MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF ECONOMICS AND STATISTICS

BACHELOR OF ECONOMICS AND FINANCE

BACHELOR OF ECONOMICS

BACHELOR OF COMMERCE

BACHELOR OF EDUCATION

BACHELOR OF ARTS

EET 200: MICROECONOMICS THEORY II

DATE: 11/12/2019 **TIME: 8.30-10.30 AM**

INSTRUCTIONS:

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

QUESTION ONE (COMPULSORY) (30 MARKS)

a) State and explain whether the following statements are True or False. (10 marks)

i. Consumer is at equilibrium when marginal rate of technical substitution is equal to ratio of commodity prices.

ii. Indifference curve is a locus of points showing different combinations of two commodities say X and Y which yields the same level of utility or satisfaction/ at which the consumer is indifferent.

iii. In a perfectly competitive market the firm maximizes profit when marginal revenue is equal to average cost.

iv. In cardinal utility approach what matters about utility is whether the consumer can rank consumption bundles according to the level of satisfaction.

v. Consumption bundle is a set of all combinations of inputs and outputs that comprise a technically feasible way to produce.

b) Arya Stark wishes to derive optimal utility from consumption bundle (X_1, X_2). Suppose her utility function and budget constraint is given as $\mathbf{U}(X_1X_2) = X_1^{1/3}X_2^{1/3}$ and $P_1X_1 + P_2X_2 = M$ respectively. Required;

i. State Arya's choice problem. (2 marks)

ii. Derive the optimal demand functions for good 1 and 2. What is the name of these demand functions? (8 marks)

c) Discuss the shutdown rule of perfectly competitive firms. (6 marks)

d) Distinguish between returns to scale and marginal rate of technical substitution**.** (4 marks)

QUESTION TWO (20 MARKS)

a) Discuss the axioms of consumer preferences. (8 marks)

b) ABC firm wishes achieve optimal output of steel by using lowest possible cost of production. Its production and cost functions are given as, $Q(K,L) = K^2L^2$ and $C = rK + wL$ respectively.

Required;

i. Derive the marginal rate of technical substitution for this firm. (4 marks)

ii. Using the Lagrangian approach, derive the conditional factor demands for K and L. (8 marks)

QUESTION THREE (20 MARKS)

a) A monopolist has the following demand functions for two segmented markets and cost function.

$Q_1 = 64 - 0.8P1$ $Q_2 = 36 - 0.2P_2$ $C = 100 + 80Q$

Required;

i. Calculate the maximum output and price of each market and the optimal profit of the monopolist. (9 marks)

ii. Verify whether the output maximizes profit. (3 marks)

b) Discuss the characteristics of isoquants. (8 marks)

QUESTION FOUR (20 MARKS)

a) Using a well labeled diagram, discuss income effect & substitution effect of a price change of a giffen good. (8 marks)

b) Define price discrimination. Discuss the monopolist degrees of price discrimination. (8 marks)

c) Distinguish between short run and long run periods of production. (4 marks)

QUESTION FIVE (20 MARKS)

a) Write short notes on the following microeconomic concepts**.** (10 marks)

i. EdgeWorth box

ii. Slutsky substitution effect

iii. Producer's optimal choice

iv. Equilibrium in perfectly competitive markets

v. Short run cost function

b) Using a diagram discuss the three stages of production. Explain why it is not technically efficient for the producer to produce at stage 1 and 3. (10 marks)