NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCAITON

DEPARTMENT OF ECONOMICS, ACCOUNTING AND FINANCE

QUALIFICATION : BACHELOR OF ECONOMICS, BACHELOR OF ACCOUNTING AND BACHELOR OF ACCOUNTING (CHARTERED)	
QUALIFICATION CODE: O7BEC0	**LEVEL: 7**
COURSE CODE: IMI611S	**COURSE NAME**: INTERMEDIATE MICROECONOMICS
SESSION: JUNE 2023	**PAPER:** THEORY
DURATION: 3 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	**Mr Eslon Ngeendepi** **Mr Pinehas Nangula**
MODERATOR:	**MS Ndeshi Shitenga**

INSTRUCTIONS
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Pens/pencils/erasers
2. Calculator
3. Ruler

THIS QUESTION PAPER CONSISTS OF 5 PAGES (Including this front page)

SECTION A

35 Marks

QUESTION 1

a) Explain the three key trade -offs faced by society. (9)

b) List three key main players of microeconomics (3)

c) Define the term model in economics. (3)

d) Outline three (3) key properties of indifference curves. (6)

e) What effect does a specific sale tax have on government revenue, equilibrium price and equilibrium quantity? (6)

f) Explain the error in the following statement: "As the price of avocados falls, the demand for avocados increases." (3)

g) Explain the error in the following statement: "The price of golf balls increases from year to year but every year golfers purchase more golf balls. This implies that the demand curve for golf balls slopes upward." (5)

SECTION B

40 Marks

QUESTION 1

a) Suppose that the demand function for lamb in Namibia is $Q = 63 - 11p + 7pb + 3pc + 2Y$, where Q is the quantity in million kilograms (kg) of lamb per year, p is the dollar price per kg (all prices cited are in Namibian dollars), pb is the price of beef per kg, pc is the price of chicken per kg, and Y is annual per capita income in thousands of Namibian dollars. What is the demand curve if we hold pb, pc, and Y at their typical values during the period studied: $pb = 19$, $pc = 6$, and $Y = 78$? (5)

b) Using the demand function for lamb from Question 1 (a) above, show how the quantity demanded at a given price changes as annual per capita income, Y, increases by N$200. (2)

c) Suppose that the supply function for lamb in Namibia is $Q = 149 + 8p - 9ps$, where Q is the quantity in millions of kg of lamb per year, and p and ps are the prices of lamb and sheep, respectively, in Namibian dollars per kg. How does the supply curve change if the price of sheep increases from N$5 to N$5.50 per kg? (6)

d) Suppose the supply function for processing coffee beans from coffee cherries in Mexico is $Qs = 3.15 + 0.1p - 0.5pc$ and the demand curve for coffee beans is $Qd = 4.1 - 0.2p$, where Qs and Qd are quantities of coffee beans in thousands of 60-kg bags, p is the price of coffee beans in millions of pesos per thousand 60-kg bags, and $pc = 0.8$ is the price of coffee cherries in millions of pesos per thousand 60-kg bags. What is the supply curve for coffee beans (that is, supply as a function of only the price of coffee beans)? Solve for the equilibrium price and quantity of coffee beans. (10)

e) Is it possible that an outright ban on foreign imports will have no effect on the equilibrium price? (*Hint*: Suppose that imports occur only at relatively high prices.) (7)

QUESTION 2

a) According to Duffy-Deno (2003), when the price of broadband access capacity (the amount of information one can send over an Internet connection) increases by 10%, commercial customers buy about 3.8% less capacity. What is the elasticity of demand for broadband access capacity for firms? Is demand at the current price inelastic? (3)

b) Use calculus to prove that the elasticity of demand is a constant everywhere along the demand curve whose demand function is $Q = Ap$. (4)

c) Do you care whether a 15¢ tax per gallon of milk is collected from milk producers or from consumers at the store? Why? (3)

SECTION C

12 Marks

QUESTION 1

a) Which of the following pairs of goods are complements and which are substitutes? Are the goods that are complements likely to be perfect complements for some or all consumers? (4)

i. Cars and tires

ii. Apple cider and hot chocolate

iii. Printers and ink cartridges

iv. Soybeans and chickpeas

b) José Maria's utility function is $U(B, Z) = AB\alpha Z\beta$. What is his marginal utility of B? What is his marginal utility of Z? What is his marginal rate of substitution between B and Z? (4)

c) Diogo has a utility function $U(BZ) = AB\alpha Z\beta$, where A, α, and β are constants, B is burritos, and Z is pizzas. If the price of burritos, pB, is N$2 and the price of pizzas, pZ, is N$1, and Y is N$100, what is Diogo's optimal bundle? (4)

SECTION D

13 Marks

QUESTION 1

a) Suppose that a firm's production function is $q = 2KL$, where L is labor services and K is capital services, and that $K = 3$. What are the total product, average product of labor, and marginal product of labor curves? (6)

b) What are returns to scale? Under what conditions (that is, for what values of the parameters a and b) does the Cobb-Douglas production function, $q = KaLb$, exhibit constant and increasing returns to scale? (7)

TOTAL = 100 MARKS