



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMMERCE, HUMAN SCIENCE AND EDUCATION**

**DEPARTMENT OF ECONOMICS, ACCOUNTING AND FINANCE**

<b>QUALIFICATION BACHELOR OF ECONOMICS HONOURS DEGREE</b>	
<b>QUALIFICATION CODE: 07BECO</b>	<b>LEVEL: 8</b>
<b>COURSE CODE: AMI810S</b>	<b>COURSE NAME: ADVANCED MICROECONOMICS</b>
<b>SESSION: JUNE 2023</b>	<b>PAPER: THEORY</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

<b>SECOND OPPORTUNITY EXAMINATION QUESTION</b>	
<b>EXAMINER(S)</b>	MR. PINEHAS NANGULA
<b>MODERATOR:</b>	Dr Ernest Ngeh Tingum (UNAM)

<b>INSTRUCTIONS</b>
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

**PERMISSIBLE MATERIALS**

1. Scientific calculator
2. Pen and Pencil
3. Ruler

**THIS QUESTION PAPER CONSISTS OF 3 PAGES (Including this front page)**

**QUESTION ONE****[15 MARKS]**

Suppose the market for corn in Namibia has market demand of  $Q = 500 - 0.5P$  and market supply of  $P = 200 + 6Q$ . Assume the market for corn in Namibia is a closed market. Use this information to answer the following questions. Make sure you show all your work and do not just provide your final answer.

- a) Given the above information, what is the market price and market quantity? What is the total farmer's revenue in this market? [6 marks]
- b) Suppose the government implements a price floor of N\$900 per unit of corn in this market where the government agrees to maintain this price floor by purchasing any excess supply at the price floor price.
  - i) Given this price floor, how many units of corn will be purchased by consumers? How many units of corn will be supplied by farmers in Namibia? How many units of corn will be purchased by the government? [6 marks]
  - ii) Given this price floor what will be the direct cost to the government for implementing this price floor? [1 mark]
  - iii) Suppose that the cost of storing each unit of corn is N\$100 per unit for the year.
    - a. Given this information and the described price floor, what will be the total cost to the government of implementing this price floor? [1 mark]
    - b. Given the price floor what is the total farmer's revenue from selling corn in this market? [1 mark]

**QUESTION TWO****[25 MARKS]**

John has the utility function  $U(Z, B) = 10Z^{0.4}B^{0.6}$ , where  $Z$  denotes the amount of food consumed and  $B$  the amount of clothing. Now suppose that he has an income of N\$1000 per week and that the price of clothing is  $P_b = \text{N}\$20$  per unit. Suppose that the price of food is initially  $P_{z1} = \text{N}\$40$  per unit and that the price subsequently falls to  $P_{z2} = \text{N}\$20$  per unit. Let us assume food is on the x-axis and clothing is on the y-axis.

- a) Calculate income effect because of a decrease in price of food and use a well labelled graph to present your answer. [10 marks]
- b) Calculate substitution effect because of a decrease in price and use a well labelled graph to present your answer. [10 marks]
- c) Combine the graph in a) and b) to show the total effect of the decrease in price of food. [5 marks]

**QUESTION THREE****[25 MARKS]**

Suppose Cola and Pepsi's demand curves are given by  $Q_1 = (64 + 2P_2) - 4P_1$  and  $Q_2 = (64 + 2P_2) - 5P_2$ , respectively. Coca-Cola's marginal cost is \$5 per unit, and Pepsi's marginal cost is \$4 per unit.

- a) What is Coca-Cola's profit-maximizing price when Pepsi's price is \$8? [7 marks]

- b) What is the equation of Coca-Cola's price reaction function (i.e., Coca-Cola's profit-maximizing price when Pepsi sets an arbitrary price  $P_2$ )? [8 marks]
- c) What are Coca-Cola's and Pepsi's profit-maximizing prices and quantities at the Bertrand equilibrium? [10 marks]

**QUESTION FOUR**

**[35 MARKS]**

- a) There are two goods (*Good X* and *Good Y*) to spend your *income I*. The utility function is  $U(X, Y) = 10X^{0.1}Y$ , good Y is a composite good, price of good X is N\$5.00 and consumer's income is N\$100. The price of good X decreases to N\$2.50 while the price of composite good and consumer's income remain the same.  
Is good X a normal, inferior or giffen good? [15 marks]
- b) David is considering his purchases of food ( $x$ ) and clothing ( $y$ ). He has the utility function  $U(x, y) = xy + 10x$ , his income is N\$10.00, price of good x is N\$1.00 and price of good y is N\$2.00.
- c) Does David have an interior or a corner solution? [10 marks]
- d) An individual consumes two goods, clothing and food. Given the information below, illustrate both the income-consumption curve and the Engel curve for clothing and food.

Price of food	Price of cloth	Quantity of food	Quantity cloth	Income
N\$10	N\$2	6	20	N\$100
N\$10	N\$2	8	35	N\$150
N\$10	N\$2	11	45	N\$200
N\$10	N\$2	15	50	N\$250

*All the best*

