JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS & ECONOMICS

UNIVERSITY EXAMINATION FOR MASTER OF BUSINESS ADMINISTRATION

FIRST YEAR SEMESTER ONE

MAIN CAMPUS

COURSE CODE: MBA 802
COURSE TITLE: MANAGERIAL ECONOMICS

EXAM VENUE: CL 1   **STREAM: MBA**

DATE: 22/12/2017   **EXAM SESSION: 9:00- 12:00**

TIME: 3 HOURS

INSTRUCTIONS:

1. **Answer ANY FOUR questions in this question paper**

2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

QUESTION ONE

a) In this dispensation of taking personal responsibility, the importance of making a rational decision is underscored by Managerial Economics. Briefly describe a scientific approved procedure that a managerial economist will follow while making a rational decision.   (5mks)

b) The B-Products Plc produces two products, P_1 and P_2. The profit function of this company is given by:

$$\Pi = 10P_1 - P_1^2 - P_1P_2 + 18P_2 - 2P_2^2$$

The company is under the obligation to produce a minimum combined output of 40 units. Using the Lagrangian multiplier method, find the number of units that will be produced of the products P_1 and P_2 subject to the total of 40 units that maximizes profit.   (10mks)

QUESTION TWO

a) i) State **ANY SEVEN** distinctions between a perfect market and a monopolistic market.
(7mks)

b) A firm operating under perfect competition has the following demand and total cost functions:

$$P = 25 - 50Q$$
$$TC = 100 - 15Q + 60Q^2$$

Where: P is the price in shillings.
Q is the quantity in units.
TC is the total cost.

Required:
i) The level of output that would maximize profit.   (5mks)
ii) The level of output that would minimize costs.   (3mks)

QUESTION THREE

a) Briefly discuss the scope of managerial economics   (7mks)

b) HBC Ltd. manufactures and sells two interdependent products; Bora and Kizuri. The demand functions for the products are given by $P_1 = 800 - X - 2Y$ and $P_2 = 1100 - X - 2.5Y$
Where $P_1 =$ The unit price of Bora and $P_2 =$ the unit price of Kizuri
X and Y are the number of units sold for Bora and Kizuri respectively

The total cost of producing both products is given by the function
$$TC = 150X + 50Y$$
Required
Determine the number of units of each product required to maximize total profit.   (8mks)

QUESTION FOUR

a) Baumol introduced the hypothesis of Sales Revenue maximization as an alternative to the profit-maximization objective. Briefly discuss the factors listed by Baumol lists that justifies the managers' pursuance of this goal.   (10mks)

b) A firm has the following short-run production function;

$$Q = 150L + 18L^2 - 1.5L^3$$

Where;

Q = Quantity of output per week

L = Number of workers employed

When does the law of diminishing return take effect?   (5mks)

QUESTION FIVE

a) The production function represents the technology of a firm. State **ANY FIVE** assumptions that a production function should be based.   (5mks)

b) A monopoly firm wishes to supply two different markets 1 and 2, with the corresponding demand functions given as:

$$P_1 = 500 - Q_1 \text{ (Market 1)}$$
$$P_2 = 300 - Q_2 \text{ (Market 2)}$$

P_1 and P_2 represent the prices charged in markets 1 and 2, respectively, and Q_1 and Q_2 are quantities sold in markets 1 and 2, respectively.

The cost function is given by:

$$C = 50000 - 100Q$$

Find:

(i) Allocation of profit maximizing output between the two markets.   (6mks)

(ii) The price charged in each of the two markets.   (4mks)

QUESTION SIX

a) Briefly discuss the concept of Least cost input combination   (5mks)

a) The two most important forms of production functions used in economic literature in analyzing input-output relationships are the Cobb-Douglas production function and the Constant Elasticity of Substitution (CES) production function.

i) Briefly state **ANY FOUR** properties of the Cobb-Douglas production function.   (4mks)

ii) Given the Cobb-Douglas production function: $Q = 300 K^{0.8} L^{0.2}$, obtain the output elasticities of capital (K) and labour (L).   (6mks)