



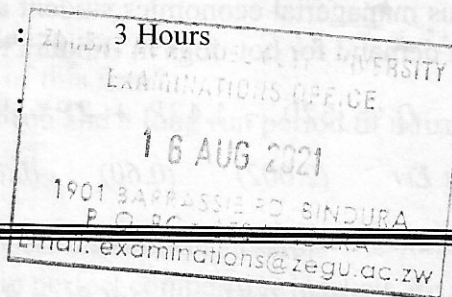
ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF BUSINESS, ECONOMICS AND ACCOUNTING

DEPARTMENT OF BUSINESS ADMINISTRATION AND MANAGEMENT

EXAMINATION PAPER

COURSE CODE : CEC404
COURSE TITLE : MANAGERIAL ECONOMICS
DURATION : 3 Hours
DATE :



INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Answer question 1 and any **three (3)** questions.
3. Begin each question on a new page.
4. Electronic calculators are allowed
5. The number of marks for each question or part question is shown in brackets []

Question 1

- a. How can the problem of *shirking* be solved? [2 marks]
- b. Itel, a cellphone producing company has been selling its products in the Zimbabwean market. The popularity of the brand has grown quickly in a short space of time. The company needs to strengthen its market share in Zimbabwe, therefore, a consultant was hired. A consultant has estimated the weekly demand curve to be as follows:

$$Q = 2\,000 - 20P$$

where; Q is cap sales and P is price.

- i. If you were to remodel the demand for this product, what are other factors you could have added in this model? [3 marks]
- ii. How many cellphones can be sold at \$60 each? [2 marks]
- iii. How much would the price have to be in order to sell 1 500 cellphone? [3 marks]
- iv. Advise the firm on the price that will result in no sales of cellphones. [4 marks]
- v. If the firm charges \$50 per cellphone, what will be the price elasticity of demand at that point? [5 marks]
- vi. Advise the firm on the value of sales that maximises revenue. [6 marks]

Question 2

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:

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

$$St\ Err \quad (2.002) \quad (0.60) \quad (0.89) \quad (2.5) \quad (0.07) \quad (0.11)$$

$$t-cal \quad (259.74) \quad (2.36) \quad (2.25) \quad (2.08) \quad (2.86) \quad (3.18)$$

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

- a) What proportion of the variation in sales is explained by the independent variables in the equations? How confident are you about this answer? [3 marks]
- b) Given the definition of variables used in the model are given as follows:

P (in cents): Price of the product

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

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

A (in dollars): Monthly advertising expenditure

M: Ratio of Youths to the elderly

- i. Discuss the relative impact that each variable has on the demand. [10 marks]
- ii. Given the following demand conditions, comment on the price elasticity of demand for hot-dogs in Bindura. [12 marks]

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.

Question 3

A firm uses the following production function to produce its output (Q):

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

- Determine the type of returns to scale the firm is getting. [3 marks]
- Complete the following table using the production function above and use that information to answer the questions that follow

K	L	Q
0	20	
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
7	20	
8	20	
9	20	

[10 marks]

- Identify the fixed and variable inputs. [2 marks]
- Give the value of fixed costs of this firm? [2 marks]
- Compare and contrast a short run and a long run period of a firm [6 marks]

Question 4

- How can a firm make price discrimination successful? [5 marks]
- The outcomes of price taking in perfect competitive markets are desirable to consumers. Elaborate ways in which government and other economic agents can ensure that markets in Zimbabwe simulate outcomes close to perfect competition. Use practical examples and graphs to illustrate your answer. [20 marks]

Question 5

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.

- What is the source of problem in the prisoner's dilemma game? [2 marks]

- b. Given that, the rows of the table are the man's possible strategies, and the columns are the woman's, present the matrix of pay-offs for this game. **[8 marks]**
- c. What is the difference between this game and the prisoner's dilemma? **[5 marks]**
- d. What is the dominant strategy of this game? Explain/ Prove. **[5 marks]**
- e. Is there a Nash equilibrium in this game? Explain/ Prove. **[5 marks]**

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