

UNIVERSITY OF COLOMBO – SRI LANKA

DEPARTMENT OF ECONOMICS

Second Year Special Degree Examination (Economics) – 2018

ECN 2119: Microeconomics

Time Allowed: Two (02) hours

Answer Four (04) questions only

Each question carries equal marks

Calculators may be used

Q1. Select any five (05) of the following, and state whether these statements are true or false, and illustrate your answer using appropriate diagrams and/or equations.

- i. An indifference curve shows the different combinations of two goods with which a consumer can get a same level of satisfaction. (05 marks)
- ii. Firms in a monopolistic competitive market can always earn super profits. (05 marks)
- iii. Firms in perfectly competitive market can earn super profits all the time. (05 marks)
- iv. Relationship between quantity of demand and consumers' money income must always be positive. (05 marks)
- v. A monopolist always bad for a society. (05 marks)
- vi. Hicksian method and Slutsky's method for decomposition of the price effect produce same results. (05 marks)
- vii. There is no relationship between economies of scale and return to scale. (05 marks)
- viii. The first degree of price discrimination is not in practice in the real world. (05 marks)

(Total 25 marks)

Q2. Consider the Cobb-Douglas utility function, $u_i(x, y) = X^\alpha Y^\beta$ for a rational consumer

- i. Write the Lagrangian function (02 marks)
- ii. Write the first order condition for utility maximization. (03 marks)
- iii. Derive the Marshallian Demand functions for X and Y. (06 marks)
- iv. If $P_X = \$2$, $P_Y = \$5$, and money income (M) = \$100 per week, find the utility maximizing consumption bundle. (Note: $\beta = \alpha = 0.5$) (05 marks)
- v. If money income increased by \$20, find the utility maximizing consumption bundle (04 marks)
- vi. If the government imposes 100% taxes on good X, find the utility maximizing consumption bundle. (Note: consider money income as given in question v) (05 marks)

(Total 25 marks)

Q3. i. Compare the long-run equilibrium point of a monopolistic competitor with that of a perfectly competitive firm and industry. (07 marks)

- ii. Firms in a perfectly competitive market can earn super profit in the short run as well as in the long run. Do you agree? Explain your answer with suitable graphs. (08 marks)
- iii. Compare the efficiency implications of long-run equilibria under different forms of market organization, with respect to (a) total profits, (b) the point of production on the LAC curve, (c) allocation of resources, and (d) social welfare. (10 marks)

(Total 25 marks)

Q4. Suppose that an individual's demand function for commodity X is $Q_d = 50 - 3P$ and individual firm's supply function is $Q_s = -10 + 2P$, *ceteris paribus*.

- i. Assuming there are 100 identical consumers and 5 identical producers, obtain market demand and market supply functions. (04 marks)
- ii. Find the equilibrium price and the equilibrium quantity (show graphically your results). (06 marks)
- iii. If the government imposes Rs 2 as sale tax per unit, what will be the new equilibrium price and quantity? (08 marks)
- iv. Analyze the consequence of the proposed tax policy. (06 marks)

(Total 25 marks)

Q5. Define the following concepts

- i. Income consumption curve
- ii. Natural Monopoly
- iii. Giffen paradox
- iv. Cournot model
- v. Hickshian demand function

(Total 25 marks)

Q6. i. Under what form of market organization is equilibrium determined exclusively by the forces of demand and supply? Explain (08 marks)

- ii. What happens if the government (a) grants a per-unit cash subsidy to all producers of a commodity or (b) collects instead a per-unit sales tax from all the producers of the commodity? (c) How is the imposition of a price floor or price ceiling different from the granting of a per-unit cash subsidy or the collecting of a per-unit sales tax from all the producers of a commodity? (17 marks)

(Total 25 marks)

Q7. i. Explain what is meant by (a) constant returns to scale, (b) increasing returns to scale, and (c) decreasing returns to scale. (06 marks)

- ii. Suppose a firm faces a production function: $q = L^2K^3$ and let $w = \$10$, $r = \$5$, and $C = \$100$, find the optimal combination of L and K. Graphically illustrate your answer.

(12 marks)

- iii. Briefly explain three stages of a short run production function. (07 marks)

(Total 25 marks)