

UNIVERSITY OF FORT HARE

**Micro Economics
ECO 511/511E**

June Exam
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Time: 3h00

Subject: ECO 511/511E

Marks: 100

This paper consists of 4 pages including the cover page

Internal Examiners

Dr. N Lawana
Ms. N Ngonyama

External Examiners

Prof I Choga

INSTRUCTIONS

There are **TWO** sections, answer **all** questions in section **A**. Choose only **ANY THREE** questions from section **B**

Answer all the questions

QUESTION 1

[25]

1. Is maximizing a firm's profits always identical to maximizing the firm's stock market value? Explain (5)
2. Suppose you are given a demand function is $D_p = 100 - 2p$ for rental of apartments. What price would a monopolist set if the if he had 60 apartments? How many would he rent? What price would he set if he had 40 apartments? How many would he rent? (5)
3. Suppose that a consumer always consumes 2 spoons of sugar with each cup of coffee. If the price of sugar is p_1 per spoon and price of coffee is p_2 per cup and the consumer has m rands to spend on coffee and sugar, how much will he/she want to purchase? (5)
4. Supposed the utility function is given as

$$U(X_1, X_2) = \alpha X_1^\beta X_2 + X_1^\delta X_2^\theta$$

$$M = R300$$

$$P_1 = R30$$

$$P_2 = R100$$
 Calculate the consumer's marginal rate of substitution of x_2 for x_1 (MRS) in equilibrium, where: $MRS = \Delta x_2 / \Delta x_1 = -MU_1 / MU_2$. (2)
5. Briefly discuss equilibrium condition under dominant strategies (3)
6. Consider an auction of antique quilts to collectors. Is this a private-value or a common-value auction? (5)

SECTION B: ANSWER ANY THREE QUESTION FROM THIS SECTION

[75]

QUESTION 1

[25]

1. What kind of preferences are represented by a utility function of the form of $u(x_1, x_2) = x_1 + \sqrt{x_2}$. Explain (5)
2. Suppose $p_1 = 1$, $p_2 = 2$, and $m = 16$.
 - a) Draw the budget line;
 - b) Suppose that income increases to $m' = 20$. Draw the new budget line;
 - c) What happens to the budget line if the price of good 1 increases to $p'_1 = 2$? (9)
3. Suppose a firm is maximizing profits in the short run with the variable factor x_1 and fixed factor x_2 . If the price of x_2 goes down, what happens to the firm's use of x_1 ? What happens to the firm's level of profit. (5)
4. Given the M_1 to be R30000 and M_2 to be R25000, assuming the consumer decides to save a part of his income in period one to be spent in period 2, derive the intertemporal budget constraint if the interest rate on the saving is 2%. What would be the intertemporal budget constraint if the consumer decides to spend more than the income in period one by borrowing at the same interest rate? (6)

OR

QUESTION 2

[25]

1. Lunga has an income of R500 this year, and he expects an income of R200 next year. He can borrow and lend money at an interest rate of 10%. Consumption goods cost R1 per unit this year and there is no inflation.
 - a) What is the present and future value of Lunga's endowment? (5)
 - b) Is Lunga a borrower or saver in the first period? Illustrate using a relevant diagram. (5)
2. Illustrate and explain profit maximizing levels of output for a cartel. What would happen if one of the firms decides to cheat? What strategies are there to stabilize the cartel behaviour? (15)

OR

QUESTION 3**[25]**

1. The following payoff matrix defines a 'hawk-dove' game. It is commonly used in biology to analyse the behaviour of two species that can be either aggressive or non-aggressive in food acquisition. In economics, the same payoff structure can apply to a situation of aggressive or non-aggressive negotiation.

		Player 2	
		Hawk	Dove
Player 1	Hawk	-1, -1	2, 0
	Dove	0, 2	1, 1

- i. Identify the pure strategy Nash equilibria in this game. **(5)**
- ii. Identify the mixed strategy Nash equilibria and the critical probabilities that define the stable equilibria. **(10)**
2. Prove that a profit-maximizing firm will always minimizing costs. **(10)**

OR**QUESTION 4****[25]**

1. With the aid of relevant examples, discuss the main types of auction (aka bidding rules) highlighting if each type is Pareto efficient and why? **(15)**
2. The market demand curve for heroin is said to be highly inelastic. Heroin supply is also said to be monopolized by the Mafia, which we assume to be interested in maximizing profits. Are these statements consistent? Explain **(10)**

End