



STRATHMORE BUSINESS SCHOOL

MASTER OF MANAGEMENT IN AGRIBUSINESS

END OF SEMESTER EXAMINATION

MMA 8303: FINANCIAL AND MANAGERIAL ACCOUNTING IN AGRIBUSINESS

Date: Tuesday, 26th March 2024

Time: 3 Hours

Instructions Answer Question ONE and ANY OTHER TWO questions

Question 1 (Compulsory) (50 Marks)

Use the case provided to answer parts (a), (b) and (d) of this question.

(a) Briefly summarize the main business of the organization **(2 Marks)**

(b) Highlight Key incomes, expenses, assets, liabilities and capital of the company for 2022 and 2023. (Provide a maximum of three items based on material amounts). Suggest possible reasons for the changes in the figures from one period to the next. **(22 Marks)**

Use a table with the following headings:

Item	2022 (sh.m)	2023 (Sh.m)	Change +-Sh.m	Possible reason(s) for change
------	----------------	----------------	------------------	-------------------------------

(c)(i) For each of the two years, compute the following ratios:

- Total Assets Turnover **(2 Marks)**
- Return on Equity **(2 Marks)**
- Cash Return on Revenue **(2 Marks)**
- Current Ratio **(2 Marks)**

(ii) Using the financial statements and the ratios computed above, comment on the following aspects of the business over the two years

- Efficiency **(1 Mark)**
- Profitability **(1 Mark)**

-Cash Flow
-Liquidity

(1 Mark)
(1 Mark)

(d) Use the Balanced Scorecard to evaluate the performance for year 2023.

Provide the Five Perspectives, mentioning one goal and one measure you are using to evaluate the performance (10 Marks).

Use a table with the following headings

Perspective	Goal	Evaluation supported with a measure
-------------	------	-------------------------------------

Question 2 (25 Marks)

The following balances were extracted from the books of Wakulima Ltd, a medium sized company in Agribusiness, as at 31 March 2023:

	Sh.'000'
Loan from Agricultural Finance Corporation (AFC)	180,000.00
Retained profits as at 1 April 2022	30,000.00
Ordinary Share Capital	816,000.00
Farm workers` wages	15,000.00
Manager`s salary	18,000.00
Cash in hand	78,000.00
Receivables	90,000.00
Farm tools	7,500.00
Repairs to farm machinery	1,500.00
Staff welfare	3,000.00
Farmhouse expenses	3,600.00
Purchase of: Seeds	12,000.00
Livestock	30,000.00
Fertilizer	7,500.00
Livestock feeds	2,100.00
Wages: Livestock feeds	48,000.00
Expenses: Crops	30,000.00
Livestock	36,900.00
Administration Expenses	12,000.00
Interest on Loan from AFC	13,500.00
Inventories as at 1 April 2022:	
Growing crops, seeds and fertilizers	60,000.00
Livestock	75,000.00
Livestock feeds	18,000.00
General insurance premium	14,400.00
Payables	45,000.00
Bank balance(overdraft)	9,000.00
Sale of: Crops	105,000.00

Cattle	180,000.00
Carcasses	45,000.00
Farm machinery	234,000.00
Land and building	600,000.00

Additional information:

1. Inventories as of 31 March 2023 were valued as follows:

	Sh.'000'
Growing crops, seeds and fertilizers	30,000.00
Livestock	120,000.00
Livestock feeds	3,000.00

2. Manager's salary is charged to livestock and crop revenue accounts in the ratio of 1:3 respectively.

3. Valuation of farm tools as at 31 March 2023 was Sh.6,000,000. Depreciation on farm machinery is to be provided at 20% per annum on book value. Depreciation and repairs on farm machinery are to be charged to the general income statement.

4. Insurance prepaid amounted to Sh.1,200,000 and is to be the general income statement.

5. Manure worth Sh.900,000 was used in the farm while farm crops used to feed the livestock were valued at Sh.390,000.

6. Receivables of Sh.1,500,000 are credit losses and an allowance for credit loss of 4% on the remaining amount is estimated.

7. Crops consumed by the farm workers were valued at Sh.3,000,000. This amount was recovered from their wages.

8. The shareholders provided farm labour valued at Sh.6,000,000 while crops valued at 9,600,000 were donated to charity during the year.

