



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRIBUSINESS MANAGEMENT AND TRADE

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

AGB 103: PRINCIPLES OF AGRICULTURAL MICROECONOMICS

DATE: 30/5/2022

TIME: 8.30-10.30 AM

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**INSTRUCTIONS: Answer question ONE and any other TWO questions**

## QUESTION ONE (30 MARKS)

- a) Explain the following concepts as used in agricultural economics
- i. Opportunity cost (2 marks)
  - ii. Elasticity of supply (2 marks)
  - iii. The law of diminishing marginal utility (2 marks)
  - iv. Marginal physical product (2 marks)
- b) Explain four factors that favor the existence of a perfectly competitive market. (4 marks)
- c) Utility is an abstract concept that cannot be measured. Critique this statement. (4 marks)
- d) Describe three axioms of rational choice. (6 marks)
- e) Giving suitable examples, explain four factors that affect elasticity of demand for agricultural commodities (8 marks)

## QUESTION TWO (20 MARKS)

- a) Supply of wheat in Kenya will remain unchanged in the next 20 years. Critically analyze this statement. (10 marks)
- b) The figures in the table below were taken from demand schedules of two goods.

	Quantity1	Price1	Quantity2	Price2
Good 1	56	10	45	10
Good 2	17	4	17	7

- i. Calculate the price elasticity of demand for each good (4 marks)
- ii. Explain the meaning of elasticity values obtained for each good (4 marks)
- iii. State the type of demand elasticity for each good (2 marks)

**QUESTION THREE (20 MARKS)**

- a) Describe four types of demand for agricultural products, giving examples. (8 marks)
- b) Using an appropriate diagram, explain how a perfectly competitive firm maximizes profit. (12 marks)

**QUESTION FOUR (20 MARKS)**

- a) Differentiate between economies of scale and returns to scale. (2 marks)
- b) Highlight two sources of economies of scale in agriculture. (2 marks)
- c) Describe the three types of returns to scale. (6 marks)
- d) Suppose there was a sudden influx of 800,000 refugees from a neighboring country into a Tumaini, a milk producing region in Kenya. Explain, using the market model, what would likely happen to equilibrium price and quantity of milk in Tumaini. (10 marks)

**QUESTION FIVE (20 MARKS)**

- a) Explain the contribution of agriculture to economic development in Kenya (8 marks)
- b) The table below shows the utility derived from consumption of two goods. If the prices for Good A and Good B are KSh 1 and KSh 2, respectively, and the consumer has a budget of KSh 10 to spend on the two goods, find the quantity combination of the two goods that will maximize utility for the consumer. (12 marks)

Good A		Good B	
Quantity consumed	Total utility (utils)	Quantity consumed	Total utility (utils)
1	10	1	24
2	18	2	44
3	25	3	62
4	31	4	78
5	36	5	90