The Management University of Africa

Sponsored by the Kenya Institute of Management

POST GRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF MASTER OF BUSINESS ADMINISTRATION

MBA 509: MANAGERIAL ECONOMICS

DATE: 8TH APRIL 2026

DURATION: 3 HOURS

MAXIMUM MARKS: 60

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **FOUR (4)** questions.
4. Question **ONE is compulsory.**
5. Answer any other **TWO** questions.
6. Question **ONE** carries **30 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided**

QUESTION ONE

Read the Case Study below on market structure carefully and, answer the questions that follow:

A) **Managerial Decision Problem at Kifaru Cement Ltd (Kenya)**

Kifaru Cement Ltd is a medium-scale cement manufacturer operating in Athi River. The firm is facing declining profits due to rising energy costs, imported cement competition, and fluctuating demand from the construction sector.

Current data (per month):

Item	**Value**
Selling price per bag	Ksh 750
Variable cost per bag	Ksh 480
Fixed costs	Ksh 12,000,000
Current output	30,000 bags
Maximum capacity	50,000 bags

Marketing research estimates the demand function as:

$$Q = 120{,}000 - 100P$$Cost function:

$$TC = 12{,}000{,}000 + 480Q + 0.02Q^2$$

Management must decide whether to:

a) Expand production

b) Reduce price

c) Automate (reduce variable cost by Ksh 40 but increase fixed cost by Ksh 3,000,000)

Required

I) Managerial Decision Problem Identification

a) Distinguish between:

Economic problem and Managerial decision problem **(3 Marks)**

b) Identify the key decision variables for Kifaru Cement Ltd. **(2 Marks)**

II) Profit Maximization **(5 Marks)**

a) Derive the Total Revenue (TR) function.
b) Derive the Marginal Revenue (MR) function.
c) Derive the Marginal Cost (MC) function.
d) Determine the profit-maximizing output level.
e) Compute maximum profit.

III) Pricing Decision **(3 Marks)**

Using the profit-maximizing output, determine:

a) Optimal price

b) Elasticity at equilibrium

c) Whether price reduction is advisable

IV) Automation Decision **(5 Marks)**

a) Compute new cost function after automation
b) Re-derive MC
c) Find new profit-maximizing output
d) Compare profits before and after automation
e) Advise management

B) Explain the concept of *comparative advantage* and show how it forms the basis of gains from international trade.

(4 Marks)

C) Discuss the Contemporary Challenges Facing Institutions of the International Economy

(4 marks)

D) Derive the Engel Curve for a consumer who spends income on two goods, x and y. Clearly show the steps and explain the relationship between income and quantity demanded.

(4 marks)

QUESTION TWO

A) Utility Maximization Decision under Indifference Curve Analysis

(a) Explain the concept of utility maximization using indifference curves and budget constraints.

(4 marks)

(b) A consumer has an income of Ksh 1,200 to spend on two goods: X and Y.

The price of X is Ksh 100 per unit and the price of Y is Ksh 60 per unit.

The consumer's utility function is given by:

$$U = X^{0.5} Y^{0.5}$$

(i) Formulate the budget constraint. **(2 marks)**

(ii) Using the Lagrangian method, derive the utility-maximizing quantities of X and Y. **(4 marks)**

(iii) Compute the maximum level of utility attained. **(2 marks)**

B) Discuss Production in the Long Run. **(3 marks)**

QUESTION THREE

A) A firm uses labour (L) and capital (K) to produce output according to the production function:

$Q = 10L^{0.5}K^{0.5}$The price of labour (PL) is Ksh 200 per unit and the price of capital (PK) is Ksh 400 per unit.

Required:

(i) Derive the condition for optimal input usage. **(3 marks)**

(ii) Determine the optimal combination of L and K if the firm wants to minimize cost for a given level of output.

(4 marks)

B) MARKETS AND MARKET STRUCTURE:

(a) Define a market. **(2 marks)**

(b) Describe any three main market structures and state one key feature of each.

(6 marks)

QUESTION FOUR

A) Explain any three Theories of Profit. **(6 Marks)**

B) Explain why Break-Even Analysis is important in managerial decision making.

(4 marks)

c) The government is evaluating a public project (construction of a rural road) with the following expected net social benefits (in Ksh million):

Year	**Net Benefit**
0	–50
1	15
2	20
3	25

The social discount rate is 10% per annum.

(i) Calculate the Net Present Value (NPV) of the project. **(3 Marks)**

(ii) Advise whether the project should be accepted using the NPV criterion.

(2 Marks)