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## Read Book Anna University 5th Semester Mechanical Engineering Syllabus

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### Data Interpretation & Data Sufficiency

**Arihant Publications India limited**

### Engineering Materials and Metallurgy

**S. Chand Publishing** This treatise on Engineering Materials and Metallurgy contains comprehensive treatment of the matter in simple, lucid and direct language and envelopes a large number of figures which reinforce the text in the most efficient and effective way. The book comprise five chapters (excluding basic concepts) in all and fully and exhaustively covers the syllabus in the above mentioned subject of 4th Semester Mechanical, Production, Automobile Engineering and 2nd semester Mechanical disciplines of Anna University.

### Design of Jigs, Fixtures and Press Tools

**John Wiley & Sons** Textbook presenting the fundamentals of tool design with special focus on jigs, fixtures and die design. Covers sections on sheet metal forming processes; turning, grinding, broaching, welding and modular fixtures; principles of clamping; and an Introduction to Presses and Auxiliary Equipment. Author has many years' experience in both academic and industrial environments, and presents this work in an easily-accessible style. End of chapter questions and answers assist the learning process for both practicing tooling designers and engineers, and manufacturing engineering students.

### Standard Handbook of Powerplant Engineering

**McGraw Hill Professional** Extensively revised and updated, this new edition of a classic resource provides powerplant engineers with a full range of information from basic operations to leading-edge technologies, including steam generation, turbines and diesels, fuels and fuel handling, pollution control, plant electrical systems, and instrumentation and control. New material covers various energy resources for power generation, nuclear plant systems, hydroelectric power stations, alternative and cogeneration energy plants, and environmental controls. With over 600 drawings, diagrams, and photographs, it offers engineers and technicians the information needed to keep powerplants operating smoothly into the 21st century.

### Structural Competency for Architects

**Routledge** Structural Competency for Architects is a comprehensive volume covering topics from structural systems and typologies to statics, strength of materials, and component design. The book includes everything you need to know about structures for the design of components, as well as the logic for design of structural patterns, and selection of structural typologies. Organized into six key modules, each chapter includes examples, problems, and labs, along with an answer key available on our website, so that you learn the fundamentals. Structural Competency for Architects will also help you pass your registration examinations.

## Theory of Machines and Mechanisms

The second edition of Shigley-Uicker maintains the tradition of being very complete, thorough, and somewhat theoretical. The principal changes include an expansion and updating of the dynamics material, expansion of the chapter on gears, an expansion of the material on mechanisms, a new introductory chapter. Intended for the Kinematics and Dynamics course in Mechanical Engineering departments.

## Waste Water Engineering

**Firewall Media**

## Design of Jigs, Fixtures and Press Tools

**Springer Nature** This textbook is aimed at providing an introduction to the subject for undergraduate students studying mechanical and manufacturing engineering at most universities. Many of the universities prescribe a syllabus that contains both Design of Jigs and Fixtures, and Design of Press Tools in a single semester course. Keeping the above in mind, this book is designed in two parts. Part-I deals with Jigs and Fixtures and Part-II is earmarked exclusively for the study of Press Tools. Both these subjects are built progressively in successive chapters. A separate appendix, in each part, provides short answer questions with answers, which will help the students in clarifying doubts and strengthen their knowledge. The explanatory notes and illustrations provided in the book will serve as an aid for learning. End-of-chapter questions and answers will prove useful for self study. This textbook will be extremely useful for the students and practicing engineers studying mechanical, manufacturing, and production engineering.

## Shigley's Mechanical Engineering Design

**McGraw-Hill**

## That First Step Changed My Life

**Notion Press** If the title of the book kindled your curiosity, you will understand very soon about its contents. That first step is the most important action that you would have to decide on, as you stand at the crossroad of life. Life is all about risks. If you shy away from the opportunities that knock at your door, you are bound to miss the bus. The next bus may come too late or never at all. One has to look for the change, and this book explores the way in which the change in fortunes was inextricably intertwined with the very first steps. Are you ready to step?

