

University of Ruhuna

2017/2018 Academic Year Master of Arts in Economics

1<sup>st</sup> Semester Examination - Dec. 2018

MAE 5100 - Microeconomic Theory

Answer any **four (04)** questions.

Use of calculators are allowed.

Time: 3 Hours

1. a) i. Distinguish between productive efficiency and allocative efficiency.  
ii. What are the functions of price in a market system? (05 marks)
- b) "Price control of a good in the absence of an effective scheme of rationing is like to create a black market for the good". Explain. (04 marks)
- c) The supply equation for a certain commodity is given by  $Q_s = 500 + 20P$ . At a price of Rs. 20/=, 400 units of the commodity are demanded. If the demand equation is linear and the market equilibrium price is Rs. 10/=.
- i. Find the demand equation.  
ii. Suppose the government introduces a guaranteed price of Rs. 15/= per unit, for the producers in this market, what would be the total cost of this price support scheme to the government. (06 marks)
02. a) Explain the following statements using appropriate diagrams and examples.
- i. "A sales tax on commodity does not necessarily increase its price by the full amount of the tax." (05 marks)
- ii. "If demand is increased and supply is reduced the equilibrium price will increase but the equilibrium quantity will increase or decrease depending on the relative magnitude of the demand and supply shifts." (05 marks)
- b) Explain "Cobweb model". On what grounds cobweb model has been criticised? (05 marks)

03. a) Suppose a person maximizes his utility by spending his entire income on X and Y. The marginal utility (MU) of each good is independent of amount consumed of other good it is given below.

Unit	MU <sub>x</sub>	MU <sub>y</sub>
1	40	100
2	35	85
3	30	60
4	25	50
5	20	48
6	15	45
7	10	40

- i. His income is Rs. 24/=. Price of X is Rs. 2/= per unit and he buys 4 units of X, If the marginal utility of the last unit of Y he buys is 50, calculate the price of Y.
- ii. If he income increases to Rs. 38/=:, and other things remain constant, what would be the new combination of X and Y, maximizing total utility.

(05 marks)

- b) Using the indifference curve map, explain the following statement. "An inferior good is a good with a negative income effect. In some cases an inferior good may have a negative income effect so large that it more than offsets the substitution effect of a price change."

(05 marks)

- c) Why there is need for paying higher wage rate than the normal wage rate for getting more or overtime work from the individuals. Explain using the indifference curve analyses.

(05 marks)

4. a) The U shapes of the short run and long run average cost curves are both based on the operation of the law of diminishing returns." True or False? Justify your answer.

(05 marks)

- b) Use iso-quants to show increasing returns, to scale, decreasing returns to scale and constant returns to scale.

(05 marks)



c) Estimated production function for a firm is as follows.

$$Q = 10K^{0.7} L^{0.1}$$

Where Q = Quantity of output K = Quantity of Capital, L = Quantity of Labour

The price of capital is Rs. 28/= per unit and the price of labour is Rs. 10/= per unit.

The producer spend Rs. 4000/= for this production.

Find the combination of capital and labour inputs at where maximize the production.  
(05 marks)

5. a). A purely competitive a firm is a price taker but a monopolist is a price – maker.” Explain.  
(04 marks)

b) “In what sense is resource allocation and production more efficient under condition of pure competition than under monopoly condition.” Explain.  
(05 marks)

c) Suppose the monopolist sells in two separate markets, with demand function given by  $P_1 = 10 - Q_1$  and  $P_2 = 20 - Q_2$ . Marginal production costs are a constant Rs. 2/= at all relevant output levels.

- i. What price will the producer charge in order to maximize profits with discrimination between markets?
- ii. Compare the profit differential between discrimination and nondiscrimination.  
(06 marks)

06. a) “The kinked demand curve describes price rigidity.” Explain.  
(05 marks)

b) What is the difference between Cournot’s oligopoly model and Chamberlin’s oligopoly model?  
(05 marks)

- c) While briefly explaining the “Zero-sum Game” describe which strategies will be selected by A and B to capture the market share, through following A’s pay off matrix.

	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>
A <sub>1</sub>	30	80	10
A <sub>2</sub>	40	20	90
A <sub>3</sub>	50	60	70

(05 marks)

07. a) Why is the input supply function horizontal for a perfect competitor in the input market and up-sloping for monopsonist.

(02 marks)

- b) Distinguish between monopolistic and monopsonistic exploitation of an inputs.

(04 marks)

- c) Draw a graph and describe a situation in which a union may achieve both a higher wage rate and an increase in employment.

(04 marks)

- d) What is the difference between economic rent and differential rent?

(05 marks)

08. a) i. Using an appropriate diagram, analyze the difference between free market equilibrium level of output and the socially efficient level of output for a consumer good generating positive externalities.

- ii. “Government can correct market inefficiencies of a consumer good generating positive externalities by subsidizing consumers.” Explain.

(06 marks)

- b) i. What does the term “Pareto - optimality” mean?

- ii. “For the achievement of general equilibrium is fulfilled  $MRT_{xy} = MRS^A_{xy} = MRS^B_{xy}$ ”. Explain using and appropriate diagrams.

(09 marks)

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