

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SECOND SEMESTER EXAMINATION, MAY 2016

FIRST YEAR [BATCH 2015-18]

ECONOMICS (Honours)

Paper : II

Date : 18/05/2016

Time : 11 am – 3 pm

Full Marks : 100

[Use a separate Answer Book for each group]

Group – A

1. Answer **any three** questions of the following : (3 × 4)
 - a) Why is there no supply curve under monopoly?
 - b) Can a firm under perfect competition operate in the short run when it is making losses?
 - c) A monopolist faces the demand curve : $p = 20 - 2Q$ and its cost function is : $C = 10 + 8Q$. Find
 - i) The Lerner Index of monopoly power
 - ii) Deadweight loss. (2 + 2)
 - d) Discuss the assumptions of monopolistic competition.
 - e) "A perfectly discriminating monopolist is socially desirable as it has no deadweight loss." – Do you agree? Explain.
 - f) Consider a two-firm homogeneous good industry. Suppose that at a price of Rs. 2 to customers, the industry sales are 1000 units and at a price of Rs. 3 the industry sales are 900 units. If both firms charge the same price then the sales are split between the two equally. If one firm charges the higher price, all sales go to the other firm. Present the game in normal form. Determine the Nash equilibrium of the game. Is there any "Prisoner's dilemma" involved? (1 + 2 + 1)
2. Answer **any one** question of the following : (1 × 8)
 - a)
 - i) When does a situation of natural monopoly arise? What are the alternative pricing options under natural monopoly? (4)
 - ii) "A monopolist will never produce an efficient level of output." – Prove or disprove the statement. (4)
 - b) A profit maximizing monopolist faces a linear demand curve that cuts the price axis at 150 and the quantity axis at 75. The cost function is $C=Q^2$. Suppose that a price-ceiling at the level $P=80$ is imposed on the monopolist. Determine the amount by which his profit falls.
3. Answer **any two** questions of the following : (2 × 15)
 - a)
 - i) A firm in a competitive industry has the long run cost function : $C = 2q^3 - 40q^2 + 1200q$
If the firm can sell its output at a price of $P = 1046$, how much will it produce to maximize its profit? Is the output of the firm compatible with industry equilibrium? If the industry is one of constant cost industry, derive the long-run supply curve of the industry. If market demand curve is $P = 8500 - 5Q$, how many firms will be in the long-run equilibrium? (2 + 2 + 2 + 2)
 - ii) Explain the conditions under which monopolistic price discrimination is both possible and profitable. (7)

- b) i) A monopolist has the following total cost function $TC = 10 + 5Q$ (3 + 2)
1. If the price elasticity of demand for his product is -2, find out the price he will fix for his product.
 2. If the price elasticity of demand changes to -4, how will he change his price?
- ii) There are 1000 identical firms in a competitive industry, each having a short run cost function of the form (5 + 2 + 3)
- $$C = \frac{1}{300}q^3 - 0.2q^2 + 4q + 10$$
1. Determine the short-run supply curve of the firm.
 2. Derive the equation for short run industry supply curve.
 3. If the market demand curve is given by $Q^d = -2000P + 80,000$, determine the price and quantity in market equilibrium.
- c) i) Discuss in detail Chamberlin's model of monopolistic competition – equilibrium with new firms entering the industry. (8)
- ii) Explain the Stackelberg model of quantity leadership in a duopoly market. (7)
- d) i) A monopolist can produce at a constant average cost of 5. It faces a market demand curve given by $Q = 53 - P$. (2 + 5 + 3)
1. Determine the profit-maximizing levels of price and quantity.
 2. Suppose that a second firm enters the market and operates with the same cost. If the two firms practise cournot behaviour determine the reaction functions and show these graphically. Determine the output levels, profits of the firms and the equilibrium price.
 3. Suppose that the first has the advantage of moving first. What output will it produce? What will be its profit?
- ii) Define collusion and derive the condition for cheating. (5)

Group – B

4. Answer **any three** questions of the following : (3 × 4)
- a) Suppose an economy faces a production function that follows Diminishing Returns to scale. Show that in the long run it will be unable to maintain its full employment level of output if it pays its factors according to their marginal product. (4)
- b) Distinguish between Hicks neutral, Harrod neutral and Solow neutral Technological Progresses. (4)
- c) Discuss, of the three functions of money which of them the following items satisfy : (4)
- i) An ATM card
 - ii) A cricket bat signed by Virat Kohli.
- Give reasons for your answer.
- d) Discuss why the sacrifice ratio will be zero in case of an economy with people holding Rational Expectations. (4)

- e) Determine the impact of increase in demand for investment goods on real interest rate if the savings curve is perfectly interest inelastic. (4)
- f) Distinguish between inside lag and outside lag of Government policies. (4)
5. Answer **any one** question of the following : (1 × 8)
- a) Consider two countries A and B with identical technology parameters and production function $Y = K^\alpha L^{1-\alpha}$. The only difference is that the savings rate is $s_A = 0.05$ and $s_B = 0.2$. If $\alpha = \frac{1}{3}$, how large is the gap in per capita income between A and B at steady state? How do your answer change if $\alpha = 0.8$? (Take the values of n and δ as given). (8)
- b) Consider a simple model of money supply in a closed economy.
- What would happen is the money supply if currency deposit ratio had risen but the reserve deposit ratio remains the same. (2)
 - What would happen to the money supply if the reserve deposit ratio had risen but the currency deposit ratio remains the same? (2)
 - What would happen to the money supply if the currency deposit ratio has risen but the reserve deposit ratio had fallen? (2)
 - What would happen to the economy if both the currency deposit ratio and the reserve deposit ratio had fallen? (2)
6. Answer **any two** questions of the following : (2 × 15)
- Explain the concept of Golden Rule of Capital Accumulation in the context of Solow Growth model. What will happen to the steady state values of c , s and y if we raise the level of capital beyond the Golden Rule Value? (7 + 3)
 - Explain, in brief, the concept of unconditional and conditional convergence. (5)
 - Distinguish between real and nominal interest rate. (3)
 - What is Seigniorage? What are its limitations? (3 + 2)
 - Discuss the costs of both expected and unexpected inflation. (7)
 - Discuss how coordination failure can lead to the sustenance of recession. (7)
 - How does the Baumol – Tobin model explain the income and interest sensitivity of Transaction Demand for Money. (8)
 - How does a Phillips curve can be derived from the Aggregate supply curve? (8)
 - Show how does a Phillips curve depict the short run trade-off between inflation and unemployment. (4)
 - What will be the import of changes in the expected rate of inflation on Phillips curve in the short run? (3)

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