MACHAKOS UNIVERSITY

University Examinations for 2020/2021 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 EDUCATION

BACHELOR OF COMMERCE

BACHELOR OF ECONOMICS

EET 200: MICROECONOMICS THEORY II

DATE: 16/8/2021 **TIME: 11.00-1.00 PM**

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. (5 marks)

i. Unconstrained profit maximization is achieved by minimizing cost subject to the output.

ii. A consumer will be maximizing utility where his or her isocost line is tangent to the highest possible Isoquant.

iii. In a perfectly competitive market, the firm will shut down when market price is equal to total cost.

iv. Efficiency in production dictates that MRS between any two commodities for any two producers are equal.

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

b) Tokio wishes to derive optimal utility from a basket of apples and bananas. Her consumption bundle is given as (X_1X_2). Suppose her utility function and budget constraint is given as $U(X_1X_2) = X_1^{1/3}X_2^{2/3}$ and $P_1X_1 + P_2X_2 = M$ respectively. Required;

i. State Tokio'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) Explain any two axioms of revealed preferences. (6 marks)

d) Using a well labelled diagram explain the concept of long run supernormal profits in a monopolistic market. (4 marks)

e) Discuss the shutdown rule in a perfectly competitive market (5 marks)

QUESTION TWO (20 MARKS)

a) Consumer preferences are characterized axiomatically. Explain any four 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, $Q(K,L) = K^{\frac{1}{2}}L^{\frac{1}{2}}$ and $C = rK + wL$ respectively. Derive the conditional factor demands for K and L. (8 marks)

c) An indifference curve is convex to the origin and downward sloping. Explain the validity of this statement. (4 marks)

QUESTION THREE (20 MARKS)

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

$Q_1 = 128 - 1.6P_1$ $Q_2 = 72 - 0.4P_2$ $C = 200 + 160Q$

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) Explain the four building blocks in any model of consumer choice. (8 marks)

QUESTION FOUR (20 MARKS)

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

b) Explain the assumptions of law of diminishing marginal returns . (8 marks)

c) Explain the conditions necessary for monopolistic price discrimination. (4 marks)

QUESTION FIVE (20 MARKS)

a) Distinguish the following microeconomic concepts. (8 marks)

i. Returns to scale and marginal rate of technical substitution.

ii. Slutsky substitution effect and Hicksian substitution effect.

iii. Perfect price discrimination and declining block price discrimination.

iv. Efficiency in product-mix and efficiency in production.

b) Using a well labelled diagram explain the changes in the budget line. (4 marks)

c) Assuming a cobb-Douglas production function $Q = AK^{\alpha}L^{\beta}$, If Kand L are multiplied by a factor θ and Q multiplied by another factor μ.

i. What is the new production function. (2 marks)

ii. From i explain the three the rules for the laws of returns to scale. (6 marks)