

F.S of BE-III (Computer Science & Engineering)

Engineering Economics (CSE 1505)

Date: 08/12/2023

Day: Friday

Time: 3.00 pm to 6.00 pm

Max Marks: 80

Notes:

1. There is only one section and all questions must be answered in one section only.
2. All questions are compulsory.
3. Figures to the right indicate the respective marks.
4. Show appropriate calculations and diagrams wherever necessary.

Q.1 Explain the fundamental economic problems with suitable examples. [10]

Q.2 Answer the following questions. [10]

- a) "Every choice has an opportunity cost and opportunity costs affect the choices people make." Justify this statement.
- b) What are the different factors of production? Explain the differences between them giving examples.

Q.3 Explain the following with suitable diagrams: [10]

a) Various degrees of price elasticity of supply.

b) Average Cost.

Q.4 Explain the key characteristics of a monopolistic competition market structure. How does this market structure differ from perfect competition? [10]

Q.5 Solve the following examples: [20]

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- a) The demand for computer monitors is given by the equation $Q_d = 700 - P$, while the supply is given by the equation $Q_s = 100 + P$. In both equations P denotes the market price. Fill in the following table. At what price is the market in equilibrium?

P	200	250	300	350	400
Q_d					
Q_s					

- b) From the data about supply of alarm clocks, calculate the price elasticity of supply from: point J to point K, and point N to point P. Classify the elasticity at each point as elastic, inelastic, or unit elastic.

Point	Price (Rs.)	Quantity Supplied
J	8	50
K	9	70
L	10	80
M	11	88
N	12	95
P	13	100

- c) ABC Company produces and sells widgets at a selling price of \$20 each. The variable cost per widget is \$10, and the fixed costs amount to \$30,000. Calculate the break-even point in units. Additionally, if the company sells 5,000 widgets, what is the profit or loss?
- d) A company's total cost function is given by the following equation:

$$Cq = 500Q + 2Q^2$$

where, q is the quantity of units produced. Calculate the following:

- i. Fixed Costs
- ii. Variable Costs at a production level of 100 units
- iii. Marginal Cost at a production level of 100 units
- iv. Average Variable Cost at a production level of 100 units
- v. Average Total Cost at a production level of 100 units

- Q.6 Suppose a country's central bank is concerned about rising inflation. Describe the possible monetary policy tools and actions the central bank might undertake to address this issue.

[10]

- Q.7 Answer the following:

[10]

Continue . . . ③

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- a) Consider a hypothetical economy. The Gross Domestic Product (GDP) at market prices is \$500 billion, and the Net National Product (NNP) at market price is \$450 billion. The depreciation (or capital consumption allowance) in the economy is \$30 billion. Calculate the Net factor Income from Abroad.
- b) In a simplified economy, households and firms engage in the circular flow of income. Assume there are no government or international sectors. Describe the key components of the circular flow model.

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