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MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

Technology for Development

(University of Choice)

MAIN CAMPUS, BUNGOMA, WEBUYE

UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR

THIRD YEAR SEMESTER TWO EXAMINATIONS

FOR THE DEGREE
OF
BACHELOR OF COMMERCE

COURSE CODE: BCA 365

COURSE TITLE: MANAGEMENT ACCOUNTING

DATE: Tuesday 18th April 2023   **TIME:** 12.00–2.00 pm

INSTRUCTIONS TO CANDIDATES

Attempt QUESTION ONE and any other two questions

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

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QUESTION ONE (30 MARKS)

a) Describe three roles that are played by a management accountant in environmental management accounting (EMA). (3 Marks)

b) Consider the following payoff table

Payoffs in Sh'000

	S1	S2	S3
Probability	0.25	0.45	0.30
a1	300	500	420
a2	600	450	670
a3	700	380	290

Required: The expected value of perfect information (4 marks)

a) Explain any four methods used in international transfer pricing (4 Marks)

b) Explain meaning of the following concepts as used in strategic management accounting (4 Marks)

i) Value chain analysis

ii) Target costing

iii) Kaizen costing

iv) Reverse engineering

c) ABC Ltd. is a firm that is engaged in the repair and maintenance of property, plant and equipment. The firm has received an order form XYZ Ltd. to repair its property, plant and equipment.

The management accountant of ABC Ltd. has provided the following information:

	Note	Sh. "000"
Direct materials:		
100,000 welding rods @ Sh. 10 per rod	1.	1,000
300,000 welding rods @ Sh. 12 per rod		3,600
Other materials	2.	2,000
Labor cost:		
Skilled: 30,000 hours @ Sh. 30 per hour	3.	900
Unskilled: 20,000 hours @ Sh. 15 per hour	4.	300
Depreciation: General purpose machines	5.	100
Specific purpose machines	6.	200
Total cost		8,100
Profit		810
Suggested price		8,910

Additional information:

1. The repair contract requires 400,000 welding rods of which 100,000 rods are already in inventory. These types of rods are about to be phased out of the market and hence if they are not used, they will have to be discarded.

   If ABC Ltd. is awarded the contract, it will have to purchase an extra 300,000 welding rods of the new model at a cost of Sh. 12 per rod.

2. Other materials will have to be bought at the above price if the contract is to be undertaken.

3. Skilled workers will have to be hired at the cost provided.

4. ABC Ltd. has five unskilled workers who are currently idle. The cost shown above is the guaranteed salary payable to the five workers.

5. The depreciation given is for the general purpose machines which are normally used to do other jobs including the special one if allocated.

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6. The depreciation given is for machines which will be bought specifically for this contract. After the contract is complete, the machines will be scrapped without any alternative use.
7. ABC Ltd. aims to earn a profit mark up of 10% on cost on all work undertaken.
Required:
i) Advice the management of ABC Ltd. on the minimum price to quote on this contract.
   (NB: Explain the rationale behind inclusion/exclusion of some costs). (11 marks)
ii) Describe why in practice the minimum price is never actually used. (4 marks)

QUESTION TWO (20 MARKS)

Shamba Company manufactures a line of electric garden tools that are sold in general hardware stores in Wangige. The company's Financial Director has just received the sales forecast for the coming year for Shamba's three products: Weeders, Hedge Clippers and Leaf blowers. The preliminary budget information is presented below:

	Weeders	Hedge clippers	Leaf blowers
Unit sales	5000	5000	10000
Unit selling price	sh. 280	sh. 360	sh. 480
Variable cost per unit			
Manufacturing	sh. 130	sh. 120	sh. 250
Selling	sh. 50	sh. 40	sh. 60

The fixed factory overhead is budgeted at sh. 20 million and the company's selling and administrative expenses are forecast to be sh. 6 million. Shamba has an effective tax rate of 40%.

