



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES
SCHOOL OF AGRICULTURE AND NATURAL RESOURCES SCIENCES
DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS

QUALIFICATION: BACHELOR OF SCIENCE IN AGRICULTURE / HORTICULTURE and REGIONAL AND RURAL DEVELOPMENT	
QUALIFICATION CODE: 07BAGA/07BHOR/07BRAR	LEVEL: 7
COURSE CODE: AEM520S	COURSE NAME: AGRICUTURAL ECONOMICS
DATE: JANUARY 2025	PAPER: 2
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY / SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	MR ANDREAS ERASTUS MS ESTHER KWAAMBWA
MODERATOR:	MR MWALA LUBINDA

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

PERMISSIBLE MATERIALS

1. Examination Question paper
2. Examination Answer booklet
3. Calculator

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)

QUESTION 1**[44 MARKS]**

- 1.1 what is the difference between microeconomics and macroeconomics? [2]
- 1.2 Define Agricultural economics and why is important to study Agricultural economics? [4]
- 1.3 Discuss the significance of the agricultural sector in the Namibian economy, providing at least four key points. [8]
- 1.4 Define the law of supply, and explain why it holds. [3]
- 1.5 what are complementary goods? [1]
- 1.6 what are substitute goods? [1]
- 1.7 "Supply involves more than just having the resources and technology to produce goods or services." Discuss three key prerequisites a firm should consider before supplying goods or services. [6]
- 1.8 Explain the difference between **change in supply** and **change in quantity supplied**. [4]
In demand theory, explain the relationship between price and quantity of goods being demanded. [2]
- 1.9 Given the answer you gave in **Q1.8**, explain why the relationship is the way you discussed it. [2]
- 1.10 Consider the following functions representing the demand and supply of carrots in a market. Where P is the price in N\$/kg, and Q_s and Q_d are quantity demanded and supplied in kilograms (kg). Use this information to answer the questions below.

$$Q_d = 100 - 5P$$

[Demand function]

$$Q_s = 1 + 4P$$

[Supply function]

- (a) Find the equilibrium price of carrots. [3]
- (b) Find the quantity demanded or quantity supplied of carrots at the equilibrium price [2]
- (c) Estimate the surplus or shortage of carrots demanded and supplied [3]
- (d) Explain how markets regulate the price and quantity supplied or demanded back to equilibrium. [3]

Total **[44]**

QUESTION 2**[12 MARKS]**

2.1 When the price of potatoes increased from N\$20 to N\$22, the quantity of potatoes demanded decreased from 100 to 87.

What is the price elasticity of demand for potatoes?

Calculating a Percentage

[6]

2.2 The quantity demanded of Good Z depends upon the price of Z (P_z), monthly income (Y), and the price of a related Good W (P_w).

Demand for Good Z (Q_z) is given by equation 1 below:

$$Q_z = 150 - 8P_z + 2Y - 15P_w.$$

Find the demand equation for Good Z in terms of the price for Z (P_z), when Y is N\$50 and $P_w =$ N\$6.

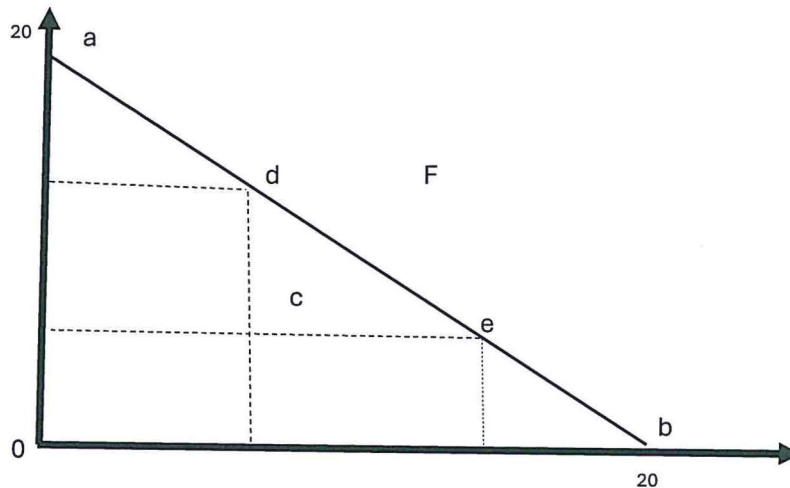
[6]

Total**[12]**

QUESTION 3**[20 MARKS]**

3.1 Find the slope of a linear demand curve for orange boxes, when persons purchase 1,000 at N\$ 5.00 per box and 200 at N\$ 15.00 per box [4]

3.2 The graph below shows Namibian Production Possibilities Frontier (PPF) for chicken and fish.



- 3.2.1 On a PPF model, explain why you cannot produce beyond the PPF line at point F? [2]
- 3.2.2 Interpret the points labelled (a) and (b), which represent the y-intercept and x-intercept, respectively, assuming chicken is on the vertical (y) axis and fish is on the horizontal (x) axis. [2]
- 3.2.3 At either point of "a" and "b" is Namibia attaining production efficiency? Motivate your answer. [2]
- 3.2.4 Assume Namibia is not involved in any trade, do you think Namibia is being allocative efficiency when producing at either "a" or "b"? Motivate your answer [3]
- 3.2.5 Which economic principles will best fit the following points on the graph?
(a) Point "c" [1]
(b) The movement of PPF to point "F" [1]
- 3.2.6 Suggest two conditions that can be implemented to shift the PPF curve to point "F" [2]
- 3.2.7 By showing the formula for determining the opportunity cost, compute the opportunity cost of producing fish instead of chicken. [3]

Total**[20]**

QUESTION 4**[14 MARKS]**

4.1 Beef supplies are sharply reduced because of drought in the beef-raising states, and consumers turn to pork as a substitute for beef. How would you illustrate this change in the beef market in supply-and-demand terms? [4]

4.2 Consider a market where there are just two consumers and suppose their demands for the good are given as follows:

P = price of Bananas

d_1 = John's demand

d_2 = Jane's demand

P	d_1	d_2
1	9	24
2	8	20
3	7	18
4	6	16
5	5	14
6	4	12

Calculate the Market demand for the good.

[4]

4.3 Differentiate between perfectly elastic and perfectly inelastic demand

[6]

Total**[14]**

QUESTION 5**[10 MARKS]**

Consider Hindjo's a rational consumer, whose Total Utility (TU) for consuming successive units of pies (TU_P) or cooldrinks (TU_C), are respectively, represented by the equations:

$$TU_P = 16Q - Q^2$$

$$TU_C = 20Q - 2Q^2$$

where Q is the quantity of pies or cool drinks consumed.

5.1 Complete the table by calculating and filling in the missing values for Total Utility for pies and cooldrinks and the Marginal Utility for pies and cooldrinks?

Quantity of pies and cool drinks	TU for pies (utils)	TU for cool drinks (utils)	MU for pies (utils)	MU for cool drinks (utils)
0	-----	-----	-----	-----
1	-----	-----	-----	-----
2	-----	-----	-----	-----
3	-----	-----	-----	-----
4	-----	-----	-----	-----
5	-----	-----	-----	-----
6	-----	-----	-----	-----
7	-----	-----	-----	-----
8	-----	-----	-----	-----
9	-----	-----	-----	-----

5.2 Use the TU functions to derive Hindjo's MU functions for pies and cool drinks.

Total
[10]

END OF QUESTION PAPER