

2023

Z(3rd Sm.)-Economics-H/CC-5/CBCS

**ECONOMICS — HONOURS**

**Paper : CC-5**

**(Intermediate Microeconomics-I)**

**Full Marks : 65**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**Group - A**

1. Answer **any ten** questions :

- (a) What do you mean by fair gamble? 2
- (b) What does it mean to say that a person is risk averse? 2
- (c) In the short-run if the price of the fixed factor of a competitive firm rises, what will happen to  
(i) Price of the good, (ii) Profit? 1+1
- (d) If a firm has Increasing Returns to Scale, what would happen to its profit if price of its product  
remains fixed and if doubles its scale of operation? Justify your answer. 2
- (e) Graph the total revenue curve of a competitive firm, price being ₹ 5. 2
- (f) Show that for a competitive firm  $P = AR = MR$ . 2
- (g) What does the rectangle under Average Fixed Cost curve represent at any level of output? Does  
the area increase with the level of output? Justify your answer. 1+1
- (h) State whether the following statements are true or false :  
(i) Average fixed cost increases with output.  
(ii) Average cost can never rise while marginal cost is declining. 1+1
- (i) The Technical Rate of Substitution between factors  $x_1$  and  $x_2$  is  $(-4)$ . If you desire to produce  
the same amount of output but cut your use of  $x_1$  by 3 units, how many more units of  $x_2$  will you  
need? 2
- (j) In a competitive market establish the relationship between  $MRP_L$  and  $VMP_L$ . 2
- (k) Suppose that a cost minimising firm uses two inputs K and L which are perfect substitutes. If the  
wage is twice that of the rental rate, find the optimal input combination. 2
- (l) If the elasticity of supply is zero, what will be the amount of economic rent? 2
- (m) Suppose the expenditure of a family in period-1 is ₹ 8,00,000 and that in period-2 is ₹ 9,80,000.  
If the Pasche price index is 1.415, what is the consumer better-off or worse-off in period-2? 2

**Please Turn Over**

(2)

- (n) A small cookie company, whose only variable input is labour, finds that the average worker can produce 50 cookies per day. The cost of average worker is ₹ 150 per day and the price of the cookie is ₹ 2.50. Is the company maximising its profit? Justify your answer. 2
- (o) Let the labour supply function is given by  $L^s = -10 + 2W$ , if wage = 45 units, find the economic rent. 2

**Group - B**

5×3

2. Answer *any three* questions :

- (a) Discuss the implications of the violation of Weak Axiom of Revealed Preference in terms of indifference curves.
- (b) Under what conditions will the long-run industry supply curve be negatively sloped, though every firm in the industry has a rising marginal cost curve?
- (c) Is there any compatibility of increasing returns to scale and a competitive firm?
- (d) How does the shape of a Total Variable Cost curve (TVC) depend on the Law of Variable Proportion?
- (e) Show that when labour is the only variable input the condition that the marginal revenue product of labour equals wages follows from profit maximization in a competitive market.

**Group - C**

Answer *any three* questions.

3. (a) The utility obtained by an individual from a certain wealth of ₹ 50,000 is same as his expected utility from investing the wealth in the capital market. If there is 50% probability of getting a return of ₹ 75,000 and 50% probability of getting a return of ₹ 30,000 from the investment project, what is his risk premium? Comment on the attitude towards risk of this person.

- (b) A person's utility from wealth is given by :  $U(w) = \sqrt{w}$ . The person holds an initial asset of ₹ 50. She can accept a gamble where she wins ₹ 31 with probability  $\frac{2}{3}$  and lose ₹ 14 with probability  $\frac{1}{3}$ .

- (i) What is her expected utility from the gamble?  
 (ii) What is her expected pay-off from the gamble?  
 (iii) Will she accept the gamble?

(4+1)+(3+1+1)

4. (a) Suppose a consumer survives of just two time periods 1 and 2. She earns income  $M_1$  and  $M_2$  in the two periods and consumes  $C_1$  and  $C_2$ . The consumer can reallocate consumption between the two periods by saving or borrowing and the market rate of interest is  $r$ .

- (i) What is the present value of her lifetime income?  
 (ii) Draw the intertemporal budget line of the consumer.

- (b) A person faces two income streams A and B which generates income according to the following income schedule :

	Today	First Year	Second Year
Payment Stream A	₹ 100	₹ 100	₹ 0
Payment Stream B	₹ 20	₹ 100	₹ 100

Which income stream will he prefer if the interest rate is 15 percent per annum and why?

(2+3)+(1+4)

5. (a) The production function for a gadget is  $Q = 100.L^{\frac{1}{2}}.K^{\frac{1}{2}}$ , where  $Q$  is the total output,  $L$  is the quantity of labour employed and  $K$  is the quantity of capital in place. Calculate the Total, Average and Marginal productivity for fourth and ninth unit of labour if the capital is fixed at 3600 units.

- (b) Explain why a profit maximising firm producing with just one variable factor will produce only in stage II.

6+4

6. (a) A cost function is given by :  $C = Y^2 + 1$ .

(i) Draw the Average Variable Cost curve and the Marginal Cost curves.

(ii) Determine the level of output where Average Cost is minimum.

(iii) Also find the minimum value of Average Cost.

- (b) Is it better for a profit maximising firm to produce output even though it is losing money? If so, when?

(2+2+1)+5

7. (a) A perfectly competitive firm faces a price of ₹ 4 and its total cost function is given by

$$C = Q^3 - 7Q^2 + 12Q + 5$$

(i) Determine the profit maximising level of output.

(ii) Find the total profit of the firm at this level.

- (b) If the long-run cost function is given by  $C(Y) = 10Y^2 + 1000$ ,

(i) Determine the long-run equilibrium price.

(ii) Also derive the supply curve of the firm.

(2+3)+(2½+2½)