



Strathmore
UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES
BACHELORS OF BUSINESS SCIENCE ACTUARIAL SCIENCE, FINANCIAL ECONOMICS AND
FINANCIAL ENGINEERING.
END OF SEMESTER EXAMINATION
BSE 1103: MICROECONOMICS 1

DATE: 22nd July 2024

Time: 08:00 – 10:00am

Instructions

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

Question One

- a) Provide any **four** features of a free-market system and a command market system (8 marks)
- b) Explain graphically the effect of the following changes on the demand for and supply of sugar
 - (i) A fall in the price of sugar in the market
 - (ii) A rise in wages of sugar factor workers
 - (iii) A fall in income of consumers
 - (iv) A rise in the price of substitutes of sugar
 - (v) A rigorous advertisement initiative by sugar manufacturers (10 marks)
- c) Explain **three** areas in which the concept of elasticity can be applied (3 marks)
- d) Explain the shape of the production function and Law of diminishing marginal Returns (6 marks)
- e) Using the following demand and supply functions for a commodity x , compute the equilibrium price and quantity. (3 marks)

$$Q_d = 100 - 2p; \quad Q_s = 40 + 4p$$

Question Two

a) Consider the cost function of Bamburi Cement Ltd given by Total cost (TC) = $4q^2 + 16$. Find the variable cost, fixed cost, average cost, average variable cost, average fixed cost and the marginal cost for Bamburi Cement Ltd. (10 marks)

b) The following is the demand function of good y

$$Q \partial Y = 5000 - 0.5 p_Y - 2.3 p_W + 0.2 p_X + 0.000001 p_Z + 0.0037 I$$

Suppose you are given

$$p_y = 30,000 \quad Q_y = 15,000 \quad \text{income}(I) = 60,000$$

Compute

- i. price elasticity of demand and interpret your results (4 marks)
- ii. Income elasticity of demand and interpret your results (4 marks)
- iii. From income elasticity of demand, what type of product would y be (luxury or necessity good)? (2 marks)

Question Three

a) Describe **five** distinguishing characteristics of monopoly versus monopolistic Competition market structures. (10 marks)

b) A publication by Citizen Digital on July 18, 2022, reported that the price of a 2kg packet of UNGA could drop from Ksh 230 to Ksh 100 due to government regulation. Discuss the potential economic impacts of such a policy. Provide a detailed explanation of both the positive and negative effects. (10 marks)

Question Four

Consider the production data below where labour is the variable factor of production:

Labour (hrs)	Total Physical Products
1	15
2	35
3	60
4	90
5	120
6	144
7	158
8	160
9	160
10	158

a) Find the average physical products and marginal physical products at each level of labour.

(8 marks)

b) Using the data, illustrate and explain the three stages of production in the short-run

(12 marks)

Question Five

a) Briefly distinguish between own-price elasticity and cross-price elasticity of demand

(4 marks)

b) Explain the **Five** determinants of price elasticity of demand in economic decision making.

(10 marks)

c) When the price of super petrol rise from Ksh. 110 to Ksh. 115 per litre, the number of cars sold by a motor firm changed from 20 units to 18 units in a wee. Calculate the cross price elasticity of demand for the cars and interpret your answer

(6 marks)