

The Co-operative University of Kenya

END OF SEMESTER EXAMINATION DECEMBER-2018 EXAMINATION FOR THE DEGREE OF BACHELOR OF CO-OPERATIVE BUSINESS

UNIT CODE: HBC 2205/HCOB 2206/CMFI 2203
UNIT TITLE: INTERMEDIATE MICROECONOMICS

DATE: DECEMBER, 2018

TIME:

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

- a) Consider the utility function

$$U(x, y) = x^{1/2} + y$$

Find the marginal rate of substitution (MRS) between the two products

(4 marks)

- b) A single commodity market model is represented by the following equations;

$$\text{Demand function: } P = -Q^2 - 6Q + 7$$

$$\text{Supply function: } P = Q^2 + 3Q + 2$$

Required;

Find the equilibrium price and quantity in the market

(6 marks)

- c) A consumer has a utility function of the form $U = f(Q_1, Q_2)$ where Q_1 and Q_2 are two bundles of commodities consumed. Given that the price of Q_1 is sh. 4 and that of Q_2 is sh. 6. Assuming the consumer's income is sh. 60.

Required;

- i) State the consumer problem. (2 marks)
- ii) Find the values of Q_1 and Q_2 that will maximize utility. (8 marks)
- d) Discuss in detail the three major properties of indifference curves. (6 marks)
- e) Explain the nature of the long – run average cost curve. (4 marks)

QUESTION TWO

- a) Given a Cobb - Douglas production function

$Q = AK^{0.7}L^{0.3}$ and the corresponding cost function $C = 2K + 3L$. The firm wishes to maximize its output given a cost outlay of sh. 400.

Required

- i) Find the marginal products of both capital and labour (4 marks)
- ii) Write down the maximization problem of the firm (2 marks)
- iii) Find the values of K and L for which output is maximized (14 marks)

QUESTION THREE

- a) Discuss the profit maximizing behaviour of a firm in a monopolistic market in the short run (6 marks)
- b) Explain why a firm in a monopolistic market cannot make super normal profits in the long run. (4 marks)

c) A monopolist cost function is given as

$$C = 10 + Q^2/2 \quad \text{and his inverse demand function is } P = 20 - 2Q$$

Required

- i) Derive the total revenue and marginal revenue functions (4 marks)
- ii) Compute the maximum profit using price and quantity for the monopolist (6 marks)

QUESTION FOUR

The demand and total cost functions for a firm are given by;

$$P = 4 - \frac{1}{3} Q$$

$$TC = \frac{2}{3} Q^3 - Q^2 + 3Q + 2$$

Required Determine;

- i) The level of output and price that will maximize profits (8 marks)
- ii) The level of output that will maximize total revenue (3 marks)
- iii) The level of output that will minimize marginal costs (3 marks)
- iv) The level of output that will minimize average variable costs (3 marks)
- v) The minimum average variable cost and marginal cost (3 marks)

QUESTION FIVE

- a) Discuss the major causes of externalities in both the public and private goods (4 marks)
- b) Discuss four ways of dealing with negative externalities (12 marks)
- c) Explain the role of the State in economic activities (4 marks)