



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (ACTUARIAL SCIENCE)

BACHELOR OF ECONOMICS & STATISTICS

BACHELOR OF ECONOMICS & FINANCE

BACHELOR OF EDUCATION (ARTS)

BACHELOR OF ECONOMICS

BACHELOR OF COMMERCE

BACHELOR OF ARTS

EET 100: MICROECONOMIC THEORY I

DATE: 23/2/2021

TIME: 2.00-4.00 PM

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## INSTRUCTIONS:

Answer Question **ONE** and any other **TWO** questions

### QUESTION ONE (30 MARKS)

- a) Explain the conditions under which a perfect competitive firm operates (5 marks)
- b) Explain why indifference curves cannot intersect (3 marks)
- c) With the aid of indifference curve differentiate between perfect substitutes and perfect complements. (4 marks)
- d) With aid of a diagram, explain the following concepts as used in economics (6 marks)

i. Opportunity cost

ii. Isoquant

- e) Demand and supply functions of commodity X are as shown below,

$$Q_d = 100 - 2P$$

$$Q_s = -40 + 4P$$

#### Required:

compute the equilibrium price and quantity (round to 2 decimal place) (6 marks)

- f) The total cost equation in the production of beef in Machakos is given as follows

$$TC = 1000 + 100Q - 15Q^2 + Q^3$$

Where TC is total cost, Q is quantity measured in kilogrammes

Compute the following;

- i. average fixed costs (2 marks)
- ii. average variable cost functions (2 marks)
- iii. Marginal cost function (2 marks)

**QUESTION TWO (20 MARKS)**

- a) Differentiate between normal and inferior goods (2 marks)
- b) Briefly discuss the internal economies of scale (8 marks)
- c) With aid of diagram, briefly discuss three properties of an isoquant (6 marks)
- d) A good's price is related to its marginal utility, not its total utility. Thus a good like water or air may be cheap, even though its total utility is high. Evaluate this statement (4 marks)

**QUESTION THREE (20 MARKS)**

- a) State the main sources of monopoly power (8 marks)
- b) Using diagrams, illustrate output levels for both profit maximising and the loss making monopolist firm in the short run (8 marks)
- c) Differentiate between laws of diminishing marginal utility and diminishing marginal returns (4 marks)

**QUESTION FOUR (20 MARKS)**

- a) Discuss the main types of economic systems. Which one(s) are relevant in our Kenyan situation? (10 marks)
- b) Discuss any three determinants of price elasticity of demand (6 marks)
- c) If the quantity demanded of product B has decreased from 1000 to 900 units as price increased from \$ 2 to \$ 4 per unit, calculate the price elasticity of demand and interpret your answer. (4 marks)

**QUESTION FIVE (20 MARKS)**

- a) Define the term cross elasticity of demand and explain its value for substitutes and complementary goods (4 marks)
- b) Use the data in the table below to compute income elasticity through the arc elasticity method. (4 marks)

Quantity	Income(Kshs.)	Price(Kshs.)
100	5000	16
120	6000	16

- c) Discuss any three exceptions of the law of demand (6 marks)
- d) Write short notes on the following concepts;
  - i. Consumer surplus (3 marks)
  - ii. Short run and long run period of production (3 marks)