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CPA PART III SECTION 5

ADVANCED MANAGEMENT ACCOUNTING

WEDNESDAY: 19 May 2021.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

- (a) Non-financial performance measurement is deemed to be more important than financial performance measurement.

Discuss the position you would take with regard to the above assertion.

(8 marks)

- (b) Primers Ltd. has two Divisions namely; A and B. Division A has been given a budgeted target of selling 200,000 units of a component branded X001. It manufactures the component and sells it in the open market at a price which fetches a return of 25% on the average assets employed by the Division.

The following figures are relevant for Division A:

Fixed overheads	Sh.400 million
Variable costs	Sh.1,000 per unit

Average Assets:

Debtors	Sh.200 million
Inventory	Sh.600 million
Plant and other assets	Sh.400 million

Additional information:

1. The Marketing Department of Primers Ltd. has however conducted a survey and found that the maximum number of X001 that the market could take at the proposed price is 140,000 units.
2. Fortunately, Division B is willing to purchase the balance of 60,000 units. The Manager of Division A is willing to sell to Division B at a concessional price of Sh.4,000 per unit, but the Manager of Division B is ready to pay Sh.2,250 only per unit as he feels he could manufacture X001 in his Division at that price.
3. Rather than sell to Division B at Sh.2,250, the Manager of Division A feels he would rather restrict the activities of his Division to the manufacture and sale of 140,000 units of the component only for sale in the open market. By this, he could reduce his investment by Sh.80 million in inventories, Sh.120 million of plant and other assets and Sh. 40 million in selling and administrative expenses.

Required:

Present a persuasive case showing that selling 60,000 units of X001 to Division B at Sh.2,250 per unit is in the best interest of the whole company.

(12 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Across Ltd., a packaging company is preparing its budget for the year to 30 June 2021. In respect of fuel oil consumption, it is desired to estimate an equation in the form $Y = a + bx$, where Y is the total expense at an activity level x, a is the fixed expense and b is the variable cost per unit.

The following data relates to the year ending 30 June 2021:

Month	Machine hours "000"	Fuel oil expense Sh. "000"	Month	Machine hours "000"	Fuel oil expense Sh. "000"
July 2020	34	640	January 2021	26	500
August 2020	30	620	February 2021	26	500
September 2020	34	620	March 2021	31	530
October 2020	39	590	April 2021	35	550
November 2020	42	500	May 2021	43	580
December 2020	32	530	June 2021	48	680

The annual total and monthly average figures for the year ending 30 June 2021 were as follows:

	Machine hours "000"	Fuel oil expense "000"
Annual total	420	6,840
Monthly average	35	570

Required:

Estimate the cost equation for the company for budgeting purposes using the following methods:

- (i) High low method. (2 marks)
- (ii) Least squares regression analysis. (8 marks)

- (b) A company has determined that the Economic Order Quantity for its only raw material is 2,000 units every 30 days. The company knows with certainty that a four-day lead time is required for ordering.

The following is the probability distribution of estimated usage of raw materials for the month of September 2020:

Usage in units	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Probability	0.06	0.14	0.30	0.16	0.13	0.10	0.07	0.04

Stock outs will cost the company Sh.10 per unit and monthly holding cost is Sh.10 per unit.

Required:

- (i) The optimal safety stock. (8 marks)
- (ii) The probability of being out of stock. (2 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Ulanda Ltd. is a manufacturing company based in the western part of the country. It has two divisions. One of the divisions within Ulanda Ltd. is currently negotiating with another supplier regarding outsourcing Component A that it manufactures.

The division currently manufactures 10,000 units of the component per annum.

	Total cost of producing 10,000 components Sh."000"	Unit cost Sh.
Direct material "Zed"	1,200	120
Direct labour	1,000	100
Variable manufacturing overhead costs (Power and utilities)	100	10
Fixed manufacturing overhead costs	800	80
Share of non-manufacturing overheads	<u>500</u>	<u>50</u>
	<u>3,600</u>	<u>360</u>

Additional information:

1. The above costs are expected to remain unchanged in the foreseeable future if Ulanda Ltd.'s division continues to manufacture the components.
2. The supplier has offered to supply 10,000 components per annum at a price of Sh.300 per unit guaranteed for a minimum of three years.
3. If Ulanda Ltd. outsources Component A, the direct labour force currently employed in producing the components will be made redundant. No redundancy costs will be incurred.
4. Direct materials and variable overheads are avoidable if component A is outsourced.
5. Fixed manufacturing overheads would be reduced by Sh.100,000 per annum but non-manufacturing costs would remain unchanged.
6. Assume initially that the capacity that is required for component A has no alternative use.

Required:

- (i) Advise the management of Ulanda Ltd. on whether the component should be bought or made. (6 marks)
- (ii) Assume now that the extra capacity that will be made available from outsourcing Component A can be used to manufacture and sell 10,000 units of Component B at a price of Sh.340 per unit. All of the labour force required to manufacture Component A will be used to make Component B. The variable manufacturing overheads, fixed manufacturing overheads and non-manufacturing overheads will be the same as the costs incurred for manufacturing Component A. Material Zed required to manufacture Component A would not be required but additional material Wye required for making Component B would cost Sh.130 per unit.

Required:

Assess whether the division of Ulanda Ltd. should outsource Component A. (6 marks)

- (b) The Digital Electronics Company manufactures cameras and video equipment. It is in the process of introducing the world's smallest and lightest camcorder with 3D, HD and SD recording modes.

