



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES  
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES**

<b>QUALIFICATION : BACHELOR OF SCIENCE IN AGRICULTURE</b>	
<b>QUALIFICATION CODE: 07BAGA</b>	<b>LEVEL: 7</b>
<b>COURSE CODE: FMA720S/FMA712S</b>	<b>COURSE NAME: FINANCIAL MANAGEMENT FOR AGRICULTURE</b>
<b>DATE: JANUARY 2023</b>	
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

<b>SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	M LUBINDA
<b>MODERATOR:</b>	S KALUNDU

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>

**PERMISSIBLE MATERIALS**

1. Examination question paper
2. Answering book
3. Calculator

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

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

- a. Briefly describe three main types of business forms. (6)
- b. Consider a tractor whose purchasing cost and useful life are N\$150,000 and 4 years, respectively. Use the double decline balance method to prepare a depreciation schedule for the tractor for the first four years. (5)
- c. Suppose the farmer provides you with the following information about his onion production enterprise.

Enterprise budget item	Onion enterprise
Production (in tons per hectare)	35
Price (in N\$ per ton)	7,500
Direct cost (N\$ per ton)	3,500
Overhead costs (N\$ per ton)	2,100

Use the data to answer the questions below.

- i. Determine the net return (profit) per hectare. (4)
- ii. Calculate the break-even price and break-even quantity in each enterprise. (4)
- iii. Prepare and interpret an enterprise budget whose base unit per bag. Assume a bag of onion weighs 10 kgs. (6)

**Total marks****[25]**

## QUESTION TWO

[MARKS]

- a. Briefly describe the cash flow statement. (5)
- b. Consider the following comparative balance sheets for Amos Poultry cc. for the financial years ended 31 December 2019 and 2020, respectively. Use the information to prepare and interpret a cash flow statement for the period ended 31 December 2019.

## Comparative Balance Sheets for Amos Poultry cc.

	December 31 (N\$)		
	2019	2020	
<b>Assets</b>			
Cash	22 200	24 000	
Accounts receivable	34 100	42 200	
Inventories	82 000	50 000	
<b>Total current assets</b>	<b>138 300</b>	<b>116 200</b>	
Gross fixed assets	415 000	445 000	
Less: Accumulated depreciation	145 000	160 000	(20)
Net fixed assets	<b>270 000</b>	<b>285,000</b>	
<b>Total assets</b>	<b>408 300</b>	<b>401 200</b>	
<b>Liabilities and Equity</b>			
Accounts payable	57 000	49 000	
Notes payable	13 000	16 000	
Accruals	5 000	6 000	
<b>Total current liabilities</b>	<b>75 000</b>	<b>71 000</b>	
Long-term debt	150 000	160 000	
<b>Total liabilities</b>	<b>225,000</b>	<b>231,000</b>	
Common stock	110 200	110 200	
Retained earnings	73 100	60 000	
<b>Total Equity</b>	<b>183 300</b>	<b>170 200</b>	
<b>Total liabilities and Equity</b>	<b>408 300</b>	<b>401 200</b>	

TOTAL MARKS

[25]

## QUESTION THREE

[MARKS]

- a. Briefly discuss the four key areas of financial performance evaluation. (8)
- b. Consider the following comparative balance sheets and income statement (selected accounts) for Amos Poultry cc. for the financial years ended 31 December 2019 and 2020, respectively. Use the information to answer the questions below.

## Comparative Balance Sheets for Amos Poultry cc.

	December 31 (N\$)	
	2019	2020
<b>Assets</b>		
Cash	22 200	24 000
Accounts receivable	34 100	42 200
Inventories	82 000	50 000
<b>Total current assets</b>	<b>138 300</b>	<b>116 200</b>
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<b>Total liabilities and Equity</b>	<b>408 300</b>	<b>401 200</b>

## Comparative Balance Sheets for Amos Poultry cc.

	December 31 (N\$)	
	2019	2020
Sales	960,000	890,000
Cost of goods sold	560,000	490,000
Operating profit	300,000	200,000
Net Profit	120,000	160,000

