

ECONOMICS FOR ENGINEERS

Paper Code: ETEN-308
Paper: Economics for Engineers

L	T/P	C
3	1	4

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks.

Objective: The objective of this course is to give the working engineer an overview of the economics principles often employed in effective engineering decisions as related to the designing, planning and implementation of successful environmental projects.

UNIT-I

Engineering economics and its definition, Nature and scope, Overview of Indian Financial Scenario. Utility, Theory of demand, law of demand and its exceptions, Elasticity of demand, Law of supply and elasticity of supply, Determination of equilibrium price under perfect competition. Time value of money-Simple and Compound Interest, Cash Flow Diagram, Principle of Economic Equivalence Evaluation of Engineering projects, Concept of Internal rate of return (IRR).

[T1, T2][No. of Hours: 11]

UNIT-II

Cost Concepts, Elements of costs, Preparation of cost sheet, Segregation of costs into Fixed and variable costs, Break-even Analysis-Linear Approach. Engineering Accounting, Manufacturing Cost, Manufacturing Cost Estimation, Preparing Financial Business Cases, Profit and loss A/c Balance sheet. Asset Depreciation and its Impact on Economic Analyses, Depreciation Policy, Straight line method and declining balance method, Economic Justification of Asset Replacements.

[T1, T2][No. of Hours: 11]

UNIT - III

Types of business ownership: Private ownership- individual, Partnership, Joint stock companies, Co-operative societies, State ownership-government departmental organization, Public corporations, Government companies, Public Private Partnership (PPP) and its management. Store keeping, Elements of Materials management and control polices. Banking: Meaning and functions of commercial banks, Function of Reserve Bank of India.

[T1, T2][No. of Hours: 12]

UNIT - IV

Environmental Economics: Relevance of Environmental Economics, Economic development in India and its implication on natural resources and environment, Economic efficiency and markets, the economics of environmental quality, Framework of analysis, Cost Benefit Analysis, Cost criteria for environmental evaluation, Decentralized policies, Command and Control strategies, Emission taxes and subsidies, Transferable discharge permits, Environmental Kuznets Curve(EKC).

[T1, T2][No. of Hours: 11]

Text Books:

- [T1] S.C. Sharma and T.R. Banga, "Industrial Organization and Engineering Economics". Khanna Pub.
[T2] Riggs, Bedworth and Randhwa, "Engineering Economics", McGraw Hill Education India.

Reference Books:

- [R1] Roger Perman and others,"Natural resources and Environmental Economics", 2nd Ed., Longman, US,1996.
[R2] C. T. Horngreen, "Cost Accounting", Pearson Education India.
[R3] R. R. Paul, "Money banking and International Trade", Kalyani Publisher, New-Delhi.