VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA

Odd Mid Semester Examination for Academic Session 2025-26

SEMESTER: 3rd

COURSE NAME: BTech

BRANCH NAME: CSE, CSE(AI/ML), EE, EEE, ETC

SUBJECT NAME: Engineering Economics

TIME: 90 Minutes

FULL MARKS: 30

Answer All Questions.

The figures in the right hand margin indicate Marks. *Symbols carry usual meaning.*

[2 × 3]

Q1. Answer all Questions.

a) Calculate GDP at market price if NDP at factor cost is 3200 crore, Depreciation cost is 400 crore, Indirect Cost is 70 crore, and Net factor income from abroad (NFIA) is 50 crore? - CO1

b) Differentiate between Income Consumption Curve (ICC) and Price Consumption Curve (PCC). - CO2

c) Define the relationship between Average product and Marginal product. - CO3

[8]

Q2.

a) A consumer's income increases from ₹20,000 to ₹25,000 per month, and the demand for restaurant meals rise from 10 to 15 per month. - CO1

i) Calculate the income elasticity of Demand.

ii) Interpret whether restaurant meal is a necessity, luxury or inferior good, with proper explanation.

OR

b) *Using the demand and supply framework, explain how equilibrium price is determined. Discuss how a change in determinants of demand and supply affect the equilibrium.* - CO1

[8]

Q3.

a) Discuss the key properties of indifference curves and explain their significance in analysing consumer behaviour. Explain the consumer's equilibrium and its necessary and sufficient conditions using indifference curve approach - CO2

OR

b) Elucidate why attitude toward risk is considered a life-cycle phenomenon - CO2

Q4. [8]

a) A perfectly competitive firm has a total cost function: $TC=30+4Q+0.5Q^2$ - CO3

The firm sells its product at a market price of ₹40 per unit.

(i) Find out the total revenue function.

(ii) Determine the marginal cost (MC) and marginal revenue (MR).

(iii) Find out the profit-maximizing output.

(iv) Calculate the profit at profit-maximizing output level.

OR

b) Explain the limitations of the three-sector model of the circular flow of income and highlight the significance of the four-sector model. - CO3