Required:
i) Determine Shamba Company's budgeted income. (6 marks)
ii) Assuming the sales mix remain as budgeted, compute the break-even point both in total and for each product. (8 marks)
iii) Determine the total sales Shamba Company must have in order to earn a net income of sh. 4.5 million. (6 marks)

QUESTION THREE (20 MARKS)

a) Sasa Ltd manufactures two products, known as X and Y. The following information is available for 2023

	Ksh
Material A	5 per unit
Material B	10 per unit
Direct labor	40 per unit

The standard material and labor usage for each product is as follows:

	X	Y
Material A	6 units	8 units
Material B	9 units	5 units
Direct labor	7 hours	12 hours

Direct material:		
	Material A	Material B
Beginning inventory(units)	6500	6000
Ending inventory required (units)	8400	3200

Finished product:		
	X	Y

Forecast sales (units)	9000	4000
Selling price per unit	Ksh 100	Ksh 150
Ending inventory required (units)	2000	500
Beginning inventory (units)	340	160

Required: Prepare the following budgets for the year 2023

    i. Sales budget (2 Marks)
    ii. Production budget (2 Marks)
    iii. Direct materials usage budget (4 Marks)
    iv. Direct materials purchase budget (2 Marks)
    v. Direct labor budget (2 Marks)

b) Engineering Ltd produces castings which are transferred to the machine shop of the same company at standard prices. A standard costing system is applied in regard to materials, stocks of which are kept at standard prices, are as follows:

Standard mixture -	70% ingredient Y,
	30% ingredient Z
Standard prices -	Ingredient Y sh 480 per tonne
	Ingredient Z sh 130 per tonne
Standard loss in processing –	5% of input

Figures in respect of January 2020 are as follows:

Opening stocks	ingredient Y	100 tonnes
	Ingredient Z	60 tonnes
Finished stocks	ingredient Y	110 tonnes
	Ingredient Z	50 tonnes

Purchases:

Ingredient Y	300 tonnes	cost Sh 146 500
Ingredient Z	100 tonnes	cost Sh 12 500
Mixture melted	400 tonnes	
Castings produced	375 tonnes	

Required: calculate

    i. Material price variances (3 Marks)
    ii. Material mixture variance (3 Marks)
    iii. Material yield variance (2 Marks)

QUESTION FOUR (20 MARKS)

a) ABC limited operates in an industry where it operates to order and carries no inventory. Its demand function is estimated to be $P = 80 - 30Q$ where P is the unit selling price and Q is the quantity in thousands of units. Its total cost functions is estimated to be $TC = Q^2 + 20Q + 100$ where TC is total cost in sh.000 . determine

    i. The output in units, total revenue and profit if the objective of ABC is to maximize profit. (5 marks)

    ii. The output in units, total revenue and profit if the objective of ABC is to maximize revenue. (5 marks)

b) Cellular Ltd uses a certain machine that costs Sh. 60,000 when new. The following information has been provided by management with regard to the age of the said machine.

Age (years)	1	2	3	4	5
Expected annual operating costs(Kshs)	6,000	7,000	9,500	12, 000	13,500
Expected production per year (cases)	12,000	11,600	10,900	10,500	10,000
Salvage value (Kshs)	42,000	39,000	35,000	3,100	29,000

The price for one case less cost of sales and materials is Sh 13

Required:

Determine the optimal replacement policy   (10 Marks)

c) ABC limited operates in an industry where it operates to order and carries no inventory. Its demand function is estimated to be $P = 80 - 30Q$ where P is the unit selling price and Q is the quantity in thousands of units. Its total cost functions is estimated to be $TC = Q^2 + 20Q + 100$ where TC is total cost in sh.000 . determine

   iii.   The output in units, total revenue and profit if the objective of ABC is to maximize profit.   (5 marks)

   iv.   The output in units, total revenue and profit if the objective of ABC is to maximize revenue.   (5 marks)