

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT

AGBM 341: MANAGERIAL ECONOMICS

STREAMS: AGBM

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 19/4/2023

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- i) Answer Question ONE and any other THREE questions
- ii) Do not write on the question paper
- iii) Show your working clearly

QUESTION ONE

- a) Define managerial economics and explain its importance. (7 marks)
- b) Discuss the importance of demand analysis. (5 marks)
- c) Differentiate between short run and long run production periods. (4 marks)
- d) Explain scope of Managerial Economics. (6 marks)
- e) Differentiate between constrained and unconstrained optimization. (3 marks)

QUESTION TWO

- a) Rapusha is a firm that manufactures two products: X and Y. Rapusha exhibits a total revenue function from the sales of these products given by

$$R = 4x + 2.5y + xy - 0.5x^2 - y^2 + 10$$

Where x and y are thousands of units of the products.

- i) Compute values of x and y that maximizes revenue. (5 marks)

- ii) Suppose now that due to some external factors, Rapusha has to adhere to the restriction given by $x + y = 7$, solve for the optimum values of x and y . (5 marks)
- b) With the aid of a graph discuss fully the three stages associated with the law of diminishing returns. (5 marks)

QUESTION THREE

- a) Simon is considering investing in a machine that could efficiently produce some electronic doodads and has approached you for advice. The choice of two machines X and Y are at his disposal. The cash flow that could be tapped from each machine for the various years are shown in the table below:

YEAR	MACHINE X	MACHINE Y
0	(5,000,000)	(5,000,000)
1	2,000,000	2,200,000
2	1,800,000	1,500,000
3	1,700,000	1,800,000
4	1,500,000	1,400,000
5	1,400,000	1,600,000

Given the opportunity cost of capital, r , is 10% and by using the Net present value, advice Simon on the machine to invest in. (10 marks)

- b) Discuss briefly why managerial economics is important to business operations. (5 marks)

QUESTION FOUR

A monopoly is operating in a market whose demand, Q is given by

$$Q = 55 - 4p$$

If the cost function for this monopoly is estimated to be

$$TC = 2.5 + 2.75Q^2$$

- i) Compute the levels of output the firm should produce so as to maximize profit. (5 marks)
- ii) What is the firm's level of profit? (3 marks)
- iii) Explain characteristics of perfect competitive market giving examples of markets which closely approximate perfect competition. (7 marks)

QUESTION FIVE

- a) Define each of the following investment rules stating the criterion for accepting or rejecting independent projects under each. (7 marks)
- i) Payback period
 - ii) Internal rate of return
 - iii) Net present value
- b) Discuss three different types of cost and explain why opportunity cost is very important in business decision making. (8 marks)
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