



Strathmore
UNIVERSITY

STRATHMORE BUSINESS SCHOOL
MASTER OF MANAGEMENT IN AGRIBUSINESS
END OF SEMESTER EXAMINATION

MMA 8303: FINANCIAL AND MANAGERIAL ACCOUNTING IN AGRIBUSINESS

Date: Saturday, 28th August 2021

Time: 3 Hours

Instructions

1. This examination consists of FOUR questions
2. Answer **Question One** and **ANY OTHER TWO** Questions

Question 1 (Compulsory) (50 Marks)

Use the case provided to answer parts this question.

- (a) Briefly summarize the main business of the organization **(4 Marks)**
- (b) Highlight Key incomes, expenses, assets, liabilities and capital of the company for 2019 and 2020. (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. **(20 Marks)**

Use a table with the following headings

Item	2019 (sh.000)	2020 (Sh.000)	Change +-Sh.000	Possible reason(s) for change
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(c)(i) Compute the following ratios for each of the two years:

- Net Profit Margin **(2 Marks)**
- Return on Equity **(2 Marks)**
- Current ratio **(2 Marks)**
- Quick Ratio **(2 Marks)**
- Debt ratio **(2 Marks)**
- Debt Equity ratio **(2 Marks)**

(ii) Comment briefly on the performance of the organization in terms of profitability, liquidity and solvency **(4 Marks)**

(d) Use the Balanced Scorecard to evaluate the performance for year 2020. 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
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Question 2 (25 Marks)

Margarete Chelimo operates a farming business in Eldoret. Her trial balance as at 31 December 2020 is as follows:

	sh.000	sh.000
Land and Buildings at Valuation	30,000.00	
Farm Machinery at Cost	16,200.00	
Accumulated Depreciation		4,500.00
Furniture and Equipment at cost	11,100.00	
Accumulated Depreciation for Furniture and Equipment		3,600.00
Motor Vehicles at Cost	6,300.00	
Accumulated Depreciation for Motor Vehicles		2,700.00
Capital at 1 January 2020		48,100.00
Loan from Farmers SACCO at 1% interest p.m.		9,000.00
Sale of Wheat		8,250.00
Sale of Cattle		11,000.00
Sale of Livestock Produce (Milk, Meat, Hide and Carcass)		2,250.00
Sundry Payables		3,000.00
Crop insurance premium	720.00	
Inventory on 1 January 2020:		
- Growing crops, wheat, seeds and fertilisers	3,000.00	
- Livestock	3,750.00	
- Feeding materials	900.00	
Interest on loan from Farmers SACCO	900.00	
Office expenses	600.00	
Crop expenses	1,500.00	
Wages for rearing livestock	2,400.00	
Other livestock expenses	1,845.00	
Purchases of seeds	600.00	
Livestock purchases	1,875.00	
Feeding materials purchased	105.00	
Other general farm expenses	180.00	
Staff meals	75.00	

Repairs to machinery	150.00	
Tools and implements	375.00	
Sundry Receivables	4,500.00	
Cash at the Bank and In Hand	3,575.00	
Additional tools and implements purchased	100.00	
Manager's salary	900.00	
General Farm Labour wages	750.00	
Total	<u>92,400.00</u>	<u>92,400.00</u>

Additional information:

1. Inventory on 31 December 2020 was as follows:

	Sh. '000'
- Growing crops at Market Value	1,600
- Wheat, Seeds and Fertilisers at cost	900
- Livestock – Homebred (at valuation)	3,000
- Other livestock at valuation	1,750
- Feeding Materials	150

2. Manager's salary and staff meals are charged to livestock and crop in the ratio of 1:4, respectively.

3. The crop insurance policy was taken on 1 March 2020 to provide annual risk cover against crop losses due to climatic risks such as flood, drought and plant diseases.

4. Sundry receivables amounting to sh.75,000 cannot be collected and hence should be expensed. Meanwhile, of the remaining amount, the management expects about sh.1,000,000 to be lost, with a probability of 10% happening. The credit loss and the increase in allowance are treated as a general expense.

5. Farm Machinery, Furniture and Equipment and Motor Vehicles are to be depreciated at 20% p.a., 10% p.a., and 20% p.a. respectively on cost. For farm machinery's depreciation and repair expenses are allocated between Livestock and Crop at 40% and 60%. The book value of tools and implements on 31 December 2019 was Sh. 300,000. Depreciation on tools and implements is to be apportioned between crop and livestock equally.

6. Crops and meat consumed by some of the farm labourers (general) during the year amounted to Sh.150,000 and sh. 200,000 respectively. This is yet to be reflected in the staff meals expense in the trial balance. Crops estimated at sh.50,000 were used as livestock feed.

7. The Sh. 9 million which was borrowed from the Farmers SACCO in 2019 is to be repaid in full in 2024. Interest on this loan is paid monthly, but Margarete had not paid the interest for November and December 2019.

8. Margarete's family provided labour in the farm(general) throughout the year, valued at Sh.600,000. The family consumed crops valued at Sh.40,000 and meat worth sh.150,000 from the farm.