9. Income tax expense of Sh.9,000,000 is to be provided.

Required:

(a) Operating Statements of profit or loss for Crop and Livestock (side by side in columnar form), for the year ended 31 March 2023 **(12 Marks)**

(b) The overall statement of profit or loss for the year ended 31 March 2023 **(8 marks)**.

(c) Highlight FIVE ways in which Wakulima Limited and other in Agribusiness can use software in Financial Reporting and Management Accounting **(5 Marks)**

Question 3 (25 Marks)

(a) Agritracks limited, provides tractors and personnel to assist famers in ploughing, planting, weeding and harvesting in various counties in Kenya. Tractor and personnel are hired daily. The Chief Accountant is analyzing data for 10 tractors and personnel operating in Kitale, Tranzoia County for the purpose of estimating the daily rate to charge farmers, for every tractor hired. The following information relates to the tractors:

	Shs
Initial cost of all tractors	30,000,000
Scrap value of all tractors	2,500,000

Insurance premium per annum per tractor	2,100,000
Labor cost- of replacing tyres per tractor	5,000
Labor cost- service per tractor	3,000
Replacement of spare parts per service per tractor	10,000
Price of fuel per litre	170

Additional information:

1. The tractors have an economic life of 2.5 years and depreciation is straight-line.
2. One tractor has 2 large tyres costing Sh.80, 000 each and 2 small tyres costing sh.20,000 each. These are replaced after every 25,000 kilometers.
3. Service is carried out on the tractors after every 5,000 kilometers.
4. On average, a tractor covers 10 kilometers per liter of fuel consumed.
5. It is estimated that a tractor operates 320 days in a year, with an average of 80 kilometers per day.
6. One tractor has a driver and two other personnel for each assignment. A driver is on a monthly salary of sh.45, 000 and the other personnel are paid sh.35, 000 per month. Other overheads allocated to this county amount to sh. 20, 000,000 per annum.

Required:

Compute the daily cost of providing farming services per tractor and the rate that farmers should be billed assuming that Agritracks limited wishes to make a profit of 20% on cost **(14 Marks)**.

(b) Agrivet Medical center in Kajiado focuses on treating metabolic diseases in cows. The two main diseases, together with an estimate of the variable costs to treat a cow, an estimate of possible number of cows that will be treated in the next financial period is provided as follows:

	Acetonemia	Fatty Liver
Variable cost to treat a cow	Sh.4,500	Sh.10,000
Estimated number of Cows	2,000	1,000

Variable costs consist of medicine and other consumables incurred in treating or managing cow diseases. The clinic is estimating that operational fixed costs will be sh.8,000,000. These include the salaries paid to the vets, rent, and other operational salaries.

Required

- (i) The fee to be charged per cow to breakeven. Assume that the fee to treat Fatty Liver is nearly twice the fee of Acetonemia **(4 Marks)**
- (ii) The fee to be charged per cow to make a surplus of sh. 2,000,000. Assume that the fees are related like in (i) **(4 Marks)**
- (iii) Highlight THREE assumptions of breakeven analysis **(3 Marks)**

Question 4 (25 Marks)

(a) Agrizone Limited carries out horticultural activities. The company is planning production for the second quarter of 2024. The management would like to know the optimal mix of vegetables for production for the next period.

The following summary relates to a similar quarter of 2023:

	Potatoes	Turnips	Parsnips	Carrots
Area occupied (acres)	25	20	30	25
Yield Per Acre (tons)	10	8	9	12
Selling price per ton	Sh.10,000	Sh.12,500	Sh.15,000	Sh.13,500
Variable cost per acre				
Fertilizers	3,000	2,500	4,500	4,000
Seeds	1,500	2,000	3,000	2,500
Pesticides	2,500	1,500	2,00	2,500
Direct Wages	40,000	45,000	50,000	57,000

Fixed overhead for the quarter was sh.5, 400,000.

The land that is being used to produce carrots and parsnips can be used for either crop, but not for potatoes or turnips. The land being used for potatoes and turnips can be used for either crop but not for carrots or parsnips. To provide an adequate market service, the company must produce for that quarter at least 40 tons each of potatoes and turnips and 36 tons each of parsnips and carrots.

Required:

- (i) Recommend the optimal production mix **(10 Marks)**
- (ii) Prepare a summary statement showing the profit for this production mix **(5 Marks)**.

(b) Distinguish between Six Sigma and Kaizen systems in strategic management and application to agribusiness **(10 Marks)**.