



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF NATURAL RESOURCE AND SPATIAL SCIENCES**

**DEPARTMENT OF AGRICULTURE & NATURAL RESOURCES SCIENCES**

<b>QUALIFICATION : BACHELOR OF AGRICULTURE</b>	
<b>QUALIFICATION CODE: 27BAGR</b>	<b>LEVEL: 7</b>
<b>COURSE CODE: FMA720S</b>	<b>COURSE NAME: FINANCIAL MANAGEMENT (AGRICULTURE)</b>
<b>DATE: January 2019</b>	<b>PAPER: THEORY</b>
<b>DURATION: 3 Hours</b>	<b>MARKS: 100</b>

<b>SECOND OPPORTUNITY / SUPPLEMENTARY 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 four (4) questions.</li><li>2. Read all questions carefully before answering.</li><li>3. Number your answers clearly.</li><li>4. Make sure your student number appears on the answering script.</li></ol>

**PERMISSIBLE MATERIALS**

1. Examination paper.
2. Examination script.
3. Calculator

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

**QUESTION ONE**

**[MARKS]**

a. Write short notes on the following concepts/statements:

- i. Balance Sheet preparation using the accrual accounting approach. (5)
- ii. Time Value of Money Principle. (5)
- iii. Capital Budgeting Techniques. (5)

b. Using the financial data provided below, complete the following balance sheet and income statement:

**Balance Sheet**

Assets (NS '000)	Liabilities (NS '000)
Cash _____	Accounts payable _____
Accounts receivable _____	Long-term debt 400
Inventory _____	Common stock _____
Net Fixed Assets _____	Retained earnings 200
<b>Total Assets</b> _____	<b>Total Liabilities and Equity</b> —

(10)

**Income Statement**

(NS'000)	
Sales	_____
Cost of goods sold	_____
Net Profit	30

**Financial Ratios**

Total Asset Turnover = 2	Quick ratio = 0.8
Gross Profit Margin = 25%	Inventory turnover ratio = 3
Debt ratio = 60%	Return on Assets = 2%
Average Collection Period = 36.5 days (based on 365-day year)	

**TOTAL MARKS**

**[25]**

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

- a. Give a detailed description of the four key focal areas for evaluating the financial performance of any agribusiness. (8)
- b. The accompanying table shows the balance sheets and income statement information for an Agribusiness for the years 2016 and 2017.

	2016 (NS '000)	2017 (NS '000)
Cash	30	20
Accounts Receivable	200	260
Inventory	400	480
Gross Fixed Assets at cost	1,200	1,400
Less: Accumulated depreciation	400	600
Net Fixed Assets	800	800
Total Assets	<b>1,430</b>	<b>1,560</b>
Accounts payable	230	300
Accruals	200	210
Notes payable	100	100
Long-term debt	300	300
Common stock	100	100
Retained earnings	500	550
Total Liabilities and Equity	<b>1,430</b>	<b>1,560</b>
Sales	4,000	4,500
Cost of Goods Sold	3,000	3,500
Net Profit	200	300

- i. Compute and interpret the following:
- the current ratio of the agribusiness in 2017 (4)
  - the debt ratio of the agribusiness in 2016
- ii. Compute the Agribusiness's DuPont ratios, in terms of ROE, for both years. Based on the computed DuPont ratios, conduct a timeseries evaluation and identify the financial performance areas that influenced the Agribusiness's ROE. (13)

**TOTAL MARKS****[25]**

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

Consider ABC Ltd, a small enterprise, whose primary activities are the purchase and retailing of horticultural products. The company has received a large order and anticipates the need to go to its bank to increase its borrowings. As a result, it needs to forecast its cash requirements for January, February, and March. The company's actual sales in November and December and projected sales for January through April are as follows (in thousands):

<b>Sales (Actual/Projected)</b>	<b>NS'000</b>
November	200
December	600
January	400
February	800
March	900
April	750

All sales are credit sales. Typically, the company collects 20 percent of its sales in the month of sale, 70 percent in the subsequent month, and 10 percent in the second month after the sale.

The purchase of horticultural products is expected to 80 percent of the previous month's sales. Payments for these purchases is expected to occur in the month after the purchase. Labor costs, including overtime, are expected to be N\$150,000 in January, N\$200,000 in February, and N\$160,000 in March. Selling, administrative, tax, and other cash expenses are expected to be N\$200,000 per month for January through March. The ending cash balance for the month of December is expected to be N\$50,000.

On the basis of this information, answer the questions below:

- Assuming that the company will have a cash balance of N\$40,000 at the beginning of January, prepare a cash flow budget for the months of January, February, and March. (21)
- Interpret the cash flow budget you have prepared in part (a) and make recommendations on the financial viability of the planned activities. (4)

**TOTAL MARKS****[25]**

## QUESTION FOUR

[MARKS]

- a. Suppose a small-scale horticulture farmer in Okahandja Park you would like to investigate the financial feasibility of producing bulb onions in the coming producing season. Suppose further that the farmer approaches you for advice on the expected revenues, costs and returns associated with bulb onion production. To aid your analysis, the farmer provides you the following scrambled information on bulb onion production and marketing.

Input/output	Per unit price /Per unit Cost	Quantity
Seeds	N\$1000/kg	10 x 250 grams sachets
Fertilizer	N\$40/kg	8 x 50kgs bags
Allocated interest payments	N\$1200/ha	1ha
Expected Selling price	N\$40 per 10 kg bag	
Allocated machinery ownership costs	N\$4,300/ha	1ha
Labor	N\$2/hr	1200hrs
Expected yield per hectare	10 tons/ha	
Other operational costs	N\$0.1/kg	

- i. Using the information provided to prepare a bulb onion enterprise budgets, whose base unit is per hectare. Is Bulb Onion production financially viable? Explain your answer. (16)
- ii. Using the information contained in the enterprise budget you have prepared in part (i) above, to estimate: (4)
- the break-even price per 10 kg bag of bulb onion.
  - The shut-down price per 10 kg bag of bulb onion
- b. Consider a farmer who wants to borrow N\$250,000 at 12% annual interest. The loan has a maturity period of 4 years. Suppose the loan is to be amortized into four equal annual end-of-year payments. Prepare a loan amortization table showing the interest and principal components of each of the four loan payments (5)

TOTAL MARKS

[25]

THE END

## Financial Ratios

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\text{Financial leverage multiplier} = \frac{\text{Total assets}}{\text{Equity}}$$

$$\text{Net Profit Margin} = \frac{\text{Net Profit after taxes}}{\text{Sales}}$$

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

## Time value formulas

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

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

$$FV = PVe^{i \times n}$$

## Other Formulas

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

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

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

$$\text{Break-even point} = \frac{\text{Total Fixed Cost}}{\text{price} - \text{Average Variable cost}}$$