

4/4 B.Tech - EIGHTH SEMESTER

EC8T4D

Engineering Economics & Management

Credits: 4

Lecture : 4 periods/week

Tutorial: 1 period /week

Internal assessment: 30 marks

Semester end examination: 70 marks

Course Objectives:

- To develop knowledge of fundamentals of management and economics concepts, skills and tools, to aid in problem solving and decision making.
- To discuss the evolution of principles that make it possible to design facilities, processes, and control systems with a degree of predictability as to their performance.
- To develop and understanding about the organizational structure and relationship between authority and responsibility in various structures.
- To enhance the skills of material management and quality control by using various techniques.
- To familiarize the students with macro-environmental forces affecting business operations in the Indian context; and the dynamics of the operation of these forces.
- To help students understand how each institution works as a financial intermediary to maximize the benefit by fulfilling finance needs of an organisation.
- To develop the skill in the students regarding the project development and implementation.
- To familiarize the student with widely used networking models related to decision making, problem analysis and their interpretations in project management.

Learning Outcomes:

- Students will be aware of the design of organizational structure both industries and academia.
- Students understand the impact of various micro and macro economic variables that influence the organisational functions.
- Students will analyse various functions of management that include operations management, material management, marketing management, HR management helpful in success of organisations.
- Student will develop skills regarding the project management inclusive of network project scheduling techniques.

UNIT- I

Introduction to Management and Engg Economics: Concepts of Management- nature, importance and Functions of Management, Taylor's Scientific Management Theory, Fayol's Principles of Management. Introduction to Engineering and Economics, Micro and Macro Economics.

UNIT- II

Industrial Organization: Basic concepts related to Organisation - Types of mechanistic and organic structures of organisation and their merits, demerits and suitability. Characteristic features of Industrial organization, Features and evaluation of Sole Proprietorship, Partnership, Joint Stock Company, State/Public Enterprises and their types.

UNIT- III

Operations Management: Principles and Types of Plant Layout-Methods of production (Job, batch and Mass Production), Work Study -Basic procedure involved in Method Study and Work Measurement, Business Process Reengineering.

UNIT- IV

Materials Management: Objectives, Need for Inventory control, EOQ, ABC Analysis, Purchase Procedure, Stores Management and Stores Records. Statistical Quality Control: chart, R chart, c chart, p chart, (simple Problems), Acceptance Sampling, Deming's contribution to quality.TQM, Six Sigma.JIT.

UNIT-V

Business Environment: Importance at national and international level – problems and challenges – factors both internal and external influencing business environment. Consumer protection act 1986.

UNIT- VI

Financial system: The Indian financial system – types of banks and their functions – long term financing – the stock market – functions and problems faced by the stock market – Industrial finance – loans and return of loans – cost benefit analysis.

UNIT-VII

Project Management Concepts: Concept and characteristics of a project ,importance of project management, types of project, project organizational structure, project life cycle, Statement of Work, Work Breakdown Structure. Feasibility study, technical and financial appraisal, Social cost benefit analysis.

UNIT- VIII

Project Management (PERT/CPM): Network Analysis, Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM), Identifying critical path, Probability of Completing the project within given time, Project Cost Analysis, Project Crashing. (Simple problems)

Learning Resources

Text Books:

1. Management, Koontz, H and Wihrich.H McGraw, New York, 10th Edition, 1995.
2. Principles of Management, Ramasamy.T Himalaya Publishing House, New Delhi, 2000.
3. Managerial Economics and Financial Analysis, N. Appa Rao. & P. Vijaya Kumar Cengage Publications, New Delhi, 2011

References:

1. Managerial Economics, Suma damodaran Oxford, 2011
2. Managerial Economic and Financial Analysis, S.A. Siddiqui & A.S. Siddiqui, New Age International Publishers, 2011
3. Managerial Economics and Financial Analysis, N. Appa Rao. & P. Vijaya Kumar, Cengage Publications, New Delhi, 2011
4. Entrepreneurship Narayana Reddy, Cengage learning, New Delhi, 2010
5. Entrepreneurship, Rajeev Roy, Oxford University Press, New Delhi, 2010
6. Projects, Prasanna Chandra, Tata McGraw-Hill Education, 2009.