## Effective Product Design and Development

## How to Cut Lead Time and Increase Customer Satisfaction

**Irwin Professional Publishing** Uses case studies to show how lead times can be cut and tells how to design products responsive to changing customer requirements

## Thermal Power Plant

## Design and Operation

**Elsevier** Thermal Power Plant: Design and Operation deals with various aspects of a thermal power plant, providing a new dimension to the subject, with focus on operating practices and troubleshooting, as well as technology and design. Its author has a 40-long association with thermal power plants in design as well as field engineering, sharing his experience with professional engineers under various training capacities, such as training programs for graduate engineers and operating personnel. Thermal Power Plant presents practical content on coal-, gas-, oil-, peat- and biomass-fueled thermal power plants, with chapters in steam power plant systems, start up and shut down, and interlock and protection. Its practical approach is ideal for engineering professionals. Focuses exclusively on thermal power, addressing some new frontiers specific to thermal plants Presents both technology and design aspects of thermal power plants, with special treatment on plant operating practices and troubleshooting Features a practical approach ideal for professionals, but can also be used to complement undergraduate and graduate studies

## Learning to See

### Value Stream Mapping to Add Value and Eliminate Muda

**Lean Enterprise Institute** Value-stream maps are the blueprints for lean transformations and Learning to See is an easy-to-read, step-by-step instruction manual that teaches this valuable tool to anyone, regardless of his or her background. This groundbreaking workbook, which has introduced the value-stream mapping tool to thousands of people around the world, breaks down the important concepts of value-stream mapping into an easily grasped format. The workbook, a Shingo Research Prize recipient in 1999, is filled with actual maps, as well as engaging diagrams and illustrations. The value-stream map is a paper-and-pencil representation of every process in the material and information flow, along with key data. It differs significantly from tools such as process mapping or layout diagrams because it includes information flow as well as material flow. Value-stream mapping is an overarching tool that gives managers and executives a picture of the entire production process, both value and non value-creating activities. Rather than taking a haphazard approach to lean implementation, value-stream mapping establishes a direction for the company. To encourage you to become actively involved in the learning process, Learning to See contains a case study based on a fictional company, Acme Stamping. You begin by mapping the current state of the value stream, looking for all the sources of waste. After identifying the waste, you draw a map of a leaner future state and a value-stream plan to guide implementation and review progress regularly. Written by two experts with practical experience, Mike Rother and John Shook, the workbook makes complicated concepts simple. It teaches you the reasons for introducing a mapping program and how it fits into a lean conversion. With this easy-to-use product, a company gets the tool it needs to understand and use value-stream mapping so it can eliminate waste in production processes. Start your lean transformation or accelerate your existing effort with value-stream mapping. [Source : 4e de couv.]

## Theory and Practice of Pile Foundations

**CRC Press** Pile Foundations are an essential basis for many structures. It is vital that they be designed with the utmost reliability, because the cost of failure is potentially huge. Covering a whole range of design issues relating to pile design, this book presents economical and efficient design solutions and demonstrates them using real world examples. Co

## Mechanics of Materials

**Firewall Media**

## CONTROL ENGINEERING

Market\_Desc: Primary Market· VTU: 06ME71 Control Engineering 7th Sem/ EC/TC/EE/IT/BM/ML 06ES43 4th Sem· JNTU: ECE/EEE Control Systems 4th Sem· Anna: ECE/EEE PTEC 9254/PTEE 9201 Control Systems 3rd Sem· UPTU (ME)EEE-409 Electrical Machines & Automatic Control 4th Sem/ ECE/ETE/EEE EEC503/EEE502 Control Systems 5th Sem· Mumbai: ETE Principles of Control System 5th Sem· BPUT ETE/EEE/ECE CPEE 5302 Control System Engineering 6th Sem· WBUT EE-503 Control System 5th Sem; EC-513 Control System 5th Sem· RGPV EC-402 Control Systems, 4th Sem· PTU ECE/EIE/EEE IC-204 Linear Control System 4th Sem· GNDU ECE ECT-223 Linear Control System 4th Sem  
Secondary Market· BPUT:CPME 6403 Mechanical Measurement and Control, 7th sem· RGPV: ME 8302 Mechatronics, 8th

