



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS

DEPARTMENT OF ECONOMICS, MARKETING, AND ENTREPRENEURSHIP

EXAMINATION PAPER

MODULE CODE : CEC414
MODULE TITLE : Managerial Economics
SPECIAL REQUIREMENTS : Graph paper
DURATION : 3 Hours
LEVEL : 4.1 22 SEP 2025
DATE :

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue
2. Use of silent, non-programmable calculators is allowed
3. Answer ALL questions in Section A and any THREE (3) questions in Section B.
4. Begin each question on a new page in section B.
5. The number of marks for each question or part question is shown in brackets []

SECTION A (COMPULSORY)

QUESTION ONE

CASESTUDY: FACEBOOK

Firms in Zimbabwe are losing productivity because of WhatsApp. Office staff are spending too long on the social networking site. According to The Associated Chambers of Commerce and Industry, employees use WhatsApp, Orkut, Facebook, Myspace, and LinkedIn for "romancing" and other purposes. On average, employees spend an hour a day on sites like WhatsApp. This reduces productivity by 12.5%. Nearly half of office employees accessed WhatsApp during work time. Some 83% saw nothing wrong in surfing at work during office hours. In September 2009 Portsmouth City Council in England banned staff from accessing Facebook on its computers when it was discovered that they spent, on average, 400 hours on the site every month.

Questions

- a. Define productivity and analyse the impact on a fall in productivity on costs. [5 marks]
- b. Analyze the possible consequences for businesses in Zimbabwe of banning access to WhatsApp and other social networking sites. [8 marks]
- c. A firm in Zimbabwe has the following short-run production function:

$$Q = 50L + 6L^2 - 0.5L^3$$
 where Q = Quantity of output per week L = Labor (number of workers).
 - i. When does the law of diminishing returns take effect? [3 marks]
 - ii. Calculate the range of values for labor over which Stages I, II, and III occur. [9 marks]

SECTION B (ANSWER ANY THREE QUESTIONS)

QUESTION TWO

- a. Given the demand equation $Q = 1,500 - 200P$.

P	Q	Elasticity		Total Revenue	Marginal Revenue
		Point	Arc		
7.00					
6.50					
6.00					

5.50					
5.00					
4.50					
4.00					
3.50					
3.00					
2.50					

Calculate all the numbers necessary to fill in the table above and comment on the relationship between elasticity, total revenue and marginal revenue. **[15 marks]**

- b. You are the manager of a pizzeria that produces at a marginal cost of \$6 per pizza. The pizzeria is a local monopoly near campus (there are no other restaurants or food stores within 500 miles). During the day, only students eat at your restaurant. In the evening, while students are studying, faculty members eat there. If students have an elasticity of demand for pizzas of -4 and the faculty has an elasticity of demand of -2 , what should your pricing policy be to maximize revenue? **[10 marks]**

QUESTION THREE

- a) What are some of the forces that cause managers to act in the interest of shareholders? **[5 marks]**
- b) Suppose a soft-drink firm is grappling with the decision about whether or not to introduce to the market a new carbonated beverage with 25 percent real fruit juice. How might it use the five decision steps to guide its course of action? **[10 marks]**
- c) A firm's fixed costs for 0 units of output and its average total cost of producing different output levels are summarized in the following table.

Q	FC	VC	TC	AFC	AVC	ATC	MC
0	\$15000					-	
100						300	
200						200	
300						175	
400						225	
500						325	
600						400	

Complete the table to find the fixed cost, variable cost, total cost, average fixed cost, average variable cost, and marginal cost at all relevant levels of output. **[10 marks]**

QUESTION FOUR

Mazoe Beverages, a fruit juice producer in Zimbabwe, consulted a Managerial Economist to forecast market demand. The economist estimated the following demand function for Mazoe's juice:

$$Q = 5,500 - 0.08P + 1.5PY + 3.8I + 0.15A$$

Where:

Q = Quantity demanded per month (in litres)

P = Price of Mazoe juice (in cents) = 180

PY = Price of a competing brand (in cents) = 200

I = Per capita income of Harare residents (in dollars) = 400

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

Standard errors of coefficients:

(1.80) for intercept, (0.02) for P, (0.67) for PY, (1.90) for I, (0.60) for A

Model statistics:

$$R^2 = 0.81, \text{ Adj } R^2 = 0.80, n = 300, F = 22.45$$

- What proportion of the variation in juice demand is explained by the independent variables in the model, and how confident are you in this result? **[4 marks]**
- Determine the statistical significance of each variable in the model. **[4 marks]**
- Calculate the expected monthly quantity demanded for Mazoe juice using the model. **[4 marks]**
- Discuss the relative impact of each variable on the demand for Mazoe juice. **[4 marks]**

- e. Compute the elasticity coefficients of the variables and interpret their managerial implications. **[6 marks]**
- f. Explain the concept of heteroscedasticity and its implications in cross-sectional data analysis. **[3 marks]**

QUESTION FIVE

Develop a payoff matrix for the Prisoner's Dilemma scenario where two suspects, A and B are interrogated separately and have the options to 'confess' or 'not confess'. Assign the following payoffs (each pay-off represents the number of years in imprisonment):

If both prisoners 'do not confess': $A = 2, B = 2$

If one prisoner 'confesses' while the other 'does not confess': $A = 0, B = 3$ and vice versa

If both prisoners 'confess': $A = 1, B = 1$

- a. Complete the matrix with the appropriate payoffs. **[7 marks]**
- b. Analyse the implications of cooperation versus self-interest in this game theory setting. **[5 marks]**
- c. How do the choices of 'confess' and 'do not confess' influence the outcomes for both players? **[3 marks]**
- d. Discuss the strategic implications of this dilemma in decision-making in real-world scenarios. **[10 marks]**

THE END

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