

**MANAGEMENT AND ENGINEERING ECONOMICS**  
**B.E, V Semester, Mechanical Engineering**  
**[As per Choice Based Credit System (CBCS) scheme]**

|                                      |                                |                   |           |
|--------------------------------------|--------------------------------|-------------------|-----------|
| <b>Course Code</b>                   | <b>17ME51</b>                  | <b>CIE Marks</b>  | <b>40</b> |
| <b>Number of Lecture Hours/Week</b>  | <b>04</b>                      | <b>SEE Marks</b>  | <b>60</b> |
| <b>Total Number of Lecture Hours</b> | <b>50(10 Hours per Module)</b> | <b>Exam Hours</b> | <b>03</b> |

**Credits – 04**

**Course Objectives:**

- Examine the meaning, importance, nature of management, its difference between management and administration and role of managers in management.
- Examine the meaning characteristics principles and process of organizing.
- Describe effective communication process, its importance, types and purpose for running an organization.
- Explain the importance of engineering economics, Law of demand and supply in engineering decision making.
- Describe various interest rate factors and implement the same for economic decision making.
- Examine different economic analysis methods-NPW, EAW, IRR, FW for decision making.
- Discuss different component of costs and methods of cost estimation.
- Explain depreciation, different methods of computing depreciation.
- Discuss taxation concepts-income tax and corporate taxes.

**Module - 1**

**Management:** Introduction - Meaning - nature and characteristics of Management, Scope and Functional areas of management - Management as science, art of profession - Management & Administration - Roles of Management, Levels of Management, Development of Management Thought-early management approaches – Modern management approaches.

**Planning:** Nature, importance and purpose of planning process Objectives -Types of plans (Meaning Only) - Decision making Importance of planning -steps in planning & planning premises - Hierarchy of plans.

## Module - 2

**Organizing And Staffing:** Nature and purpose of organization Principles of organization - Types of organization - Departmentation Committees- Centralization Vs Decentralization of authority and responsibility - Span of control - MBO and MBE (Meaning Only) Nature and importance of staffing--:Process of Selection & Recruitment (in brief).

**Directing & Controlling:** Meaning and nature of directing Leadership styles, Motivation Theories, Communication - Meaning and importance - coordination, meaning and importance and Techniques of Co Ordination. Meaning and steps in controlling - Essentials of a sound control system - Methods of establishing control (in brief)

## Module - 3

**Introduction:** Engineering and economics, Problem solving and decision making, Laws of demand and supply, Difference between Microeconomics & Macroeconomics, equilibrium between demand & supply, elasticity of demand, price elasticity, income elasticity.

Law of Returns, Interest and interest factors, simple and compound interest, Cash flow diagrams, personal loans and EMI payment calculation with flexible interest rates, Discussion and problems

## Module - 4

**Present, future and annual worth and rate of returns:** Basic present worth comparisons, Present worth-equivalence, Assets with unequal lives and infinite lives, future worth comparisons, payback comparisons, Equivalent annual worth comparisons, situations for annual worth comparisons. Asset life, Rate of return, minimum acceptable rate of return, IRR anomalies and misconceptions, Cost of capital, comparisons of all present future and annual worth with IRR, product costing, Discussions and problems

## Module - 5

**Costing and depreciation:** Components of costs, estimation of selling price, marginal cost, first cost, all kinds of overheads, indirect cost estimation with depreciation, mensuration and estimation of material cost, cost estimation of mechanical process, idling time. Product costing (approaches to product costing), causes of depreciation, methods of computing depreciation charges, straight line method, declining balance method, sum of years method, sinking fund method, service output methods, taxation concepts, personal income taxes and corporate taxes, Discussions and problems.

### Course outcomes:

**On completion of this subject students will be able to**


1. Explain the development of management and the role it plays at different levels in an organization.
2. Comprehend the process and role of effective planning, organizing and staffing for the development of an organization.
3. Understand the necessity of good leadership, communication and coordination for establishing effective control in an organization.
4. Understand engineering economics demand supply and its importance in economics decision making and problem solving.
5. Calculate present worth, annual worth and IRR for different alternatives in economic decision making.
6. Understand the procedure involved in estimation of cost for a simple component, product costing and depreciation, its methods.

**TEXT BOOKS:**

1. Principles of Management by Tripathy and Reddy
2. Mechanical estimation and costing, T.R. Banga & S.C. Sharma, 17<sup>th</sup> edition 2015
3. Engineering Economy, Riggs J.L. McGraw Hill, 2002
4. Engineering Economy, Thuesen H.G. PHI, 2002

**REFERENCE BOOKS**

1. Management Fundamentals- Concepts, Application, Skill Development - RobersLusier - Thomson
2. Basics of Engineering Economy, Leland Blank & Anthony Tarquin, McGraw Hill Publication (India) Private Limited
3. Engineering Economics, R.Paneerselvam, PHI publication
4. Fundamentals of Management: Essential Concepts and Applications, Pearson Education, Robbins S.P. and Decenzo David A.
5. Economics: Principles of Economics, N Gregory Mankiw, Cengage Learning
6. Modern Economic Theory, By Dr. K. K. Dewett & M. H. Navalur, S. Chand Publications

  
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