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*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**UNIVERSITY EXAMINATION**  
**2022/2023 ACADEMIC YEAR**

**FIRST YEAR 1ST SEMESTER**  
**MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL  
ECONOMICS & RESOURCE MANAGEMENT, BACHELOR OF  
SCIENCE IN AGRICULTURE & BIOTECHNOLOGY**

**COURSE CODE:** AEC 113

**COURSE TITLE:** INTRODUCTION TO AGRICULTURAL  
ECONOMICS

**DATE:** 23<sup>RD</sup> DECEMBER 2022

**TIME:** 9 – 11 AM

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**INSTRUCTIONS TO CANDIDATES**

Answer Question One and any other two (2) Questions.

TIME: 2 Hours

This paper consists of 3 printed pages. Please Turn Over 

KIBU observes ZERO tolerance to examination cheating

### Question One

- a) Using illustrations, explain why the demand curve negatively sloped. (3 Marks)
- b) Explain and give examples of demand shifters (4 Marks)
- c) Write short notes on the following fundamental concepts in agricultural economics:
- Scarcity and Choice (6 Marks)
- d) Explain the difference between movement along the supply curve and shift in the supply curve. Give examples of factors in each case. (5 marks)
- e) "The demand for salt is perfectly inelastic" Explain what you understand by this statement, and give reasons why it is probably true. (3 Marks)
- f) The following economic functions have been derived by the Finance Manager of the Kenya Tea Limited:  $Q_a = 3P^2 - 4P$  and  $Q_b = 24 - P^2$ ; where P represents price and Q is quantity
- Which of the two functions represents a demand curve, supply curve and why? (2 Marks)
  - At what values of price and quantity is the market in equilibrium (3 Marks)
- g) Using illustrations, discuss the concept of cob-web model and its application in agricultural production (4 Marks)

### Question Two

- a). Explain the difference between the price elasticity of demand and elasticity of supply in the context of agricultural demand and supply analysis (5 Marks)
- b). Given the demand equation,  $P = 10 - Q$ , where Q = total sales of wheat in kilograms and P is price Kshs/kg. Use the data set (Price, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1) and (Quantity, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9) to compute price elasticity of demand and total revenue. (15 Marks)

### Question Three

- a). Explain in your own words what is meant by fixed and variable costs of production. Give two examples for each case (5 Marks)
- b). Given the following agricultural production cost data set; (output-0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12), the fixed cost was maintained at Kshs 100 and, the variable costs corresponding to the different output levels (0, 50, 90, 140, 196, 255, 325, 400, 480, 570, 670, 780 & 1080). Compute the total costs, average fixed costs, average variable costs, average total costs and marginal costs and explain the observed trends (15 Marks).



**Question Four**

- a) Explain the three outcomes (returns to scale) when all inputs are increased by the same proportions (15 Marks)
- b) Explain the assumptions of law of diminishing returns in the context of farm level production in the short run (5 Marks)

**Question Five**

a) Given the following data set for a purely competitive firm. Answer the following questions

Quantity	Total fixed costs (TFC)	Total variable cost (TVC)	Total costs (TC)	Total Revenue (TR)	Profit (TR-TC)
0	50	0			
1	50	30			
2	50	55			
3	50	75			
4	50	105			
5	50	155			
6	50	225			
7	50	315			
8	50	425			
9	50	555			

- a) Compute total cost, total revenue (price is 60/= ) and the firm profits (14 marks)
- b) From the above computation, the firm profits would be maximized at what level? At that production level what is total cost (TC) and total revenue (TR) (6 Marks)