

2125  
B.E. (Computer Science and Engineering)  
Fifth Semester  
AS – 201: Economics

Time allowed: 3 Hours

Max. Marks: 50

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

*x-x-x*

1. Answer the following:-

- a) Examine why duopoly markets often lead to strategic interdependence among firms.
- b) How does structural transformation among economic sectors indicate economic development?
- c) Distinguish between microeconomic and macroeconomic decision-making with one example each.
- d) Why is valuation of software patents more complex than valuation of physical assets?
- e) Explain how engineers contribute to value creation beyond technical roles in modern enterprises. (5x2)

**UNIT - I**

2. a) Critically explain the Law of Variable Proportions. How does this law guide production decisions in technology-driven industries? Illustrate with a suitable diagram.  
b) Distinguish between internal and external economies of scale. Evaluate their relevance in large IT and software firms. (2x5)
3. Analyze the relevance of utility and demand theories in the digital economy:
  - a) Law of Diminishing Marginal Utility in the context of digital goods
  - b) Law of Equi-Marginal Utility and consumer choice
  - c) Determinants of demand for technology products
  - d) Strategic applications of elasticity of demand in pricing software products (10)
4. a) Critically examine the nature and scope of Economics as a social science in the era of technological advancement.  
b) Analyze the interrelationship between Economics and Engineering with reference to resource optimization, cost analysis, and innovation management. (2x5)

P.T.O.

(2)

**UNIT - II**

5. Market structures significantly influence firm behaviour and economic efficiency. Critically compare Perfect Competition, Monopoly, Monopolistic Competition, and Oligopoly with respect to:
- Price and output determination
  - Short-run and long-run equilibrium
  - Efficiency and consumer welfare
  - Relevance to modern digital and technology markets
  - Use diagrams wherever appropriate. (10)
6. a) Evaluate the strategic, operational, and legal risks involved in outsourcing software development. Suggest effective risk mitigation strategies from a managerial and economic perspective.
- b) Critically analyze different methods of software valuation, highlighting their limitations in the context of rapidly changing technology. (2x5)
7. a) Define National Income and explain its significance in economic planning and policy formulation.
- b) Explain any four methods of measuring national income. Discuss the conceptual and practical difficulties involved in accurate national income estimation in developing economies like India. (2x5)