Required: Prepare the following financial reports for 2020:

- (i) The statements of Profit or Loss, showing the profits for crop and livestock, and the general profit or loss for the business for the year ended 31 December 2020 **(16 Marks)**
- (ii) The statement of Changes in Capital for the year ended 31 December 2020 **(3 marks)**
- (iii) The statement of Financial Position as at 31 December 2020 **(6 Marks)**

Question 3 (25 Marks)

(a) Harvester Limited makes and sells Soil testing devices and other farm implements to farmers in East Africa. Michael, the marketing director is negotiating with Magdalene, the managing director for a higher allocation of budget to advertising the soil testing devices. Michael claims that “the higher the advertising expense, the higher the revenues for soil testing devices”.

So, Magdalene requests Michael to prove it and Michael presents the following data on advertising costs and revenue for the year ended 31 December 2020:

	Advertising Expense	Revenue
	sh.	sh.
January	200,000	3,000,000
February	400,000	6,000,000
March	200,000	4,000,000
April	300,000	6,000,000
May	100,000	3,000,000
June	100,000	4,000,000
July	200,000	4,000,000
August	200,000	5,000,000
September	200,000	3,000,000
October	300,000	7,000,000
November	100,000	4,000,000
December	400,000	6,000,000

Michael also presents the following regression output of the data:

SUMMARY REGRESSION OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.765282543	R Square	0.585657371	Standard Error	930949.3363
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1.225E+13	1.225E+13	14.13461538	0.003724583
Residual	10	8.66667E+12	8.66667E+11		
Total	11	2.09167E+13			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	2,333,333.33	656037.7181	3.556706069	871590.2053	3795076.461
Slope	10	2.659855246	3.759603089	4.073473185	15.92652682

Required

(i) Michael claims that if advertising expense is allocated a budget of sh.500,000 in September, he is confident that revenues will exceed sh.7 million. Using the data from the regression output, confirm if this will be the case **(4 Marks)**

(ii) Magdalene explains that the budgetary allocation to advertising expense cannot exceed sh.400,000 per month due to other pressing needs of the organization. She advises Michael and his team to work hard and use other marketing strategies to increase revenues. Magdalene says that she is confident that Marketing can achieve more revenues with less expenditure allocation based on the data. Determine revenues at the 95% confidence interval **(4 Marks)**

(iii) Magdalene questions Michael to justify whether his regression data is reliable. Is Michael able to do this? **(4 Marks)**

(b) Agribiz 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	300,000
Labor cost- of replacing tyres per tractor	5,000
Labor cost- service per tractor	3,000
Replacement of spare parts per service per tractor	4,000
Price of fuel per litre	100

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.10,000 each. These will be replaced after every 25,000 kilometers.
3. Service will be carried out on the tractors after every 5,000 kilometers.
4. On average, a tractor will cover 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 each 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 Agribiz limited wishes to make a profit of 20% on cost **(13 Marks)**

Question 4 (25 Marks)

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

(b) National Ltd manufactures and sells juice labelled “Montedell” to a wide range of retailers on a wholesale basis. Marketing is done through three geographical areas: Nakuru, Nairobi and Kisumu. The estimates of the costs and revenues for each sales territory for the next accounting period are as follows:

	Nakuru		Nairobi		Kisumu	
	Sh.000	Sh.000	Sh.000	Sh.000	Sh.000	Sh.000
Sales		900,000		1,000,000		900,000
Cost of goods sold		(400,000)		(450,000)		(500,000)
Gross profit		500,000		550,000		400,000
Fixed Selling costs						
Salesmen salaries	80,000		100,000		120,000	
Sales Admin Expense	40,000		60,000		80,000	
Advertising expense	50,000		50,000		50,000	
Salesmen expenses	<u>50,000</u>	<u>(220,000)</u>	<u>60,000</u>	<u>(270,000)</u>	<u>80,000</u>	<u>(330,000)</u>
		280,000		280,000		70,000
Head office admin	80,000		90,000		90,000	
Warehouse expense	<u>32,000</u>	<u>(112,000)</u>	<u>36,000</u>	<u>(126,000)</u>	<u>36,000</u>	<u>(126,000)</u>
Net Profit		<u>168,000</u>		<u>154,000</u>		<u>(56,000)</u>

The juice is packaged and dispatched from a central warehouse, and it is estimated that 50% of the costs are variable and the remainder are fixed. All of the selling costs are fixed, with the exception

of salesmen's expenses, which are variable with sales revenue. All of the administration expenses of the headquarters are common and unavoidable to all alternatives and have been apportioned to sales territories on the basis of sales value.

Required:

- (i) Advise management on whether to close Kisumu region **(6 Marks)**
- (ii) Explain any TWO qualitative factors that should be considered in making the decision to close the Kisumu region **(4 Marks)**

(c) John Ole Laleyo is a successful farmer in Kajiado. He recently attended a fully sponsored county program for farmers aimed at equipping farmers with agribusiness management skills. He was very excited because one of the sessions discussed budgeting. He is now planning to prepare the budget for 2022, but he does not have adequate records and information to proceed.

Required

Recommend an appropriate budgeting approach for John and discuss one benefit and one limitation of this approach.