

PAPER A



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF BUSINESS

BUSINESS ADMINISTRATION DEPARTMENT

COURSE/CLASS: BACHELOR OF COMMERCE

UNIT CODE: BFI 4201

UNIT NAME: INTERMEDIATE MICRO ECONOMICS

SERIES: MAY, 2016

PAPER DURATION: 2 HOURS

NO OF STUDENTS: 40

INSTRUCTIONS TO CANDIDATES:

Answer question ONE (Compulsory) and any other TWO questions.

- Q1.(a) (i) Explain using proper diagrams the weak axiom and the strong axiom of Revealed Preference hypothesis (2 marks)
- (ii) Distinguish between Hicksian Substitution effect and Slutsky's substitution effects (2 marks)
- (iii) State the Law of variable proportions giving its relevance in business decisions-making (2 marks)
- (iv) Distinguish between Marginal utility and Marginal rate of Substitution(2 marks)
- (b)(i) Explain the conditions for successful price discrimination (4 marks)
- (ii) A Monopolist operator in two submarkets whose demand functions are:-
- $$X_1 = 32 - 0.4P_1$$
- $$X_2 = 18 - 0.1 P_2$$

Where X_1 and X_2 are the quantities sold in the two markets at prices P_1 and P_2 respectively. The monopolist's cost function is

$$TC = 50 + 40x$$

Where $X = X_1 + X_2$

Determine:-

- (i) Price elasticity in each market (4 marks)
- (ii) The Equilibrium Quantities for the monopolist (4 marks)
- (iii) The Equilibrium prices in the two markets (4 marks)
- (iv) The maximum profit (4 marks)
- (c) Mr. Kadenge's Family spreads his Income (m) on Food (f) and Clothing (c) according to the following utility function.

$$U = F.C$$

Let p and r be the unit prices of food and clothing respectively.

- (i) Derive the demand functions for food and clothing for Mr. Kadenge's Family (6 marks)
- (ii) If $P = \text{ksh. } 50$, $r = \text{ksh. } 100$ and $m = 10,000$, Determine the optimal combination of food and clothing that maximizes utility for Mr. Kadenge's Family(6 marks)

Q2. Given the production function as

$$Q = F(K,L) = A K L$$

- (i) Determine the marginal product of the factors (3 marks)
 - (ii) Find the marginal rate of Technical Substitution (3 marks)
 - (iii) Determine the Elasticity of Substitution (5 marks)
 - (iv) Determine the nature of Returns to scale (4 marks)
- Q3. (a) Using the Law of Diminishing marginal utility, derive the demand curve. (4 marks)
- (b) The demand for the firms product is given as $Q = 600 - 5P$, while the total cost is given as $C = 700 + 45Q$. Determine the profit maximizing output and price. Compute the firms total profits (8 marks)
- (c) Describe briefly, **THREE** applications of the law of diminishing marginal utility (3 marks)
- Q4. (a) “Consumers will typically be worse off in an industry organized as a monopoly than one organized competitively” with the help of a well labeled diagram, explain the statement as rigorously as you can (7 marks)
- (b) The demand function of a certain product sold by a firm is given as:-
 $Q_d = 40 - 2P$. The total cost function for the firm is $TC = 2Q^2 - Q + 20$. Determine the profit maximizing output of the firm and the profit (8 marks)
- Q5. (a) Write short notes on the following concepts:-
- (i) Economies of scale (2 marks)
 - (ii) Externalities (2 marks)
 - (iii) Public goods (2 marks)
- (b) Describe a “Pareto efficient Allocation.” (4 marks)
- (c) Using an edge worth box diagram, explain the theory of Pareto efficiency (5 marks)

