



MOI UNIVERSITY

OFFICE OF THE DVC ACADEMIC AFFAIRS, RESEARCH AND EXTENSION

UNIVERSITY EXAMINATIONS

2014/2015 ACADEMIC YEAR

SECOND YEAR END OF SEMESTER EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF BUSINESS MANAGEMENT

EXAM CODE: ECO 210/ECO 310

EXAM TITLE: INTERMEDIATE MICROECONOMICS

DATE: 10TH AUGUST, 2015

TIME: 2.00 P.M. –5.00 P.M.

INSTRUCTION TO CANDIDATES

➤ **SEE INSIDE**

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Instructions to candidates

Answer any Four Questions

All questions carry equal marks

QUESTION ONE

- a) Explain and critique the assumptions of the ordinal and cardinal utility theories (15mks)
- b) By giving examples, explain the economies of scale that are enjoyed by large scale producers (10mks)

QUESTION TWO

Suppose a production function of a firm is;

$$Q = 4L^{1/8}K^{6/9}$$

- a) What type of production function is this? (2mks)
- b) Determine;
 - i) The return to scale for this function
 - ii) MPL and MPK

(8 marks each)

- c) Given a production function of the nature;

$$Q = f(L, K)$$

Where;

Q = output

L = Labour

K = Capital

Demonstrate that the slope of an isoquant will be equal to the ratio of marginal products of the inputs. (7mks)

QUESTION THREE

- a) A consumer's utility function is of the form: $U = 50q_1q_2$
The consumer's money income is M and the respective prices of q_1 and q_2 are p_1 and p_2
Required
- Construct the Uncompensated and Compensated demand functions for q_1 and q_2
(14 marks)
 - Suppose the consumer's money income is Ksh. 50,000 and that the price of q_1 is Ksh. 25 while that of q_2 is Ksh. 50. Find the consumer's optimal consumption bundle. (5 marks)
- b) Suppose you are given the Cobb-Douglas production function $Q = AK^\alpha L^\beta$. Show the condition under which the production function exhibits Increasing, Constant and Diminishing returns to scale
(6 marks)

QUESTION FOUR

- a) A consumer has the following utility function;

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

Suppose he allocates shs 24 for purchasing the two goods x and y at shs 2 and shs 1 respectively.

- Setup a constrained utility maximization problem from the information given
 - Find the optimal values of x and y that will maximize utility
 - What is the maximum utility
(5mks each)
- b) Explain the concepts of consumer surplus (10mks)

QUESTION FIVE

- Explain and show graphically how firms in Perfect Competitive and in Monopolistic Competitive markets attain long – run equilibrium. (10 marks)
- Compare and contrast the two market structures in (a) above. (10 markets)
- Graphically derive the demand curve of the consumer based on the indifference curve analysis (5 Marks)

QUESTION SIX

- a) Given the following total cost function; $TC = 1000 + 200Q - 90Q^2 + 0.25Q^3$
- Find the equations for TVC, FC, AVC, AC and MC (10 Marks)
 - Find the lowest price for output that would allow the firm to break even. i.e. $MC=MR$
($TR=TC$) (3 Marks)
- b) Suppose total demand of a discriminating monopoly is given by $Q = 50 - 5P$ and the $TC = 50 + 40Q$. The submarket demand function are $Q_1 = 32 - 0.4P_1$ and $Q_2 = 18 - 0.1P_2$. Determine the discriminating Price, TR and MR in the two submarkets as well as its total profits (II) (12 marks)

END