RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

FIRST YEAR [BATCH 2018-21] B.A./B.Sc. SECOND SEMESTER (January – June) 2019 Mid-Semester Examination, March 2019

Date : 25/03/2019

ECONOMICS (Honours) Paper : II

Time : 11 am – 1 pm

Full Marks : 50

[Use a separate Answer Book <u>for each group</u>]

<u>Group – A</u>

1. Answer <u>any one</u> question :

a) A competitive firm has the following short-run cost function:

 $C(q) = q^3 - 8q^2 + 30q + 5.$

- i) Find out MC, AC, AVC and sketch them on a graph.
- ii) At what range of prices will the firm supply zero output?
- iii) Identify the firm's supply curve on your graph.
- iv) At what price would the firm supply exactly 6 units of output?
- b) i) In the Spence-Dixit-Stiglitz (SDS) model set-up, assume the utility function of the representative consumer is given by $u(q_0, q_1,..., q_n) = q_0^{0.5}(q_1^{0.5}+..+q_n^{0.5})$ where q_0 is the unique non-differentiated good (chosen as the numeraire). Each firm *i* in the monopolistically competitive sector produces a single differentiated brand (denoted by q_i) with identical cost function $C_i(q_i)=F+c.q_i$ if $q_i>0$, and 0 if $q_i=0$, and sells at a price p_i per unit, i=1,..,n.

Find the equilibrium quantity and price for each firm and the total number of brands in the long run monopolistically competitive equilibrium with free entry and exit. Interpret how each of these values relate to the cost structure (in this case fixed and marginal costs) of each firm. Also, check if the number of brands is socially optimal.

- ii) For the Chamberlain's model of monopolistic competition, a firm operates at less than full capacity in the long run. Does this result depend upon whether firms produce identical or differentiated products? Why? [12+3]
- 2. Answer **any two** questions :
 - a) An increase in the demand for video films also increases the salaries of actors and actresses. Is the long-run supply curve for films likely to be horizontal or upward sloping? Explain.
 - b) Why does a price ceiling usually result in a dead-weight loss?
 - c) In the Butters' model of informative advertising under monopolistic competition, derive the expression of the probabilistic demand function, faced by each firm. Also, comment on the desirability of regulating the number of advertisements in this model. [4+1]
 - d) i) A shopping mall is considering renting space to one or two book stores. The rent the mall can charge for each square foot depends on the profits (before rent) of the book stores and hence on whether there is a monopoly or a duopoly. Which number of stores is better for the shopping mall in terms of rent? Which is better for book-lovers? Why?

ii) Two airlines are providing identical services by choosing the number of trips Q_1 and Q_2 simultaneously and face the demand curve P=30-($Q_1 + Q_2$). Until recently, both the airlines had zero marginal costs. However, because of some internal administrative troubles, the marginal cost for the second airlines rises to Rs 15/- while the first airline continues to have zero marginal

[4+4+3+4]

[1×15]

[2×5]

[2]

cost. Use a graph to show the equilibrium before the increase in the marginal costs for the second airline. In the same graph, show that in the changed circumstances, the first airline has become a monopolist.

[3]

<u>Group – B</u>

3. Answer <u>any one</u> question :			[1×10]	
	a)	i) For an economy in the long run, what is the role of Constant Returns to Scale in the distribution of income?	[5]	
		ii) In an economy in the long run what makes the demand for the economy's output of goods and services equal to supply?	[5]	
	b)	i) What do you mean by Seigniorage? Discuss the procedure in which it operates.	[6]	
		ii) Discuss two social costs of expected inflation.	[4]	
4.	Ans	Answer <u>any one</u> question : [1×15]		
	a) Consider an economy characterized by the production function $Y = K^{\alpha} (AL)^{1-\alpha}$. Given all the			

- standard notations, find the steady state level of per capita capital. Show graphically how this steady state changes with time. Derive the steady state levels of growth of per capita capital and per capita output. [9+3+3]
- b) Explain the Quantity Theory of money while stating its implications in price determination. How does the cost of holding money alter the implication? Using the Cagan model, explain the modifications it makes with regard to price determination. [6+3+6]

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