



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF BUSINESS, ECONOMICS, AND ACCOUNTING

DEPARTMENT OF BUSINESS ADMINISTRATION AND MANAGEMENT

EXAMINATION PAPER

COURSE CODE : CEC 404
COURSE TITLE : MANAGERIAL ECONOMICS
DURATION : 3 Hours
LEVEL : 4.1

29 JUN 2022

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Use of silent, non-programmable calculators is allowed
3. Answer question number **one (1)** in Section A (Compulsory) and any other **three (3)** questions in Section B.
4. Begin each question on a new page.
5. The number of marks for each question or part question is shown in brackets []
6. Show all workings, where applicable.

SECTION A

QUESTION ONE

Management in the Furniture Industry

Recent trends in globalization have forced businesses around the world to more keenly focus on profitability. This trend is also present in Japan, where historical links between banks and manufacturing industries have traditionally blurred the goals of firms. According to a spokesperson for a furniture manufacturing company, “[This new focus permits us to] create new value and maximize profitability by taking steps such as renewing our management framework and prioritizing the allocation of our resources into strategic areas. We are committed to maximizing shareholder value through business conduct that balances the pursuit of earnings with socially responsible behavior.”

Ultimately, the goal of any continuing company must be to maximize the value of the firm. This goal is often achieved by trying to hit intermediate targets, such as minimizing costs or increasing market share. If you— as a manager—do not maximize your firm’s value over time, you will be in danger of either going out of business, being taken over by other owners (as in a leveraged buyout), or having stockholders elect to replace you and other managers.

- a. What are some of the forces that cause managers to act in the interest of shareholders? [4 marks]
- b. What is the difference between normal goods and inferior goods? [4 marks]
- c. The inverse demand curve for furniture is given as:
$$P = 100 - 0.2Q.$$
 - i. How many units will be sold at \$100? [2 marks]
 - ii. Comment on the total revenue (TR) and the marginal revenue (MR) when 300 units are sold. [8 marks]
 - iii. Due to constraints in supply of timber, the producer is considering reducing output from 150 to 100. Advise the firm on the impact of such a strategy on total revenue? [7 marks]

SECTION B

QUESTION TWO

The consumption of hot-dogs, a fast food piece meal, has been growing largely in urban areas in Zimbabwe. A curious managerial economics student at Zimbabwe Ezekiel Guti University (ZEGU) estimated that demand for hot-dogs in Bindura town as follows:

$$Q = 520 - 1.42P + 2PX + 5.2I + 0.20A + 0.35M$$

$$\text{St Err} \quad (2.002) \quad (0.60) \quad (0.89) \quad (2.5) \quad (0.50) \quad (0.11)$$

$$t\text{-cal} \quad (259.74) \quad (2.36) \quad (2.25) \quad (2.08) \quad (0.40) \quad (3.18)$$

$$R^2 = 0.77 \quad \text{Adj } R^2 = 0.73 \quad n = 26 \quad F = 20.88$$

- a) Given that the examiner commented that there could be a considerable number of variables omitted in this model, what will be your response to this? [5 marks]
- b) Given the definition of variables used in the model are given as follows:

P (in cents): Price of the product = 100

PX (in cents): Price of leading competitor's product = 120

I (in dollars): Per capita income of Bindura's residents = 500

A (in dollars): Monthly advertising expenditure = 12 000

M: Ratio of Youths to the elderly = 4.

- i. Determine the amount of output, (Q: Quantity) that the firm must produce per month in order to meet demand. [10 marks]
- ii. Is the hot dog a normal good or inferior good? Support your answer. [10 marks]

QUESTION THREE

The Lake Chivero fishing fleet has just decided to use a pole-and-line method of fishing instead of gill netting to catch breams. The latter method involves the use of miles of nets strung out across the lake and therefore entraps other lake creatures besides breams (e.g., porpoises, tadpoles). Concern for endangered species was one reason for this decision, but perhaps more important was the fact that the department of national parks has set to heavily fine anyone caught using nets.

Lake Chivero camping crew decided to conduct a series of experiments to determine the number of breams that could be caught with different crew sizes. The results of these experiments follow.

Number of Fishermen	Daily Bream Catch
0	0
1	50
2	110
3	300
4	450
5	590
6	665
7	700
8	725
9	710

- Determine the point at which diminishing returns occurs. [4 marks]
- Indicate the points that delineate the three stages of production of the production function. [6 marks]
- Advise the camping crew on the range of employment of fishermen that is profitable. [5 marks]
- Comment on the Marginal Rate of Technical Substitution (MRTS) following production functions
 - $Q = 75L^{0.60}K^{0.70}$
 - $Q = 100 + 50L + 50K$ [10 marks]

QUESTION FOUR

a. Compare and contrast the following:

- i. Short run and long run periods in production [6 marks]
- ii. Monopoly and Monopolistic Competition [6 marks]
- iii. Use the following equation to demonstrate why a firm producing at the output level where $MR = MC$ will also be able to maximize its total profit (i.e., be at the point where marginal profit is equal to zero).

$$P = 170 - 5Q$$

$$TC = 40 + 50Q + 5Q^2$$

[13 marks]

QUESTION FIVE

- a. How can education act as a separating device in game theory? [8 marks]
- b. The worker-management negotiation results may be modelled as a dynamic game with imperfect information. The two may resolve to sit on a negotiating table with an aim to get a win-win position though strict personal interests may not be declared outright. This can result in a battle of sexes as simplified below:

A man and a woman are trying to decide what to do in the evening. The man would rather go and watch the boxing (or go to a soccer bating club), while the woman would rather go shopping (or see Telemundo). However, they would both rather spend the evening together (doing either activity) than they would to do something separate. If they both go to the boxing, the man gets a payoff of 2, while the woman gets a payoff of 1. If they go shopping, then the woman gets a payoff of 2 and the man gets a payoff of 1. If they do different activities then they both get a payoff of zero.

- i. Given that, the rows of the table are the woman's possible strategies, and the columns are the man's, construct the matrix of pay-offs for this game. [10 marks]
- ii. Is there a Nash equilibrium in this game? Explain/ Prove. [6 marks]

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