



# MANICALAND STATE UNIVERSITY OF APPLIED SCIENCES

**FACULTY OF AGRIBUSINESS AND COMMERCE**

**DEPARTMENT OF AGRICULTURE ECONOMICS AND DEVELOPMENT**

**MICROECONOMICS**

**AEDT121**

**SESSIONAL EXAMINATIONS**

**AUGUST 2022**

**DURATION: 3 HOURS**

**EXAMINER: Ms. P. Dube**

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## ***INSTRUCTIONS***

- 1. Answer Four questions.*
- 2. Start a new question on a fresh page*
- 3. Total marks 100*

### Questions 1

The weekly demand and supply schedules for the t-shirts (in millions) in a free market are as follows:

**Table 1: Demand and supply of t shirts**

Price (USD)	8	7	6	5	4	3	2	1
Quantity demanded	6	8	10	12	14	16	18	20
Quantity supplied	18	16	14	12	10	8	6	4

- i. What is the equilibrium price and quantity? (5)
- ii. Assume that changes in fashion causes the demand for t-shirts to rise by 4 million at each price.
  - a. What will be the new equilibrium price and quantity? (5)
  - b. Has the equilibrium quantity risen as much as the rise in price in demand? (5)
  - c. Explain why or why not?
- iii. Now plot the data in Table 1 on a graph and
  - a. Mark the equilibrium (5)
  - b. Mark the new equilibrium (5)

### Question 2

- a) Graphically illustrate and explain the effect of a minimum wage policy on unemployment in a country (6).
- b) If a firm has the following market demand function  $Q_d = 2000 - 5P$  and the output is 500 units:
  - i. Find the price elasticity of demand for the product they are selling (6)
  - ii. Marginal revenue (MR) and price elasticity of demand can be linked by the formula  $MR = P(1 + 1/\epsilon_p)$ . Using the elasticity obtained in (i) above, what would you advise the firm to do in order to increase total revenue (TR)? Justify your answer. (8)
  - iii. A consumer derives utility by consuming two goods, namely milk and bread. The price per unit of the goods are 15 cents for milk and 10 cents for bread. If the consumer has an income of \$900

### Question 3

Given the average variable cost (AVC) equation:  $AVC=Y^2-2Y+2$

- i. Derive the total variable cost (TVC) and Marginal Cost (MC) equations. (4)
- ii. At what level of the output is the MC at minimum and the value of MC? (4)
- iii. At what level of the AVC at minimum and the value of AVC? (4)
- iv. Discuss the importance of agriculture in the development of Zimbabwe (8)
- v. List at least five ways of improving agriculture in Zimbabwe (4)

### Question 4

- a) The fundamental economic problem can be best described by the link between the concepts of scarcity, trade off, production efficiency and opportunity cost. Explain how these concepts link up to explain the basic economic problem (15)
- b) Discuss the assumption of indifference curve analysis (6)
- c) Graphically illustrate the equilibrium condition for an individual consumer who spends all his income(I) and two goods (x and y) whose prices are  $P_x$  and  $P_y$  respectively (5)

### Question 5

- a) Discuss the meaning and significance of any of four of the following economic concepts:
  - i. Production Possibility Frontier
  - ii. Consumer Surplus
  - iii. Veblen goods vs Normal good
  - iv. Short run vs long run
  - v. Marginal rate of substitution(25)

**Question 6**

Suppose that you wake up tomorrow to discover that you have 132 hours of study time in which to prepare for three exams. For each hour of study, you can expect your mark to be given in the accompanying table. You want to allocate your time to maximize your total numerical score on all the three exams. (Each is weighted equally on your final results)

Hour	Exam A	Exam B	Exam c
1	40	60	39
2	65	90	46
3	80	100	60
4	90	100	72
5	95	90	82
6	99	75	90
7	100	55	96
8	100	33	100
9	99	8	100
10	95	0	100

- a) Calculate the marginal product (score) of each hour of study for each exam (12)
- b) State briefly the meaning of negative marginal product in this sample (2)
- c) State the general rule for dividing your time to maximize the total score on all the three exams. How many hours should be devoted to the preparation of exams A, B and C? (5)
- d) Explain why the short run MC is equal to the slope of both the TC and TVC curve (3)
- e) Explain how the law of the diminishing marginal returns is related to the shape of the short run marginal cost curve (3)

**Question 7**

- a. Draw a graph showing the short run equilibrium position of a monopolistic firm highlighting the equilibrium price, output and total and total profit or loss (10)

- b. Describe five characteristics of a monopoly (10)
- c. Define cross price elasticity of demand and explain when it is positive or negative (5)

**END OF EXAMINATION**