Sem elective· Anna: PTME9035 measurement and controls, 8th Sem· UPTU: TME-028 Automatic Controls, Elective 8th Sem· Mumbai: Mechatronics, 6th Sem· WBUT: ME 602 Mechatronics and Modern Control, 6th Sem Special Features: § The book provides clear exposure to the principles of control system design and analysis techniques using frequency and time domain analysis. § Explains the important topics of PID controllers and tuning procedures. § Includes state space methods for analysis of control system. § Presents necessary mathematical topics such as Laplace transforms at relevant places. § Contains detailed artwork capturing circuit diagrams, signal flow graphs, block diagrams and other important topics. § Presents stability analysis using Bode plots, Nyquist diagrams and Root locus techniques. § Each chapter contains a wide variety of solved problems with stepwise solutions. § Appendices present the use of MATLAB programs for control system design and analysis, and basic operations of matrices. § Model question papers contain questions from various university question papers at the end of the book. § Excellent pedagogy includesü 520+ Figures and tablesü 200+ Solved problemsü 90+ Objective questionsü 100+ Review questionsü 70+ Numerical problems About The Book: Control Engineering is the field in which control theory is applied to design systems to produce desirable outputs. It essays the role of an incubator of emerging technologies. It has very broad applications ranging from automobiles, aircrafts to home appliances, process plants, etc. This subject gains importance due to its multidisciplinary nature, and thus establishes itself as a core course among all engineering curricula. This textbook aims to develop knowledge and understanding of the principles of physical control system modeling, system design and analysis. Though the treatment of the subject is from a mechanical engineering point of view, this book covers the syllabus prescribed by various universities in India for aerospace, automobile, industrial, chemical, electrical and electronics engineering disciplines at undergraduate level.

## Theory of Machines

**Pearson Education India** Theory of Machines is a comprehensive textbook for undergraduate students in Mechanical, Production, Aeronautical, Civil, Chemical and Metallurgical Engineering. It provides a clear exposition of the basic principles and reinforces the development of problem-solving skills with graded end-of-chapter problems. The book has been thoroughly updated and revised with fresh examples and exercises to conform to the syllabi requirements of the universities across the country. The book features an introduction and chapter outline for each chapter; it contains 265 multiple choice questions at the end of the book; over 300 end-of-chapter exercises; over 150 solved examples interspersed throughout the text and a glossary for ready reference to the terminology.

## Mastering CAD/CAM

**McGraw-Hill Science, Engineering & Mathematics** Provides a modern, comprehensive overview of computer-aided design and manufacturing. This text is designed to be student-oriented, and covers important developments, such as solid modeling and parametric modeling. The topic coverage is supported throughout with numerous applied examples, cases and problems.

## Utilisation of Electrical Power

**Firewall Media**

## Fundamentals of Computing and Programming in C

**Vikas Publishing House** Fundamentals of Computing and Programming in C is specifically designed for first year engineering students covering the syllabus of various universities. It provides a comprehensive introduction to computers and programming using C language. The topics are covered sequentially and blended with examples to enable students to understand the subject effectively and imbibe the logical thinking required for software industry applications. KEY FEATURES • Foundations of computers • Contains logical sequence of examples for easy learning • Efficient method of program design • Plenty of solved examples • Covers simple and advanced programming in C

## Open-Channel Flow

**Springer Science & Business Media** Open Channel Flow, 2nd edition is written for senior-level undergraduate and graduate courses on steady and unsteady open-channel flow. The book is comprised of two parts: Part I covers steady flow and Part II describes unsteady flow. The second edition features considerable emphasis on the presentation of modern methods for computer analyses; full coverage of unsteady flow; inclusion of typical computer programs; new problem sets and a complete solution manual for instructors.

# Basic civil and mechanical engineering

## A Textbook of Strength of Materials

### (in S.I. Units)

Laxmi Publications

## DESIGN AND ANALYSIS OF LEAN PRODUCTION SYSTEMS

**John Wiley & Sons** Market\_Desc: Management consultants and production control professionals in discrete parts manufacturing (both electronics and mechanical parts industries) Special Features: · Multi-level inventory material· Organized by topic and chronologically· Covers supply chain integration issues within plant models About The Book: This book covers the design and improvement of single and multistage production systems. Following the standard production planning and scheduling decision hierarchy, it describes the inputs and outputs at each level of the decision hierarchy and one or more decision approaches. The assumptions leading to each approach are included along with the details of the model and the corresponding solution. Modern system concepts and the engineering methods for creating lean production systems are included.

