



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF COMMERCE

EET 200: MICROECONOMIC THEORY II

DATE: 22/7/2019

TIME: 11:00 – 1:00 PM

INSTRUCTIONS:

- i) Answer question one (Compulsory) and any other two questions
- ii) Do not write on the question paper
- iii) Show your working clearly

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Given the following equation $U = \sqrt{x_1 x_2}$, decompose the total effect of a price change when the price of good one reduces by 10% from Ksh. 20. The income of the consumer is Ksh.500 per month while the price of good two is Ksh. 30. (10 marks)
- b) Briefly discuss the axioms of consumer preferences. (10 marks)
- c) If firm uses only two inputs X_1 and X_2 to produce output Y , assuming short-run profit maximization, show graphically the firm's optimal level of output and input. Derive the optimality condition in this case. (10 marks)

QUESTION TWO (20 MARKS)

The utility function for a consumer is given as follows;

$$U(x_1, x_2) = x_1^\alpha x_2^\beta$$

Required,

State the consumer problem and derive the consumer demand functions for x_1 and x_2 that will give optimal choice bundle.

QUESTION THREE (20 MARKS)

- a) Explain in details the properties of technology (6 marks)
- b) If firm uses only two inputs X_1 and X_2 to produce output Y , assuming short-run profit maximization, show graphically the firm's optimal level of output and input. Derive the optimality condition in this case. (10 marks)
- c) State and explain the condition for efficiency in exchange. (4 marks)

QUESTION FOUR (20 MARKS)

A firm produces candles. The market for candles is highly competitive, with candles currently selling for \$10. The firm's short-run total cost function is $C = 200 + 0.2q^2$;

- i) What is the firm's profit-maximizing quantity? (10 marks)
- ii) Is the firm earning a profit? (6 marks)
- iii) What is the short-run shutdown price? (4 marks)

QUESTION FIVE (20 MARKS)

- a) Consider a consumer who consumes two normal goods X_1 and X_2 . Suppose the price of X_1 reduces, Use an appropriate diagram to illustrate the effect of this price changes, while separating the income and substitution effects. (7 marks)
- b) Suppose now good X_1 is an inferior good, explain with a diagram the effect of the price change in each of the cases. (7 marks)
- c) Explain any four sources of monopoly power. (6 marks)