MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRIBUSINESS MANAGEMENT AND TRADE

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

AGB 103: PRINCIPLES OF AGRICULTURAL MICROECONOMICS

DATE: 23/2/2021 **TIME: 2.00-4.00 PM**

INSTRUCTIONS:

Answer **Question ONE** and **ANY TWO** other questions.

QUESTION ONE (30 MARKS) (COMPULSORY)

a) Explain the following terms used in agricultural economics

i. Opportunity cost (1 mark)

ii. Cross price elasticity of demand (1 mark)

iii. Marginal rate of technical substitution (1 mark)

iv. Marginal utility (1 mark)

v. Market power (1 mark)

b) Differentiate between the following terms as used in agricultural economics

i. Positive externality and negative externality (2 marks)

ii. Economies of scale and returns to scale (2 marks)

iii. Price ceiling and price floor (2 marks)

iv. Normal good and inferior good (2 marks)

v. Overt collusion and tacit collusion (2 marks)

vi. Pareto optimality and Pareto superiority (2 marks)

c) Explain four axioms of rational choice (4 marks)

d) With examples or illustrations, expound on the following economics concepts

i. Income consumption curve (3 marks)

ii. Producer surplus (3 marks)

iii. Shutdown price (3 marks)

QUESTION TWO (20 MARKS)

a) Using an appropriate diagram:

i. Describe how a monopolistic agricultural firm maximizes profits (6 marks)

ii. Explain whether the profit maximizing behaviour in (i) above is good or bad for the economy (4 marks)

b) Supply of sugar in Kenya will remain constant over the next twenty years. Discuss (10 marks)

QUESTION THREE (20 MARKS)

a) i Utility is a concept that cannot be measured. Explain why you agree or disagree with this statement (4 marks)

ii Describe how consumers maximize utility from multiple goods given a fixed budget and competitive market prices (4 marks)

b) The government plans to set minimum price at which milk produced by smallholder farms should be bought. Using an illustration, explain whether it would be good or bad to implement this policy (12 marks)

QUESTION FOUR (20 MARKS)

a) Using an appropriate diagram, explain why a purely competitive agricultural firm would not earn supernormal profits in the long run (8 marks)

b) The figures in the table below were taken from demand schedules of three goods.

	Quantity1	**Price1**	**Quantity2**	**Price2**
Good 1	50	4	35	5
Good 2	7	5	7	6
Good 3	45	24	30	36

i. Calculate the price elasticity of demand for each good (6 marks)

ii. Explain the meaning of elasticity values obtained for each good (3 marks)

iii. For each good, explain what would happen to the total revenue earned if the price of the good was increased (3 marks)

QUESTION FIVE (20 MARKS)

a) Mr. Kemboi produced 20 bags of maize from 1 acre of land. Explain whether he is guaranteed to harvest 2000 bags by simply cultivating 100 acres of land (4 marks)

b) ALL agricultural commodity markets in Kenya are purely competitive. Discuss. (6 marks)

c) Suppose there was a severe outbreak of fall armyworm, a maize pest, in Kenya. Explain, using an illustration, what would happen to the equilibrium price and quantity of maize in the market in the next few months (10 marks)