## RENEWABLE ENERGY SOURCES AND EMERGING TECHNOLOGIES

**PHI Learning Pvt. Ltd.** This book, now in its Second Edition, is an introductory text on renewable energy sources, technologies and their applications—a subject which is becoming increasingly important worldwide. This edition includes two new chapters that introduce contemporary practices in renewable technologies. It also discusses issues on environmental degradation and its reasons and remedies. Besides this, a large number of numerical problems to correlate theory with typical values and chapter-end review questions are also given to reinforce the understanding of the subject matter. Written in an accessible style, this text is designed to serve the needs of undergraduate students in electrical, mechanical and civil engineering disciplines. It will also be useful for all higher-level courses in energy programmes and multi-disciplinary postgraduate courses in science and engineering. NEW TO THIS EDITION : Inclusion of two new chapters—‘Hybrid Systems’ and ‘Environment, Energy and Global Climate Change’. A new section on Distributed Energy System and Dispersed Generation. Appendices on • Smart grid and grid system in India • Remote village electrification with renewable energy sources • Indian Electricity Act 2003, which supports exploration of Renewable Energy. SALIENT FEATURES : Provides balanced introduction to all aspects of solar energy conversion including PV technology. Gives comprehensive coverage of all facets of wind power development. Explains small hydropower projects with illustrative figures. Emphasises the importance of availability of biofuel from Jatropha plant. Special attention is given to ‘gas hydrates’ and ‘hydrogen energy’ sources. Fuel cells are explained as per the latest technology available. Harnessing of ocean energy is dealt with in detail. Utilisation of biomass and solid waste for energy recovery is emphasised.

## SENSORS AND TRANSDUCERS

**PHI Learning Pvt. Ltd.** This text is a lucid presentation of the principles of working of all types of sensors and transducers which form the prime components of the instrumentation systems. The characteristics of the sensors and transducers and the operating principles of transducer technologies have been discussed in considerable detail. Besides covering conventional sensors such as electromechanical, thermal, magnetic, radiation, and electroanalytical, the recent advances in sensor technologies including smart and intelligent sensors used in automated systems are also comprehensively described. The application aspects of sensors used in several fields such as automobiles, manufacturing, medical, and environment are fully illustrated. With a straightforward approach the text is aimed at building a sound understanding of the fundamentals, and inculcating analytical skills needed for design and operation. Numerous schematic representations, examples, and review questions help transcend underlying basics to automation and instrumentation. The book with incisive explanations and all the pedagogic attributes is designed to serve the needs of the engineering students of instrumentation, chemical, mechanical, and electrical disciplines. It will also be a useful text for the students of applied sciences.

## Kinematics of Machinery

**Technical Publications** Kinematics of Machinery is the branch of engineering science which deals with the study of relative motion between the various parts of a machine and the forces which act on them. It gives information about the basic concepts and layout of linkages in the assembly of a system or a machine. The subject provides information about the principles in analysing the assembly with respect to the displacement, velocity and acceleration at any point in a link of a mechanism. This book gives technique to find velocity and acceleration of different mechanisms by graphical and analytical methods. It also includes the basic concepts of toothed gearing and kinematics of gear trains and the effect of friction in motion transmission and in machine components. 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.

## A TEXTBOOK OF ENGINEERING CHEMISTRY

**S. Chand Publishing** Any good text book, particularly that in the fast changing fields such as engineering & technology, is not only expected to cater to the current curricular requirements of various institutions but also should provide a glimpse towards the latest developments in the concerned subject and the relevant disciplines. It should guide the periodic review and updating of the curriculum.

## Industrial Engineering And Management

## Design and Analysis of Control Systems

**CRC Press** Written to inspire and cultivate the ability to design and analyze feasible control algorithms for a wide range of engineering applications, this comprehensive text covers the theoretical and practical principles involved in the design and analysis of control systems. From the development of the mathematical models for dynamic systems, the author shows how they are used to obtain system response and facilitate control, then addresses advanced topics, such as digital control systems, adaptive and robust control, and nonlinear control systems.

## MECHATRONICS: INTEGRATED MECHANICAL ELECTRONIC SYSTEMS (With CD )

**John Wiley & Sons** Market\_Desc: This textbook is written for undergraduate students embarking on introductory course in Mechatronics and is also a reference book for engineers, and other practicing professionals, who are keen on understanding the principles of Mechatronic systems and engineering. Special Features: · Text presented in an integrated and lucid style. · Design of discrete control systems using fluid power circuits and PLCs explained. · User-friendly book with simple explanations and illustrations. · Many worked out examples and case studies. · Numerous illustrations, review questions, problems and exercises given. · Appendices, solved question and answers included in companion CD. · Instructor Manual CD with Powerpoint presentations and questionnaire to be made available in December 2008. About The Book: This book integrates the principles of electrical and electronic engineering with Mechatronic system application in a simple manner, and is designed for both mechanical/industrial engineers. This book enables one to design and select analog and digital circuits, microprocessor-based components, mechanical devices, sensors and actuators, and control devices to design modern mechatronic systems. Mechatronics - Integrated Mechanical Electronic System, consists of 16 chapters and each chapter begins with learning objectives and a brief introduction. Topics are then divided into labeled sections with explanations, examples, along with appropriate practical applications. A variety of solved problems with step by step solutions are included. Each chapter ends with key terms, summary of the chapter, objective type questions and exercises.

