

POST-GRADUATE COURSE
Term End Examination — June, 2023/December, 2023
ECONOMICS

Paper-VI : MICROECONOMIC THEORY

Time : 2 hours]

[Full Marks : 50
 Weightage of Marks : 80%

Special credit will be given for precise and correct answer. Marks will be deducted for spelling mistakes, untidiness and illegible handwriting. The figures in the margin indicate full marks.

Use of scientific calculator is strictly prohibited.

1. Answer any *four* of the following questions : $2\frac{1}{2} \times 4 = 10$

- a) What is revealed preference hypothesis ?
- b) Write down the CES production function.
- c) Why is there no supply curve under monopoly ?
- d) Explain the idea of Prisoners' Dilemma.
- e) What is an Offer curve in Pareto's exchange model ?
- f) What is expected utility ?

2. Answer any *four* of the following questions : $5 \times 4 = 20$

- a) What can you say about the consumer's attitude towards risk with the following utility functions ?
 - i) $U(M) = a + bM, a, b > 0$
 - ii) $U(M) = aM + bM^2, a, b > 0$
- b) Solve for the pure strategy Nash equilibrium using the Peace-War pay off matrix :

		Country B	
		B	
Country A	A	Peace	War
	Peace	3, 3	0, 4
	War	4, 0	1, 1

- c) What are the shapes of the indifference curves if two goods are (i) perfectly complementary goods and (ii) perfect substitutes ?
- d) Construct an indirect utility function that corresponds to the direct utility function $U = \alpha \log q_1 + q_2$.
- e) Prove that a monopolist will never, in equilibrium, produce on the inelastic part of the demand curve.
- f) What is homogeneous production function ? State its major properties. 2 + 3

3. Answer any *two* of the following questions : 10 × 2 = 20

- a) State the relationship among AVC, MC and AC.
- b) What is duality approach in consumer theory ? In this connection, define indirect utility function and state its properties.
- c) Two breakfast cereal companies face a market in which two new variations of cereal can be successfully introduced. But each firm has the resource to introduce only one product. From the product choice problem given below, find the Nash equilibrium.

		Firm 2	
		1	
Firm 1	2	Crispy	Sweet
	Crispy	- 5, - 5	10, 10
	Sweet	10, 10	- 5, - 5

- d) Suppose that $TC = 100 + 60Q - 10Q^2$, where Q is the quantity of output. Find
 - i) AFC
 - ii) AVC
 - iii) AC if $Q = 5$
 - iv) Why is the short run MC curve generally U-shaped ?

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