



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

BACHELOR OF EDUCATION

EET 200: MICROECONOMICS THEORY II

DATE: 23/3/2021

TIME: 2.00-4.00 PM

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## INSTRUCTIONS

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

### QUESTION ONE COMPULSORY (30 MARKS)

- a) Discuss the assumptions of consumer preference. (6 marks)
- b) Suppose a utility function is specified as  
 $U(X_1, X_2) = X_1^2 X_2^2$  and the budget constraint is given as  $P_1 X_1 + P_2 X_2 = M$   
State the consumer problem and derive the consumer demand function for  $X_1$  and  $X_2$ . (10 marks)
- c) State and explain whether the following statements are True or False.
- i) Product equilibrium occurs at point where marginal rate of substitution equals the ratio of factor prices. (2 marks)
- ii) Hicks' substitution effect keeps the utility level constant rather than keeping the purchasing power constant. (2 marks)
- iii) Indifference curve's slope measures marginal rate of technical substitution. (2 marks)
- d) Discuss the features of perfectly competitive markets. (8 marks)

### QUESTION TWO (20 MARKS)

- a) Suppose the cost minimization problem is stated as:  $\text{Min } C = W_1X_1 + W_2X_2$  s.t  $Q = X_1X_2$ . Using the lagrangian approach, find the conditional factor demands for  $X_1$  and  $X_2$ . (10 marks)
- b) i. Define total effect.
- ii. Using a well labeled diagram, discuss income effect & substitution effect of a price change of a normal good. (10 marks)

### QUESTION THREE (20 MARKS)

- a) i. Using a diagram define an isoquant. (2 marks)
- ii. Discuss the characteristics of isoquants and their implications. (8 marks)
- b) Define price discrimination. Discuss three conditions necessary for monopolistic price discrimination. (10 marks)

### QUESTION FOUR (20 MARKS)

- a) Discuss the assumptions of ordinal utility theory. (10 marks)
- b) The profit maximization problem of the firm is given as:  $\text{Max } Pf(X_1X_2) - W_1X_1 - W_2X_2$ . Suppose that  $f(X_1X_2)$  is given as  $X_1^aX_2^b$ . Find the supply function of the firm. (10 marks)

### QUESTION FIVE (20 MARKS)

- a) A monopolist has the following demand and total cost function  $P = 100 - 2Q$  and  $C = 50 + 40Q$ .
- i. Calculate the profit maximizing output, price and maximum profit. (10 marks)
- ii. Verify the first and second order conditions for maximum profit. (4 marks)
- b) Briefly explain the principles guiding consumer behavior theory. (6 marks)