

2023

## 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

MURALIDHAR GIRLS' COLLEGE  
LIBRARY1. 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

- (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

2. Answer *any three* questions :

5×3

- (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

MURALIDHAR GIRLS' COLLEGE  
LIBRARY

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. (a) A cost function is given by :  $C = Y^2 + 1$ .
- Draw the Average Variable Cost curve and the Marginal Cost curves.
  - Determine the level of output where Average Cost is minimum.
  - 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?
7. (a) A perfectly competitive firm faces a price of ₹ 4 and its total cost function is given by
- $$C = Q^3 - 7Q^2 + 12Q + 5$$
- Determine the profit maximising level of output.
  - Find the total profit of the firm at this level.
- (b) If the long-run cost function is given by  $C(Y) = 10Y^2 + 1000$ ,
- Determine the long-run equilibrium price.
  - Also derive the supply curve of the firm.

(2+3)+(2½+2½)