



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2013/2014

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION
WITH INFORMATION TECHNOLOGY
(CITY CAMPUS – DAY GROUP)**

AEC 201: INTERMEDIATE MICROECONOMICS

Date: 11th April, 2014

Time: 5.30 – 7.30 p.m.

INSTRUCTIONS:

- Answer Question ONE and any other TWO questions.
- Question one carries 30 marks and the rest 20 marks each.



1. (a). (i). Assuming a utility function given as $U = f(X_1^{0.7} X_2^{0.3})$, if the utility curve passes through points (120, 240), determine the consumer's marginal rate of commodity substitution. (5marks)
- (ii). If the consumer's fixed income is 240 and the unit prices of the goods are $X_1 = \text{Ksh } 20$ and $X_2 = \text{Ksh } 14$, determine the opportunity cost of purchasing good X_1 in terms of X_2 and that of X_2 in terms of X_1 (4marks)
- b). (i). Explain the law of variable proportion as used in production theory
- (ii). Suppose a firm's production function is given as $Q = f(K, L) = 20K^{0.5}L^{0.5}$ determine the firm's marginal rate of technical substitution. (4marks)
- (c). Using a diagram, explain Slutsky's decomposition of the price effect in to substitution and income effects. (8marks)
- (d). What are some of the economies and diseconomies of large scale production. (4marks)
- (e). (i). Explain the conditions for profit maximization by a monopolist. (5marks)
- (ii). The demand function for a firm is given as $P = 30 - 4Q$, if the firm's marginal cost is 4 and its fixed cost is 5, determine the firm's profit. (4 marks)
2. (a). Explain any four characteristics of an indifference curve. (8marks)
- (b). With the help of a well labeled diagram, explain any three uses of Indifference curves. (12marks)
3. (a). Distinguish between explicit and social costs. (3marks)
- (b). Geometrically derive marginal cost, average fixed cost, average variable and average total cost curves. (6marks)
- (c). Using a diagram, explain the relationship between the cost curves in (3b) above. (6marks)
- (d). Assuming the long run total cost function of a firm is given as $C = Q(10e^{-0.02Q})$, determine the firm's marginal cost. (5marks)
4. (a). Explain why a firm in perfect competition may continue in the production of goods which it can only sell at a loss and why it cannot continue doing this indefinitely. (8 marks)
- (b). In a perfectly competitive market, a firm's average revenue and cost functions are given as follows:
- $$AR = \alpha Q - \beta \quad \text{where } \alpha, \beta \text{ are constants and } Q \text{ is the output}$$
- $$AC = \frac{\alpha}{Q} - \beta \quad \text{AR is the average revenue and AC is the average cost}$$
- On the basis of the functions given above, determine:
- (i) Total revenue function. (2 marks)
- (ii) Total cost function. (2 marks)
- (iii) Total break-even output level. (3 marks)
- (c). Explain three advantages of economies of scale to the firm. (3 marks)
5. Discuss the conditions of Pareto efficiency in production and exchange. (20marks)