- i. Prepare a common-sized balance sheet for the accounting period ended 31 December 2020. (5)
- ii. Based solely on the information provided, conduct a complete ratio analysis to identify areas where Amos Poultry cc. needs to improve and areas where Amos Poultry performed well. (*Hint: use 2019 as a benchmark; and use accounting ratios that can be computed from the information provided.*) (12)

TOTAL MARKS

[25]

<b>QUESTION FOUR</b>	<b>[MARKS]</b>
a. Briefly explain the concept of time value of money and its application in investment analysis.	(5)
b. A farmer wishes to accumulate N\$250,000 by the end of 5 years by making equal annual end-of-year deposit over the next 5 years. If the farmer can earn 7% on her investment, how much must she deposit at the end of each year to meet this goal?	(4)
c. Amortize a loan with an original principal amount of N\$300,000; annual interest of 10%; and maturity period of 5-years. Your amortization schedule should show the interest and principal components of each of the five annual loan payments.	(5)
d. An agribusiness SME is considering two mutually exclusive investments. Each investment requires an initial cost of N\$450,000 and has a maturity period of four years. The first investment is expected to generate N\$ 150,000 per year in net cash inflows; while the second investment will generate N\$190,000, N\$160,000, N\$130,000, and N\$100,000 in net cash inflows from the first year through the fourth year, respectively. Use this information to answer the questions below.	
i. Estimate the Payback Period for each investment. Rank the investments based on their Payback Period. Explain the rationale that informed your ranking of the investments.	(4)
ii. Assuming a discount rate of 10%, calculate the NPV for each investment. Rank the investments based on the calculated NPVs. Explain the rationale that informed your ranking of the investments.	(7)
<b>TOTAL MARKS</b>	<b>[25]</b>

**THE END**

## Financial Ratios

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Inventory turn} = \frac{\text{Cost of goods sold}}{\text{Inventory}}$$

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Total Sales}}$$

$$\text{Average Payment Period} = \frac{\text{Accounts payable}}{\text{Average purchases per day}}$$

$$\text{Times interest earned ratio} = \frac{\text{Net profit before interest and tax}}{\text{Interest expense}}$$

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Sales}}$$

$$\text{Return on Equity} = \frac{\text{Net Profit after taxes}}{\text{Total Equity}}$$

$$\text{Asset turn} = \frac{\text{Sales}}{\text{Total Assets}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

$$\text{Average Collection Period} = \frac{\text{Accounts receivable}}{\text{Average Sales per day}}$$

$$\text{Debt ratio} = \frac{\text{Total liabilities}}{\text{Total Assets}}$$

$$\text{Asset turn} = \frac{\text{Sales}}{\text{Total Assets}}$$

$$\text{Net Profit Margin} = \frac{\text{Operating Profit}}{\text{Sales}}$$

$$\text{Return on Assets} = \frac{\text{Net Profit after taxes}}{\text{Total Assets}}$$

## Time value formulas

$$PV = FV(1 + i)^{-n}$$

$$PV = CF \times \left[ \frac{1 - (1+i)^{-n}}{i} \right]$$

$$PV = \frac{P_1}{(1+i)^1} + \frac{P_2}{(1+i)^2} + \frac{P_3}{(1+i)^3} + \dots + \frac{P_n}{(1+i)^n}$$

$$FV = PV(1 + i)^n$$

$$FV = CF \times \left[ \frac{(1+i)^n - 1}{i} \right]$$

$$FV = P_1(1 + i)^{n-1} + P_2(1 + i)^{n-2} + \dots + P_n$$

## Other Formulas

$$\text{Annual Depreciation} = \frac{(\text{cost} - \text{salvage value})}{\text{useful life}}$$

$$\text{Annual Depreciation} = \frac{R}{n} \times BV$$

Where R is decline balance rate; n is useful life; and BV is the book value at the beginning of the year.

$$\text{Break-even quantity} = \frac{\text{Total cost}}{\text{Expected output price}}$$

$$\text{Sum-of-the-year digits} = (\text{cost} - \text{salvage value}) \times \frac{RL}{\text{SOYD}}$$

Where RL is the remaining life and  $\text{SOYD} = \frac{n(n+1)}{2}$ .

$$\text{Break-even price} = \frac{\text{Total cost}}{\text{Expected Output}}$$