



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

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

QUALIFICATION : BACHELOR OF SCIENCE IN AGRICULTURE	
QUALIFICATION CODE: 07BAGA	LEVEL: 7
COURSE CODE: FMA720S	COURSE NAME: FINANCIAL MANAGEMENT FOR AGRICULTURE
DATE: NOVEMBER 2022	
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	M LUBINDA
MODERATOR:	S KALUNDU

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

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 explain the methods that used to prorate the value of an asset over its economic useful life. (6)
- b. Consider a tractor whose purchasing cost, terminal value, and useful life are N\$150,000, N\$50,000, and 10 years. Using the straight-line depreciation method, estimate the book value of the tractor at the end of the fifth year. (5)
- c. Consider a farmer, who wants to switch from tomato to onion production. Suppose the farmer provides you with the following data extracted from the enterprise budgets of tomato and onion production.

Enterprise budget item	Tomato enterprise	Onion enterprise
Yield (in tons per hectare)	6	5
Price (in N\$ per ton)	2,500	3,500
Direct cost (N\$ per ton)	1,100	1,000
Overhead costs (N\$ per ton)	450	800

Use the data to answer the questions below.

- i. Determine the net return (profit) per hectare in the tomato enterprise. (4)
- ii. Calculate the break-even price and break-even quantity in each enterprise. (4)
- iii. Use the information provided to prepare a partial budget, and then advise the farmer on the financial viability of switching from tomato production to onion production. (6)

Total marks**[25]**

QUESTION TWO	[MARKS]
a. Using appropriate examples, explain the different approaches that can be used to determine the value of an asset.	(10)
b. For the accounting period ended December 31, 2020, an enterprise had gross fixed assets at cost amounting to N\$300,000.00; accounts receivable of N\$185,000.00; inventory of N\$40,000.00; cash on hand amounting to N\$25,000.00; and net fixed of N\$250,000. The agribusiness owed N\$130,000.00 and N\$110,000.00 in long-term debts and current liabilities, respectively. Current liabilities consisted of 50% notes payable, 30% accruals, and 20% accounts payable. The agribusiness's equity was consisted of 65% common stock and 35% retained earnings. Use this information to answer the following questions:	
i. Prepare a balance sheet ledger and enter the information provided above to generate a balance for the enterprise as of December 31, 2020.	(8)
ii. During the 2021 accounting period the enterprise recorded the following transactions: <ul style="list-style-type: none"> • N\$120,000 cash profit. • N\$12,000 cash withdrawal (i.e., dividend payments) • N\$48,000 input purchase in cash • N\$22,000 credit purchase of inputs. The credit is due in the next accounting period with a 10% interest. 	(7)
Based solely on the information provided above. use the double entry system, enter the transactions described above into the balance sheet ledger you prepared in part(i). Prepare the enterprise's balance sheet as of December 31, 2021.	
TOTAL MARKS	[25]

QUESTION THREE**[MARKS]**

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- a. Suppose you have been asked to prepare a presentation on cash flow budgets. Based on what you have learned in this course, what would be the main points in your presentation. (5)
- b. Glen Enterprise had sales of N\$60,000 in September. Forecast sales for October, November, and December are N\$70,000, N\$80,000, and N\$100,000, respectively. The firm had a cash balance of N\$69,000 at the beginning of October. The following is the additional about the timing of the cash receipts and payments for Glen enterprises:
- Glen enterprise receives 40% of its sales in cash and collects the remaining 60% in the following month.
 - Glen enterprise's actual or expected purchases are N\$50,000, N\$45,000, and N\$20,000 for the months of October through December, respectively. All Glen's purchases are all in cash.
 - Glen pays rent of N\$3,000 per month.
 - Glen's wages and salaries are 40% of the previous month's sales.
 - Payment of principal and interest of N\$40,000 is due in November.
 - A cash purchase of equipment costing N\$26,000 is scheduled in October.
 - Taxes of N\$16,000 are due in December.
- i. Using the information provided above, prepare a cash flow budget for Glen Enterprise for the months of October, November, and December. (18)
- ii. Based on the cash flow budget you have prepared in part b (i), estimate the cash deficit that Glen Enterprise is expected to experience during the period October to December. (2)

TOTAL MARKS**[25]**

QUESTION FOUR

[MARKS]

- a. The accompanying table shows financial data and ratios for the Games Product Trust Fund for the accounting period ended 31 December 2021.

Sales revenue generated	N\$600,000
Gross profit margin	90%
Operating profit margin	35%
Net profit margin	8%
Return on total assets	16%
Return on Equity	20%
Average collection period (based on 240 days per year)	62 days

Based on solely on the information provided in the table above, estimate the dollar values of the following income statement and balance sheet accounts:

- i. Operating expenses (3)
 - ii. Total assets (2)
 - iii. Accounts receivables (2)
 - iv. Total equity (2)
- b. A farmer wishes to purchase a vehicle exactly 5 years from today. The price of the vehicle today is N\$800,000. Your research indicates that the price of the vehicle will increase by 6% per annum over the next 5 years. Estimate price of the vehicle at the end of year 5. (4)
- c. A farmer bought a Toyota pick-up using a loan from a bank. The original principal amount borrowed was N\$450,000 and the annual interest was 10%. The loan is to be repaid over 4-years period. Assuming that the loan is amortised into four equal annual payment, prepare a loan amortization schedule showing the interest and principal breakdown of each of the four annual loan payments. (4)
- d. An agribusiness SME is considering two mutually exclusive projects. Each requires an initial investment of N\$40,000. The accompanying table shows the after-tax cash inflows associated with each project.

Year	Project A	Project B
1	N\$13,000	N\$7,000
2	13,000	10,000
3	13,000	13,000
4	13,000	16,000

- i. Estimate the Payback Period for each project. Rank the projects based on their Payback Period. Explain your answer. (4)
- ii. Assuming a discount rate of 10%, calculate the NPV for each project. Rank the project based on the calculated NPVs and select the best project. Explain your answer. (7)

TOTAL MARKS

[25]

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.

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

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

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

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