



**UNIVERSITY EXAMINATIONS**  
**MAIN EXAM**  
**2020/2021 ACADEMIC YEAR**  
**SECOND YEAR FIRST SEMESTER**  
**FOR THE DEGREE OF MASTER OF BUSINESS**  
**ADMINISTRATION**

**COURSE CODE: MBA 822**

**COURSE TITLE: ADVANCED MANAGEMENT ACCOUNTING**

**DATE: 19<sup>TH</sup> FEBRUARY, 2021**

**TIME: 9.00AM – 12NOON**

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**INSTRUCTIONS TO CANDIDATES**

**Answer Question ONE (compulsory) and ANY OTHER THREE Questions**

### QUESTION ONE

a) Navigate Enterprises Ltd has two divisions Done and Ahead. Done division manufactures an intermediate product for which there is no external market. Ahead division incorporates the intermediate product into a final product, which it sells. One unit of the intermediate product is used in the production of the final product. The expected units of the final product which Ahead division estimates it can sell at various selling prices are as follows:

Net selling Price	Quantity sold	
	Sh.	Units
200	2000	
180	4000	
160	6000	
140	8000	
120	10000	
100		12000

The variable and fixed costs of each division are as follows:

	Done	Ahead
	Sh.	Sh.
Variable cost per unit	22	14
Fixed cost per annum	120,000	180,000

The transfer price is Sh.70 for the intermediate product, and is determined on a full cost-plus basis.

#### Required:

- Profit statements for each division and the company as a whole for the various selling prices. (12 marks)
- Which selling prices maximize the profits of Ahead division and the company as a whole? Comment on why the selling price (which is selected by the company) is not selected by Ahead division. (3 Marks)
- It has been argued that full cost is an inappropriate basis for setting transfer prices. Outline the objections which can be raised against this basis. (3 marks)

b) Environmental management is considered as one of the important issues facing organizations today. An effective environmental costing system will not only support an organizations environment management but might also improve the financial performance of the organizations.

#### Required:

With reference to the above statement, evaluate four ways in which environmental costing system could lead to improved financial performance (8 marks)

c) In the context of cost estimation and forecasting, summarize six steps followed in the estimating cost functions from past data. (6 Marks)

d) Evaluate four benefits that might accrue to an organization through the adoption of Activity Based Budgeting System (8 marks)

**QUESTION TWO**

a) XYZ Ltd. Produces a product branded "Zec.". The company operates a standard costing system. The budgeted product information for the month of October 2020 was as follows:

Selling Price per Unit	<b>Shs</b>
<b>Cost per Unit</b>	160
Material:	
A: (6 kilogrammes at Sh.15 per kilogrammes)	90
B: (4 kilogrammes at Sh.3 per kilogrammes)	12
Labour: (5 hours at Sh. 9 per hour)	45
Budgeted production (units)	20,000

**Addition information:**

- Budgeted fixed overhead amounted to Sh.90, 000 per month and are not absorbed into the product.
- The actual data for the month of October 2020 were as follows:

Actual Output	19,000 units
Selling Price per unit	Sh.150
Materials used:	
A: 98,000 kilogrammes (total cost Sh.1,249,500)	
B: 50,000 kilogrammes (total cost Sh. 145,000)	
Labour cost Sh.10 per hour (total cost Sh.700,000)	
Fixed Overhead incurred were Sh.86,000	

**Required:**

Prepare an operating statement which reconciles budgeted and actual profits using variance analysis approach (20 Marks)

### QUESTION THREE

a) Delmon Ltd produces two joint products namely "Pendax" and "Benden" in the ratio 2:1 respectively. At the split-off point, the products can be sold for industrial use or transferred to the mixing plant for blending and refining. The second option is usually preferred.

The following information relates to the fourth week of April 2014:

	Pendax	Benden
Sales(Litres)	20,000	10,000
Price per litre	<b>Shs.</b> 350	<b>Shs.</b> 600
Total Sales Revenue	7,000,000	6,000,000
Joint Process Costs	3,000,000	1,500,000
Blending and Refining Costs	2,500,000	2,500,000
Other Separable Costs	500,000	100,000
Profits	1,000,000	1,900,000

#### Additional Information:

- Joint process costs are allocated on volume and are 75% fixed and 25% variable.
- Blending and refining costs are 40% fixed and 60% variable
- There are only 4,000 hours available in the blending and refining processes which are allocated as follows:
  - 3,000 hours are taken up to process "Pendax" and Benden equally.
  - 1,000 hours are used for other work that generates a contribution of Shs.2,000 per hour
- With a view to improving the company's profitability, the production manager has suggested that it might be possible to change the mix of the joint process to 3:2 for "Pendax" and "Benden" respectively at a cost of Shs. 50 for each additional litre of "Benden" produced by the process.

