



ZIMBABWE EZEKIEL GUTI UNIVERSITY

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FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS

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DEPARTMENT OF ECONOMICS, MARKETING AND ENTREPRENEURSHIP

EXAMINATION PAPER

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

12 APR 2023

**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 1: 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]

- b. What is the difference between maximising shareholder value and maximising profitability?

[4]

- c. The inverse demand curve for furniture is given as:

$$P = 100 - 0.2Q.$$

- i. Determine the level of willingness to obtain furniture without paying in this market?

[5]

- ii. Comment on the total revenue (TR) when 300 units are sold.

[6]

- iii. Due to constraints in supply of timber, the producer is considering reducing output from 300 to 100. Advise the firm on the impact of such a strategy on total revenue?

[6]

## SECTION B

### Question 2

- a. A manufacturer of computer workstations gathered average monthly sales figures from its 56 branch offices and dealerships across the country and estimated the following demand for its product:

$$Q = +15\,000 - 2.80P + 150A + 0.3P_{pc} + 0.35P_m + 0.2P_c$$

(5,234)    (1.29)    (175)    (0.12)    (0.17)    (0.13)

$$R^2 = 0.68 \quad SEE = 786 \quad F = 21.25$$

The variables and their assumed values are

$Q$ : Quantity

$P$ : Price of basic model = 7 000

$A$ : Advertising expenditures (in thousands) = 52

$P_{pc}$ : Average price of a personal computer = 4 000

$P_m$ : Average price of a minicomputer = 15 000

$P_c$ : Average price of a leading competitor's workstation = 8 000

- i. Discuss the relative impact that each variable has on the demand. [8]
- ii. What implications do these results have for the firm's marketing and pricing policies? [10]
- iii. Suppose a manager evaluating these results suggests that interest rates and the performance of the computer (typically measured in millions of instructions per second, or MIPS) are important determinants of the demand for workstations and must therefore be included in the study. How would you respond to this suggestion? Elaborate.

[7]

### Question 3

A firm sells phone batteries for \$2 per unit in a highly competitive market. The firm produces output using capital (which it rents at \$75 per hour) and labor (which is paid a wage of \$15 per hour under a contract for 20 hours of labor services).

- a. Complete the following table and use that information to answer the questions that follow

K	L	Q	MP <sub>K</sub>
0	20	0	
1	20	50	
2	20	150	
3	20	300	
4	20	400	
5	20	450	
6	20	475	
7	20	475	
8	20	450	
9	20	400	
10	20	300	
11	20	150	

[10]

- b. Identify the fixed and variable inputs. [2]
- c. What are the firm's fixed costs? [2]
- d. What is the variable cost of producing 475 units of output? [2]
- e. Over what range of the variable input usage do increasing marginal returns exist? [2]
- f. Over what range of the variable input usage do decreasing marginal returns exist? [2]
- g. Over what range of input usage do negative marginal returns exist? [2]
- h. In the long-run, the firm has identified the following production model:

$$Q = 3K^{\frac{1}{4}}L^{\frac{3}{4}}$$

- i. What type of returns to scale does the model exhibit? Prove. [2]

#### Question 4

- a. Explain how a price discriminating monopoly can be successful. [5]
- b. Distinguish between a monopoly and monopolistic competition. [10]
- c. Suppose short-run inverse demand in a monopolistically competitive market is represented by:

$$P = 18 - 0.2Q$$

Cost is given by:

$$TC = 320 + 2Q + 0.05Q^2$$

- i. Given these demand and cost conditions, what price, output, and profits result in the short run? [10]

#### Question 5

The market strategic activities can be modelled as a dynamic game with imperfect information. Two players can aim to strategically merger but not willing to declare interests outright, this can result in a battle of sexes as simplified below:

*A young girl (player 1) and her boyfriend (player 2) are out on Saturday night, driving in their own cars, on their way to meet each other for a night date. Tragically, both their phones ran out of power so they cannot communicate with each other. There are two options that they had talked about previously: a cinema for movies and the 'hot'-restaurant in the city centre. But they had not concluded on which one. They like each other very much, and both would hate to spend the evening without the other. The young girl likes the 'hot'-restaurant much better than the cinema because of the eats, but her boyfriend likes the 'dark' cinema better than the 'hot'-restaurant. If the girl ends up at the 'hot'-restaurant with her boyfriend, her payoff is 3. But her payoff is 0 if she ends up at the 'hot'-restaurant without him. If the girl ends up at the cinema with her boyfriend, her payoff is 1. But her payoff is 0 if she ends up at the cinema without him. Similarly for the young man, if he ends up at the cinema with her, his payoff is 3; if he ends up at the 'hot'-restaurant with her, his payoff is 1; and if he ends up at either place without her, his payoff is 0.*

- a. Why is it particularly important to be the party who sets the agenda in situations involving tacit negotiation? [2]
- b. Given that, the rows of the table are the boy's possible strategies, and the columns are the girl's, present the matrix of pay-offs for this game. [8]

- c. What is the difference between this game and the prisoner's dilemma? [5]
- d. What is the dominant strategy of this game? Explain/ Prove. [5]
- e. Is there a Nash equilibrium in this game? Explain/ Prove. [5]

--- The End ---

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15/5 am