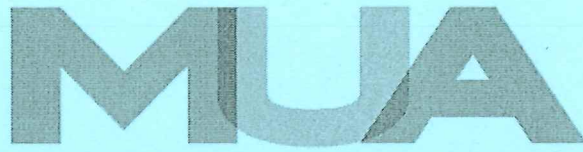


The
Management
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UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT STUDIES
AND BACHELOR OF MANAGEMENT AND LEADERSHIP

BCM 215/BML200 : MICRO-ECONOMICS/ INTERMEDIATE MICRO-ECONOMICS

DATE: 21ST JULY 2022

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. Write all your answers in the Examination answer booklet provided.

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

WHY CAN WE NOT GET ENOUGH OF ORGANIC?

Organic food is grown without synthetic pesticides, chemical fertilizers or genetically modified seeds. In recent decades, the demand for organic products has increased dramatically. The Organic Trade Association reported sales increased from \$1 billion in 1990 to \$35.1 billion in 2013, more than 90% of which were sales of food products. Why, then, are organic foods more expensive than their conventional counterparts? As people have learned more about the harmful effects of chemical fertilizers, growth hormones, pesticides and the like from large-scale factory farming, our tastes and preferences for safer, organic foods have increased. This change in tastes has been reinforced by increases in income, which allow people to purchase pricier products, and has made organic foods more mainstream. In addition, we have also had an increase in the number of farmers converting to organic farming over time.

Since the production costs of these foods may remain higher than conventional farming, due to expensive organic fertilizers and pest management techniques, they may never fully catch up with the lower prices of non-organic foods.

As a final, specific example: The Environmental Working Group's "Dirty Dozen" list of fruits and vegetables, which test high for pesticide residue even after washing, was released in April 2013. The inclusion of strawberries on the list has led to an increase in

demand for organic strawberries. This has led to an increased demand for organic foods.

Required:

- a. Identify the factors that have contributed to change in demand for organic foods.

(3 Marks)

- b. "Tastes and preferences for safer, organic foods have increased." Illustrate and elaborate the effect of this change on the equilibrium quantity and price of organic foods.

(6 Marks)

- c. "In addition, we have also had an increase in the number of farmers converting to organic farming over time." Elaborate the effect of the increase on the demand and or supply curve.

(4 Marks)

- d. Despite the changes in demand and supply, organic foods are more expensive than their conventional counterparts. Identify the reason for this as highlighted in the case study.

(2 Marks)

- e. Using the information contained in the case study propose the relationship between organic foods and non-organic foods.

(2 Marks)

- f. Using the relationship you identified in (e) above and assuming that prices of organics foods reduced, asses the substitution and income effect of these goods.

(8 Marks)

QUESTION TWO

- a. The marginal utility of a steak and a fish dinner for an individual is given below.

Meal	MU	Price
Steak dinner	100	10
Fish dinner	75	5

Assess whether the individual is maximizing utility for a given expenditure.

(2 Marks)

- b. Mary's demand curve for food is $Q = 10 - 2P$. Her price elasticity of demand for food at price P^* equals $-\frac{2}{3}$, solve for the value of P . (3 Marks)
- c. Show how under the condition of perfect competition in the long-run, the price of a commodity is equal to its average and marginal price. (2 Marks)
- d. Assess four applications of indifference curves. (8 Marks)

QUESTION THREE

- a. Suppose the demand function for maize is $Q_d = 10 - 2p$, and supply function is $Q_s = 3p - 5$. The government is concerned that the market equilibrium price of maize is too low and would like to implement a price support policy to protect the farmers. By implementing the price support policy, the government sets a support price and purchases the extra supply at the support price. In this case, the government sets the support price $P_s = 4$.
- i. Calculate original market equilibrium price and quantity in absence of the price support policy. (3 Marks)

- ii. At the support price $P_s = 4$, find the quantity supplied by the farmers, the quantity demanded by the market, and the quantity purchased by the government. (3 Marks)
- b. State two factors that affect mobility of labor (1 Mark)
- c. Argue the case for and against a monopoly in an economy. (8 Marks)

QUESTION FOUR

- a. Assess how economies of scale compare to diminishing marginal returns. (3 Marks)
- b. The Aquarium Co. sells aquariums for \$20 each. Fixed costs of production are \$20. The total variable costs are \$20 for one aquarium, \$25 for two units, \$35 for the three units, \$50 for four units, and \$80 for five units. In the form of a table, calculate total revenue, marginal revenue, total cost, and marginal cost for each output level (one to five units). (4 Marks)
- c. Ricardo produces widgets, using as inputs labor (L) and machines (K). His production function is given by the following equation:
- $$Q = 10K^{\frac{2}{3}} + L^{\frac{1}{2}}$$
- i. Determine the type of returns to scale that Ricardo's production function exhibit. (Assume $L = 4$ and $K = 2$ and the scalar value is 2) (3 Marks)
- ii. Evaluate the MPL and MPK (assume $L = 4$ and $K = 2$). (3 Marks)
- iii. Given that per unit cost of labour is KS. 800 and per unit cost of machines is KS. 5,000. Solve for the cost of production. (2 Marks)

QUESTION FIVE

- a. Compare and contrast the assumptions of a Bertrand model and a Cournot model **(4 Marks)**
- b. The Hindi Books Ltd. is a publisher of action novel. The corporation hires an economist to determine the demand for its product. After months of hard work and submission of an exorbitant bill the analyst tells the company that demand for the firm's novel (Q_x) is given by the following equation $Q_x = 12,000 - 5,000P_x + 5I + 500P_c$

Where P_x is the price charged for the Hindu Books novels, I is the income per capita and P_c is the price of books from competing publishers? Take that the initial values of P_x , I and P_c are Sh. 5, sh. 10,000 and Sh. 6 respectively.

Required:

- i. Determine what effect a price increase would have on total revenues **(4 Marks)**
- ii. Evaluate how sale of the novels would change during a period of rising incomes. **(2 Marks)**
- iii. Assess the probable impact if competing publishers raise their prices. **(2 Marks)**
- c. Differentiate the following terms. **(3 Marks)**
- Indifference curves
 - Isoquant
 - Isocost line

QUESTION SIX

- a. Suppose a firm's total revenues depend on the amount produced (q) according to the function $TR = 70q - q^2$. Total costs also depend on q : $TC = q^2 + 30q + 100$
- i. Determine the level of output the firm should produce in order to maximize profits. (5 Marks)
 - ii. Solve for the level of profits at the output level determined above. (2 Marks)
- c. Propose how the stipulated changes in each of the following demand shifters would change the equilibrium price and quantity of new Kenyan manufactured cars? (Consider each factor *ceteris paribus*).
- i. An increase in money income of the car-buying public. (Assume new cars are a superior good). (2 Marks)
 - ii. A decrease in the price of foreign cars. (2 Marks)
 - iii. Consumers expect less unemployment in the near future. (2 Marks)
 - iv. Consumers' tastes shift in the direction of European styling. (2 Marks)