The company has undertaken market research to ascertain the customers' perceived value of the product. The product's special features and a comparison with competitors' products and market prices have been used to establish a target selling price and projected life time volume.

In addition, cost estimates have been prepared based on proposed product specification. The company has set a target profit margin of 30% on the proposed selling price and this has been deducted from the target selling price to get the target cost.

The following is a summary of the information that has been presented to the management:

Project lifetime sales volume (units)	300,000
	Sh.
Target selling price	8,000
Target profit margin (30%)	(2,400)
Target cost	<u>5,600</u>
Projected cost	7,000

Before target costing exercise, the projected cost was estimated as follows:

	Sh.	Sh.
Manufacturing costs:		
Direct materials (bought in parts)	3,900	
Direct labour	1,000	
Direct machining costs	200	
Ordering and receiving	80	
Quality assurance	600	
Rework	150	
Engineering and design	<u>100</u>	6,030
Non-manufacturing costs:		
Marketing	400	
Distribution	300	
After sales service and warranty costs	<u>270</u>	<u>970</u>
Total cost		<u>7,000</u>

The company then engaged a team to carry out a functional analysis on the product manufacture. After a careful analysis of the different elements, functions and attributes of the camcorder and potential customers interviewed to ascertain the values that may place on each of the functions, the following report was given to management.

1. Direct material cost (bought in parts to be reduced by $\frac{1}{6}$).
2. Direct labour should be reduced to 80%.
3. Machining costs would remain the same as the projection.
4. Ordering and receiving costs to reduce by 75%.
5. Quality assurance to reduce to $\frac{5}{6}$ of the original estimate.
6. Rework and engineering costs to reduce by Sh.90 and Sh.20 respectively.
7. Marketing, distribution and after sales service and warranty costs to reduce by 37.5%, $33\frac{1}{3}$ % and by Sh.80 respectively.

Required:

- (i) Revised target cost. (7 marks)
- (ii) The cost gap. (1 mark)
- (Total: 20 marks)**

QUESTION FOUR

- (a) Picky Ltd. is a large public company in the telecommunications sector. One of its main planning and control tools is the preparation and use of traditional annual budgets.

Whilst this might be appropriate for the sales and manufacturing divisions, it draws criticisms from the directors of divisions such as Training and Education, Advertising and Publicity, and Research and Development who are responsible for large amounts of discretionary expenditure.

These directors have submitted a joint report to the Finance Director which suggests that Zero-Based Budgeting (ZBB) should be used for their respective divisions.

The Finance Director has agreed to use the Research and Development Division as a pilot for ZBB for the next financial year.

Required:

- (i) Explain the meaning of the term "Zero-Based Budgeting (ZBB)". (2 marks)
- (ii) Discuss the main stages that would need to be undertaken to introduce ZBB into the Research and Development Division. (6 marks)
- (b) Kleptomine Ltd. manufactures a single product K20 whose standard cost is Sh.7,500 made up as follows:

	Sh.
Direct material (20 square metres at Sh.200 per metre)	4,000
Direct labour (5 hours at Sh.400 per hour)	2,000
Variable overheads (5 hours at Sh.200 per hour)	1,000
Fixed overheads (5 hours at Sh.100 per direct labour hour)	<u>500</u>
	<u>7,500</u>

Additional information:

- The standard unit selling price of product K20 is Sh.9,800.
- Monthly budget production and sales is set at 1,000 units.
- The following figures relate to the month of October 2020:

Sales	150 units at Sh.10,400
Production	1,200 units (there was no opening stock)
Direct material	18,800 square metres at Sh.400 per square metre
Direct wages	5,800 hours at Sh.500 per hour.
Total variable overheads	Sh. 942,000
Total fixed overheads	Sh. 600,000

Required:

- (i) Actual profit or loss statement. (4 marks)
- (ii) Flexible profit or loss statement. (4 marks)
- (iii) A reconciliation statement for the reported variances. (4 marks)
- (Total: 20 marks)**

QUESTION FIVE

- (a) Discuss the scope and breadth of environmental management accounting. (10 marks)
- (b) The following information has been provided relating to the performance of XYZ Ltd.

	Division			Head Office	Total
	X	Y	Z		
	Sh. "million"	Sh. "million"	Sh. "million"	Sh. "million"	Sh. "million"
Sales	610	330	1,125	-	2,065
Profit before tax and interest	32	24	25	(9)	72
Total assets less current liabilities	140.5	121.5	118.5	12	392.5

Additional information:

1. Head office liabilities and net assets are to be shared equally between all the divisions.
2. Division X spent Sh.8,200,000 on research and development.
3. Advertising expenditure amounting to Sh.9,250,000 was spent by Division Y.
4. Goodwill amounting to Sh.65,000,000 and Sh.97,500,000 was amortised during the year from Division Y and Division Z reserves respectively.
5. Cost of capital of XYZ Ltd. is 14%.
6. A summary of the borrowings, interest received and interest paid on borrowings is as follows:

	X	Division Y	Z	Head Office	Total
	Sh. "million"	Sh. "million"	Sh. "million"	Sh. "million"	Sh. "million"
Borrowings	-	37	38	7.5	82.5
Interest received	1.5	-	-	-	1.5
Interest paid	-	2.2	4.3	3.1	9.6

Required:

Evaluate the divisional performance of XYZ Ltd. using the Economic Value Added (EVA) approach. (10 marks)
(Total: 20 marks)

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