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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF ECONOMICS AND FINANCE

Date: 19th April, 2024
Time: 8.30am –10.30am

KFI 2100 – THEORY OF MICROECONOMICS I

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

A company in agricultural industry produces and markets various products, specifically ice creams, semi processed tea and fish. Some of the products have gained popularity due to health and environmental concerns, leading to an increase in demand over the years. At the same time, the supply has also been expanding, driven by advancements in organic farming techniques and increased awareness among farmers. The product market is affected by changes in demand and supply factors which influence the equilibrium price and quantity. Factors such as consumer income and production costs play significant roles in shaping market dynamics. The company management has realized that it is very important to understand the interplays which is crucial for businesses and policymakers to make informed decisions and adapt to changing market conditions effectively.

- a) Given the following scenarios, use a supply and a demand curve to illustrate the effect of the given shock on equilibrium price and quantity in each market for products produce by the company
- An unexpected temporary heat waves hits the nearby town. Show the effect in the ice cream market in the town **(3 Marks)**
 - The government of Mombasa County introduces a tax on ice cream which is paid by producers. Show the effect on price and quantity sold **(3 Marks)**
 - Kericho and Nandi Counties are the main producers of tea in Kenya. Workers in the two counties tea plantations have gone on strike. Show the effect on equilibrium price and quantity **(3 Marks)**
 - A sharp positive change in preferences on consumption of tilapia in Nairobi County. Illustrate the effect of this on the tilapia market **(3 Marks)**
- b) Assume that the company engages in production of organic apples which has a demand equation of $Q = 200 - 10P$. The firm incurs a cost per unit of output of 30. Determine the profit the firm makes if the price per unit of organic apples is 15 shillings. **(6 Marks)**
- c) A consumer has a basket of goods from the company to choose from in order to satisfy his/her wants, given his limited income level. Illustrate and discuss at what point he enjoys maximum level of satisfaction from consuming the company's products **(6 Marks)**
- d) Suppose during the production of Ice-cream, the firm notices elements of the law of variable proportion as the firm increases the use of factor inputs. Explain at least two key assumptions of the law of variable proportion the firm realizes **(4 Marks)**

QUESTION TWO (20 MARKS)

- a) The total cost equation in the production of bacon at some hypothetical factory is
 $C = 1000 + 100Q - 15Q^2 + Q^3$
Cost (C) is measured in Ksh. While bacon in metric tones
- i) Compute the total and average costs at output levels of 10 tones. **(4 Marks)**
 - ii) What is the marginal cost of the 12th tone? **(2 Marks)**
 - iii) Sketch the shape and explain relationship between average cost and marginal cost curves in the production of bacon **(6 Marks)**
- b) The current drought being experienced in the country has affected the supply of agricultural products in Nairobi County. Illustrate and discuss factors contributing to this phenomenon **(8 Marks)**

QUESTION THREE (20 MARKS)

- a) Kenya is a developing economy which utilizes mixed economic system to steer her development agenda. Discuss five key advantages of adopting the system to the entrepreneurs in the country **(10 Marks)**
- b) Suppose demand equations for a good in the university cafeteria is given as follows
 $Q = 150 - 5P + 10P_x - 2P_z + 0.01Y$
Where P = Kshs. 80, P_x = Kshs. 50, P_z = Kshs. 150 and Y = Kshs. 20,000
 P_x – price of good X, P_z – price of good Z, Y – income level and Q- quantity of good
Required
Determine;
- i) Own Price elasticity of demand, state the nature hence interpret its value **(3 Marks)**
 - ii) Cross elasticity of demand with respect to commodity x and state nature of the good and comment on the value **(4 Marks)**
 - iii) Income elasticity and state the nature of the good hence comment **(3 Marks)**

QUESTION FOUR (20 MARKS)

- a) Using illustrations discuss the concept of resource scarcity and opportunity costs economic agents face during decision making to satisfy their wants **(10 Marks)**
- b) Currently Kenyan government has increased taxes on basic commodities leading to a decline in demand for goods and services. Using demand and supply curves, illustrate and discuss the effect of tax increase on equilibrium price and quantity demanded for a commodity by the consumer **(6 Marks)**
- c) Discuss short-run and long-run periods a firm faces using relevant examples **(4 Marks)**

QUESTION FIVE (20 MARKS)

- a) A firm dealing in software manufacturing undergoes three stages of production in order to realize maximum profits. Discuss these stages with a help of a diagram **(10 Marks)**
- b) Illustrate and discuss equilibrium point of a firm operating in an oligopolistic market structure **(6 Marks)**
- c) Knowledge of Elasticity is important in planning economic development of a country. Discuss two usefulness of elasticity concept **(4 Marks)**