



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

FIRST SEMESTER EXAMINATION FOR DEGREE IN

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

BACHELOR OF COMMERCE

EET 200: MICROECONOMICS THEORY II

DATE: 8/8/2016

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

Answer question ONE and any other TWO questions

QUESTION ONE (Compulsory)

- a) Distinguish between the following pair of concepts
- i) Interior and boundary solution (4 marks)
 - ii) Pareto efficient and Pareto improvement points (2 marks)
 - iii) Budget line and budget constraint (1 marks)
- b) What type of commodities have their indifference curve with the following behavior of Marginal Rate of Substitution (MRS) (8 marks)
- i) MRS is everywhere infinite
 - ii) MRS is either zero or infinite or nothing between
 - iii) MRS is constant
 - iv) MRS is diminishing

- c) Implicit to the concept of marginal rate of technical substitution is the concept of marginal product. Using an isoquant whose output is a function of capital (K) and labor (L) and is given

$$\bar{y} = f(K, L) \text{ show that } MRTS = \frac{\Delta K}{\Delta L} = - \frac{MP_L}{MP_K} \quad (5 \text{ marks})$$

- d) A firm is producing output according to the following production function $f(K, L) = K^\alpha L^\beta$. given that the factor prices of K and L are r and w respectively. Find the unconstrained input demand functions and the total supply function for the firm (10 marks)

QUESTION TWO

- a) Suppose that a consumer has a demand function for good X of the form

$$X = 15 + \frac{Y}{12P}$$

Where Y is income level and P is the price level of X. Let his original income be KES144 per day and let the price of good X be KES 3 per unit. Suppose the price of good X falls to KES 2 per unit. Assuming X1 is a normal good determine the slustkys income and substitution effects of a price change and use a well labeled diagram to show these effects (14 marks)

- b) Use diagram and explanation to derive the choice of input and output level in the short run period of production for a firm which is after profit maximization (6 marks)

QUESTION THREE

- a) Use a well labeled diagram to demonstrate that monopolies are cost to the society (consumers and producers) (8 marks)

- b) The short run production function for a firm is given as follows

$$y = 10L^2$$

L is labor whose reward is 400 units the price of output is KES 50 per unit what is the profit maximizing quantity of labor? (6 marks)

- c) Determine the equilibrium quantities of commodity X and Z for a consumer whose total utility U and other relevant variables is given as below (6 marks)

$$U = 20x - 4z^2 + 40z - x^2, \text{ income level } Y = \text{KES}48, \text{ price of } X P_x = \text{KES}2 \text{ and price of } Z P_z = \text{KES}4$$

QUESTION FOUR

- a) In pure exchange, improving the welfare of an individual is only possible at the expense of the other if an allocation is Pareto efficient. Using the edge worth box explain how Pareto efficient allocation is achieved through exchange. (10 marks)
- b) Under what conditions would price discrimination be effective (6 marks)
- c) What difference in pricing strategy that makes a firm in perfect competition to make normal profits in the long run but a monopolist to make supernormal profits. (4 marks)

QUESTION FIVE

- a) A farmer has been using 2 employees and 1 tractor to produce 10000bags of maize. If the farmer increases the employees to 4 and the tractors to 2 what would be the nature of returns to scale if production rose to
- i) 2000 bags
 - ii) 1500 bags
 - iii) 3000 bags
- (9 marks)
- b) Interpret the parameters of the following production function (6 marks)
- $$Q = f(x, y) = 148.41x^{0.5}y^{0.8}$$
- c) Briefly explain diagrammatically how we determine consumer's equilibrium for the linear preferences by taking only one example. (5 marks)