous

pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data and Excel spreadsheet calculations plus over 150 Patent References, for downloading from the companion website Extensive instructor resources: 1170 lecture slides plus fully worked solutions manual available to

adopting instructors

MEC606)

Unit Operations-i Fluid Flow and Mechanical Operations

Principles, Practice and Economics of Plant and Process Design

MANUFACTURING PROCESS - II

Basic Mechanical Engineering

**This book aims at providing a complete coverage of the needs of First Year students as per S.B.T.E's. revised syllabus. The entire revised syllabus has been covered keeping in view the non-availability of the complete subject matter through a single source. The difficult articles have been explained in a simple language providing, wherever necessary, neat and well explained diagrams so that even an average student may be able to follow it independently. A sufficient number of solved examples and problems with answers and SBTE questions are given at the end of each topic. Formulae specifying symbol meaning are enlisted before solving the examples.**

**The 1st edition of book entitled "Design of Machine Elements" for IIIrd Year Diploma, Semester VI in Diploma in Mechanical Engineering Group as per the syllabus prescribed by SBTE. We have observed the students facing extreme difficulties in understanding the basic principles and fundamental concepts without adequate solved problems along with the text. To meet this basic requirement of students, sincere efforts have been made to present the subject matter with frequent use of figures and lots of numerical examples.**

**Chemical Reaction Engineering II**

**Engineering Physics**

**Engineering Mathematics - III**

**Unit Operations-II**

**Robotics**

**1 Elementary Concepts 2 Magnetic Circuits 3 Electromagnetic Induction 4 Single Phase Transformers 5 Electrostatistics 6 A C fundamentals 7 Single Phase A C circuits 8 Three Phase A C Circuits 9 D C Circuits Appendix**

**Properties and Handling of Particulate Solids, Conveyors, Mixing of Solids and Pastes, Size Reduction, Mechanical Separations: Screening, Filtration, Separation Based on Motion of Particulate through the Fluids, Mixing and Agitation, Fluidization, Beneficiation Process**

**POWER ELECTRONICS (Subject Code**

**Advanced Manufacturing Process**

**Industrial Fluid Power (Subject Code MEC 605)**

**BASIC ELECTRICAL ENGINEERING**

**Chemical Engineering Design**