



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF SCIENCE AGRIBUSINESS MANAGEMENT AND TRADE

BACHELOR OF EDUCATION (SPECIAL NEEDS EDUCATION)

BACHELOR OF EDUCATION (SCIENCE)

AGB103: PRINCIPLES OF AGRICULTURAL MICROECONOMICS

DATE:

TIME:

INSTRUCTIONS: Answer **Question ONE (Compulsory)** and Any other **Two** Questions.

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Distinguish between the following concepts as used in agricultural economics
 - i. Opportunity cost and marginal cost (2 marks)
 - ii. Pareto optimality and pareto superiority (2 marks)
 - iii. Positive externality and negative externality (2 marks)
- b) Explain three basic questions that an economic system must answer (3 marks)
- c) Explain four factors that favor the existence of a monopoly (4 marks)
- d) Describe four axioms of rational choice (4 marks)
- e) Explain the contribution of agriculture in an economy (5 marks)
- f) Describe four types of demand for agricultural products, giving examples (8 marks)

QUESTION TWO (20 MARKS)

- a) Explain the law of diminishing marginal utility (2 marks)
- b) Utility is an abstract concept that cannot be measured. Critique this statement. (6 marks)
- c) Using a diagram, explain how a perfectly competitive firm makes supernormal profit. (12 marks)

QUESTION THREE (20 MARKS)

- a) Supply of milk in Kenya will remain unchanged for the next 30 years. Discuss (9 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 | 25 |
| Good 2 | 200 | 30 | 150 | 40 |

- i. Calculate the arc elasticity of demand for each good (6 marks)
- ii. Explain the type of demand elasticity obtained for each good (2 marks)
- iii. Compute the cross-price elasticity (3 marks)

QUESTION FOUR (20 MARKS)

- a) Explain two types of collusion in agricultural markets (4 marks)
- b) Describe the three types of returns to scale (6 marks)
- c) Suppose there was a serious pest infestation in tomato growing areas of Kenya. Explain, using a diagram, what would happen to equilibrium price and quantity of tomatoes in the country in the short run (10 marks)

QUESTION FIVE (20 MARKS)

- a) Explain resource allocation under the following
- (i) Command economy (4 marks)
- (ii) Mixed economy (4 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 2 and KSh 4, respectively, and the consumer has a budget of KSh 20 to spend on the two goods, find the quantity combination of the two goods that will maximize utility for the consumer. (12marks)

| 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 |