## Elements of Properties of Matter

**S. Chand Publishing** The book is a comprehensive work on Properties of Matter which introduces the students to the fundamentals of the subject. It adopts a unique 'ab initio' approach to the presentation of matter- solids, liquids and gasses- with extensive usage of Calculus throughout the book. For each topic, the focus is on optimum blend of theory as well as practical application. Examples and extensive exercises solved with the logarithms reinforce the concepts and stimulate the desire among users to test how far they have grasped and imbibed the basic principles. It primarily caters to the undergraduate courses offered in Indian universities.

# General Catalog

## Engineering Mechanics

**New Age International** This Is A Comprehensive Book Meeting Complete Requirements Of Engineering Mechanics Course Of Undergraduate Syllabus. Emphasis Has Been Laid On Drawing Correct Free Body Diagrams And Then Applying Laws Of Mechanics. Standard Notations Are Used Throughout And Important Points Are Stressed. All Problems Are Solved Systematically, So That The Correct Method Of Answering Is Illustrated Clearly. Care Has Been Taken To See That Students Learn The Methods Which Help Them Not Only In This Course, But Also In The Connected Courses Of Higher Classes. The Dynamics Part Is Split In To Sufficient Number Of Chapters To Clearly Illustrate Linear Motion To General Plane Motion. A Chapter On Shear Force And Bending Moment Diagrams Is Added At The End To Coyer The Syllabi Of Various Universities. All These Feature Make This Book A Self-Sufficient And A Good Text Book.

## Engineering Chemistry

### Fundamentals and Applications

**Cambridge University Press** Written in lucid language, the book offers a detailed treatment of fundamental concepts of chemistry and its engineering applications.

### Air Pollution and Control

**Springer** This book focuses on various aspects related to air pollution, including major sources of air pollution, measurement techniques, modeling studies and solution approaches to control. The book also presents case studies on measuring air pollution in major urban areas, such as Delhi, India. The book examines vehicles as a source of air pollution and addresses the quantitative analysis of engine exhaust emissions. Subsequent chapters discuss particulate matter from engines and coal-fired power plants as a major pollutant, as well as emission control techniques using various after treatment systems. The book's final chapter considers future perspectives and a way forward for sustainable development. It also discusses several emission control techniques that will gain relevance in the future, when stricter emission norms will be enforced for international combustion (IC) engines as well as power plants. Given its breadth of coverage, the book will benefit a wide variety of readers, including researchers, professionals, and policymakers.

## Power Plant Engineering

## Engineering Surveying

**CRC Press** Engineering surveying involves determining the position of natural and man-made features on or beneath the Earth's surface and utilizing these features in the planning, design and construction of works. It is a critical part of any engineering project. Without an accurate understanding of the size, shape and nature of the site the project risks expensive and time-consuming errors or even catastrophic failure. This fully updated sixth edition of Engineering Surveying covers all the basic principles and practice of the fundamentals such as vertical control, distance, angles and position right through to the most modern technologies. It includes: \* An introduction to geodesy to facilitate greater understanding of satellite systems \* A fully updated chapter on GPS, GLONASS and GALILEO for satellite positioning in surveying \* All new chapter on the important subject of rigorous estimation of control coordinates \* Detailed material on mass data methods of photogrammetry and laser scanning and the role of inertial technology in them With many worked examples and illustrations of tools and techniques, it suits students and professionals alike involved in surveying, civil, structural and mining engineering, and related areas such as geography and mapping.

## Kinematics and Dynamics of Machinery

This book covers the kinematics and dynamics of machinery topics. It emphasizes the synthesis and design aspects and the use of computer-aided engineering. A sincere attempt has been made to convey the art of the design process to students in order to prepare them to cope with real engineering problems in practice. This book provides up-to-date methods and techniques for analysis and synthesis that take full advantage of the graphics microcomputer by emphasizing design as well as analysis. In addition, it details a more complete, modern, and thorough treatment of cam design than existing texts in print on the subject. The author's website at [www.designofmachinery.com](http://www.designofmachinery.com) has updates, the author's computer programs and the author's PowerPoint lectures exclusively for professors who adopt the book. Features Student-friendly computer programs written for the design and analysis of mechanisms and machines. Downloadable computer programs from website Unstructured, realistic design problems and solutions

## Industrial and Commercial Heat Recovery Systems