

MUEO

MOI UNIVERSITY

**OFFICE OF THE DEPUTY VICE CHANCELLOR, ACADEMIC AFFAIRS,
RESEARCH & EXTENSION**

UNIVERSITY EXAMINATIONS 2015/2016 ACADEMIC YEAR

SECOND YEAR END OF SEMESTER EXAMINATIONS

**FOR THE DEGREE OF
BACHELOR OF BUSINESS MANAGEMENT**

EXAM CODE:- BBM 210/ECO 210

COURSE TITLE:- INTERMEDIATE MICROECONOMICS

DATE:- 17TH AUGUST, 2016 TIME:- 9.00A.M. - 12.00NOON.

INSTRUCTION TO CANDIDATES

➤ SEE INSIDE.

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MOI UNIVERSITY
SCHOOL OF BUSINESS AND ECONOMICS
INTERMEDIATE MICROECONOMICS
BBM 210

Instruction to candidates:

Answer any one and any other three questions

QUESTION ONE

(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

- (i) Construct the marshallian and compensated demand functions for q_1 and q_2 (16 marks)
- (ii) Suppose the consumer's money income is Ksh 50000 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. (4 marks)

(b) Examine the key characteristics of economic models. What are the major limitations of economic models (5 marks)

Mathematical expressions used to explain economic behaviour.

→ Activity not amenable to measurement

a state of limited competition where there is collusion between producers or sellers

$$M = p_1q_1 + p_2q_2$$

QUESTION TWO

This is a market structure which there are variety of products

(a) Define 'oligopoly' and with the aid of appropriate diagram, explain why on theoretical considerations oligopolistic prices should be more stable than prices of other product market structures (7 marks)

(b) Distinguish between substitution effect and income effect of a price change. Decompose the effect of a price change into substitution and income effects using

- (i) The Slutsky method
- (ii) The Hicksian method (8 marks)

$$M = p_1q_1 + p_2q_2$$

Theoretical - verify theoretical - explain ex

QUESTION THREE

(a) Explain the concept of consumer surplus and show how it is used to measure consumer's welfare changes (5 marks)

diff b/w expected & actual.

(b) Using a mathematical approach, derive the equilibrium position of a price discriminating monopolist, show that the monopolist will charge a higher price in the market whose demand is less elastic (10 marks)

$$MR = MC_1 = MC_2$$

QUESTION FOUR

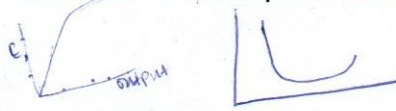
(a) Using graphical approach or otherwise, explain the stages of production of a firm and distinguish between the average product and marginal product of a production function (5 marks)

(b) Discuss the purpose of the marginal rate of substitution in production theory. The production function of a firm is represented by a combination of labor, L and capital K to produce a given level of output Q. If the firm has a given cost outlay, C and the wage rate is W while the rental value of capital r, derive the firm's output maximizing point (10 marks)

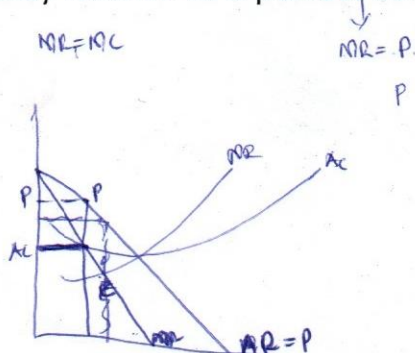
QUESTION FIVE

(a) Explain with examples the economies and diseconomies of scale. How do economies and diseconomies of scale determine the shape of Long run average Cost Curve (LAC) (7 MARKS)

level of recognition
lack of comm.
ex. of coordination
Internal
Techniques
Specialist
economies
at scale
External
hostilities
by product
economies
at scale
vertical
integration
Q = f(L, K)
Maximization of output s.t. cost
Output
 $Q = f(L, K)$
 $C = wL + rK$ (constraint fn).



(b) Explain why a monopolistic competitor's equilibrium leads to economic inefficiency relative to a perfect competitor (8 marks)



QUESTION SIX

Suppose that the market demand and costs of a duopolists are:

$$P = 100 - 0.5(Q_1 + Q_2)$$

$$C_1 = 5Q_1$$

$$C_2 = 0.5Q_2^2$$

- (i) Derive the reaction curves of the duopolists (8 marks)
- (ii)* Using graphic and mathematical exposition, find the output produced by each firm and the total output in the market (4 marks)
- (iii) What price will be charged by the duopolists (3mks)

Handwritten mathematical work:

$$u = \frac{50Q_2^2}{P_1}$$

$$\frac{P_1 u}{50Q_2} = \frac{50Q_2^2 P_1}{50Q_2^2 P_1}$$

$$\frac{P_1 u}{50Q_2} = 72$$