#### Required:

Advise the company whether to change the product mix as suggested by the production manager  
(10 Marks)

- b) A company sells two products, X and Y with contribution margin ratios of 40% and 30% respectively. The selling prices of the product are Sh. 50 per unit for X and Sh.25 per unit of Y. Fixed costs amount to Shs. 720,000 a month. Monthly sales average 30,000 units of product X and 40,000 units of Product Y.

Required:

- Assuming that three units of product X are sold for every four units of product Y, calculate the sales volume in shillings and in units, necessary to break even.  
(6 Marks)
- Calculate the margin of safety in shillings  
(4 Marks)

#### QUESTION FOUR

- a) Zawadi Ltd., a manufacturing company, is in the process of preparing its budget for the upcoming production period. The following data relate to the company for the year ended 30 November 2009:

Year	Month	Machine hours "000"	Electricity expense (Sh."000")
2008	December	51.0	960
2009	January	45.0	930
2009	February	51.0	930
2009	March	58.5	885
2009	April	63.0	750
2009	May	48.0	795
2009	June	39.0	750
2009	July	39.0	750
2009	August	46.5	795
2009	September	52.5	825
2009	October	64.5	870
2009	November	72.0	1,020

The total annual and monthly average expenditures for the year ended 30 November 2009 were as follows:

	Machine hours	Electricity expense Sh.
Annual (Total)	630,000	10,260,000
Monthly (Average)	52,500	855,000

#### Required

Estimate the fixed and variable elements of the electricity expense using:

- The high-low method.
- The least-squares regression analysis.

(12 Marks)

- b) Shahada Ltd. produces and sells product X. The product requires skilled labour and entails a learning curve effect in its production. An extract of the production hours for the product is provided below.

Cumulative production (units)	Cumulative time (hours)
1	200
2	360
4	648
8	1,166

**Additional information:**

1. The following information relates to the previous production period
  - Cumulative production at start of period 528 units
  - Production during the period 86 units
  
2. The standard and budgeted data for the product were as follows:
  - Budgeted production 86 units
  - Budgeted overheads Sh.150,903
  - Standard labour cost Sh.10 per hour
  - Standard material cost Sh.250 per unit

**Required:**

- i). The learning curve rate.
- ii). Unit production cost of product X during the previous production period (8 Marks)

### QUESTION FIVE

Heighway Co is a railway company. Heighway Co. operates a passenger railway service and is responsible for the operation of services and the maintenance of track signaling equipment and other facilities such as stations, in recent years it has been criticized for providing a poor service to the traveling public in terms of punctuality, "safety and the standard of facilities offered to" passengers. In the last year Heighway Co. has invested over \$ 20 million. In new carriages, station facilities and track maintenance programmes in an attempt to counter these criticisms.

#### Summarized Income statement for the year ended December

	20x3 \$ million	20x4 \$ million
Sales revenue	180.0	185.0
Earnings before interest and tax	18.0	16.5
Interest	(3.2)	(4.7)
Tax	(4.4)	(3.5)
Earnings available to ordinary shareholders.	10.4	8.3

#### Summarized statement of financial position (balance sheet) as at 31 December

	20x3		20x4	
	\$m	\$m	\$m	\$m
Non - current assets (net)		100.4		120.4
<b>Current Assets</b>				
Inventory	5.3		5.9	
Receivables	2.1		2.4	
Cash	6.2		3.6	
		<u>13.6</u>	<u>3.6</u>	<u>11.9</u>
Ordinary share capital		114.0		132.4
Reserves		25.0		25.0
Amount payable after more than one year		45.6		48.2
8% Debenture 20 x 9		15.0		15.0
Bank Loan		20.0		35.0
Payables due within one year		8.4		9.2
		<u>114.0</u>		<u>132.4</u>

#### Required;

- a) Calculate the following ratios of Heighway Co. for 20 x 3 and 20 x 4, clearly showing your workings.
  - i) Return on capital employed (also known as return on investment) based upon closing capital employed.
  - ii) Net profit margin.
  - iii) Asset turnover.
  - iv) Current ratio.
- b) Briefly comment on the financial performance of Heighway Co. in 20 x 3 and 20 x 4 as revealed by the above ratios and suggest causes for any changes

- c) Suggest THREE non -financial indicators that could be useful in measuring the performance of a passenger railway company and explain why your chosen indicators are important.
- d) Explain what is meant by short - termism and suggest ways in which a long- term view can be encouraged.

(20 Marks)