MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURE

UNIVERSITY ORDINARY EXAMINATION

2023/2024 ACADEMIC YEAR

FIRST YEAR **FIRST** SEMESTER EXAMINATION FOR MASTER OF BUSINESS ADMINISTRATION

BCE 613 – MANAGERIAL ECONOMICS

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer Any FOUR questions.

2. Mobile phones are not allowed in the examination room.

3. You are not allowed to write on this examination question paper.

QUESTION ONE (25 MARKS)

Study the table below on consumer disposable income and the sales of plan in the area

Year	sales	average price$	disposable income
2006	525	7200	610
2007	450	820	610
2008	400	800	590

a) Estimate the price elasticity and demand using the 2006 and 2007 data (5 marks)
b) Estimate the price elasticity of demand by the 2007 and 2008 date. (5 marks)
c) Assume you estimate are meant to be stable during the 2009, forecast the 2009 sales for aircraft sales assuming the aircraft prices remain constant at 2008 level and the disposable income increases to $40. (7.5 marks)
d) Forecast the 2009 sales for aircraft given that the prices will increase by $500 from 2008 and the disposable income increases by $40.
Assume the income and price affect are independent and additive (7.5 marks)

QUESTION TWO (25 MARKS)

a) Consider the following short run procedure

$$Q = 6L^2 - 0.4L^3$$

i. Determine the marginal product function (4 marks)
ii. Determine the average product function (4 marks)
iii. Find the value of L that maximises production (4 marks)
iv. Find the average value of L that maximises the function (4 marks)
b) Explain the meaning of the following terms;
  i. Price discrimination (3 marks)
  ii. Monopoly power (3 marks)
  iii. Market concentration (3 marks)

QUESTION THREE (25 MARKS)

a) The player A and B match coins. If the coin's match, the A coins two units and the value if they don't match B wins two units of the value. Determine the optimal strategies for the game and give the value of the game. (10 marks)
b) Explain the nature and scope of managerial economics (5 marks)
c) Explain how managers will use the concepts of price and income elasticity of demand in decision making. (5 marks)
d) Highlight FIVE reasons why monopolies are considered inefficient. (5 marks)

QUESTION FOUR (25 MARKS)

a) The willingness to pay for two TV channels by two groups of customers Geeks and regular is presented by unique table below

Products

	Number	High Tech	World life
Geek	3,000	15	4
Regular	1,000	3	8

  i.   Explain how you would price the product given the above information.   (5 marks)
 ii.   What profit are you going to get from the different pricing strategies. Assume the marginal cost in both case is zero.   (5 marks)

b) A consumer of commodity $X(X_1\ X_2)$ whose price is $P(P_1, P_2)$ has an income level M.
  i.   Work out the out the budget line of the consumer   (3 marks)
 ii.   Show what the consumer can afford with his income M   (3 marks)
iii.   Explain how the consumer would maximise the consumption of the $X(X_1, X_2)$ at price $P(P_1,P_2)$ (3 marks)
 iv.   If the government taxes the good X at the rate t, what would
        i.   Happen to the consumer budget line   (3 marks)
       ii.   Consumer bundle   (3 marks)

QUESTION FIVE (25 MARKS)

a) Suppose the firm S and T jointly hold a patent on a component used in airport radar system
   The demand for the component is $P = 1000 - Q_S - Q_T$
   Where Q_S and Q_T Aare the quantities sold by the firm and P is the market price.
   The cost for the firm
   $TC_S = 70000 + 5Q_S + 0.25Q_S^2$
   $TC_T = 110000 + 5Q_T + 0.015Q_T^2$
   Determine the profit using the Cournot model.   (13 marks)
b) Describe the strategies that can be used to determine the market of firms.   (12 marks)