



**MACHAKOS UNIVERSITY
UNIVERSITY EXAMINATIONS FOR 2022/2023**

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF COMMERCE,

BACHELOR OF EDUCATION,

BACHELOR OF ECONOMICS,

BACHELOR OF ECONOMICS & STATISTICS

BACHELOR OF ECONOMICS AND FINANCE.

EET 200: MICROECONOMICS THEORY II

DATE:

TIME:

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)**
- A monopolistic firm maximizes profit when MC is equal to MRS.
 - It makes technical sense for a producer to produce a stage two of production.
 - Substitution effects and income effects for a giffen good are negative.
 - If a monopolistic firm was making subnormal profits in the short run, it would make normal profits in the long run.

- v. Marshallian demand curve is derived on assumption that utility and price of the other good is constant.
- b) Explain the four building blocks of consumer behavior theory. **(8 Marks)**
- c) Consider Renee's utility function and budget constraint $U(X_1X_2) = X_1^3X_2^3$ and $P_1X_1 + P_2X_2 = M$ respectively. Derive ordinary demand functions. **(8 Marks)**
- d) Distinguish between general axiom of revealed preferences and weak axiom of revealed preferences. **(5 Marks)**
- e) A producer has the following production function $Q = K^{0.6}L^{0.6}$. If he has a budget of The money available for purchase of factor inputs, C is Kshs 300 and price of K, $r = Kshs 10$ and price of L, $w = Kshs 20$. Determine the optimal quantities of commodity K and L. **(4 Marks)**

QUESTION TWO **(20 MARKS)**

- a) A monopolist has the following demand functions for two segmented markets and cost function.
- $$Q_1 = 64 - 0.8P_1 \qquad Q_2 = 36 - 0.2P_2 \qquad C = 100 + 80Q$$
- Required;
- Calculate the maximum output and price of each market and the optimal profit of the monopolist. **(9 Marks)**
 - Verify whether the output maximizes profit. **(3 Marks)**
- b) Consumer preferences are characterized axiomatically. Explain any four axioms of consumer preferences. **(6 Marks)**
- c) Suppose cost function is given as $c = a + a_1Q + a_2Q^3$. Prove that MC is equal to per unit change in TVC. **(2 Marks)**

QUESTION THREE **(20 MARKS)**

- a) The profit maximization problem of the firm is given as: $\max Pf(X_1X_2) - W_1X_1 - W_2X_2$
 Suppose that $Q = (fX_1X_2)$ is given as $X_1^\alpha X_2^\beta$. Derive the output supply function of the firm. **(8 Marks)**
- b) Explain any four features of indifference and their implications. **(8 Marks)**
- c) Using relevant diagram explain efficiency in consumption. **(4 Marks)**

QUESTION FOUR (20 MARKS)

- a) What is economics of scale? Using any Cobb Douglas function discuss the rules of returns to scale. **(6 Marks)**
- b) Using a well labeled diagram and relevant example, discuss income effect & substitution effect of a price decrease of an inferior good. **(8 Marks)**
- c) Using relevant diagrams explain the shutdown rule and equilibrium in a perfectly competitive market. **(6 Marks)**

QUESTION FIVE (20 MARKS)

- a) One method of constrained profit maximization is minimization of cost given the output level. Suppose XYZ firm's production and cost functions are given as, $Q(X_1X_2) = X_1^a X_2^b$ and $C = W_1X_1 + W_2X_2$ respectively. Derive the conditional factor demands for X_1 and X_2 . **(8 Marks)**
- b) Define price discrimination. Using relevant diagrams explain the monopolist's degrees of price discrimination. **(8 Marks)**
- c) Using relevant diagram discuss the stages of production? In which stage does the producer attain technical efficiency. **(4 Marks)**
