



**CPA PART III SECTION 5**  
**ADVANCED MANAGEMENT ACCOUNTING**

**WEDNESDAY: 22 May 2019.**

**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) Highlight four fields in which the use of environmental management accounting (EMA) is applied. (4 marks)
- (b) The following details show the direct labour requirements for the first six batches of a new product that were manufactured during the month of March 2019 by Tengeneza Ltd.:

	<b>Budget</b>	<b>Actual</b>
Output (batches)	6	6
Labour hours	2,400	1,950
Total labour cost (Sh.)	1,680,000	1,365,000

The Management Accountant reported the following variances:

Total labour cost variance	Sh.315,000 (favourable)
Labour rate variance	Nil
Labour efficiency variance	Sh.315,000 (favourable)

The production manager has now revealed that he forgot to inform the Management Accountant that he expected a 90% learning curve to apply for at least 10 batches.

**Required:**

Compute the planning and operational variances that analyse the actual performance taking into account the anticipated learning effect. (8 marks)

**Note:** The learning index for a 90% learning curve is -0.1520.

- (c) Marima Ltd. is considering introducing two new products in the market.

The company has the following options:

- Option 1: Introduce both products.  
Option 2: Introduce either of the products.  
Option 3: Introduce none of the products, depending on their performance in the market.

An analysis of the product's likely performance indicates the probability of a good performance as 30%, fair performance as 50% and poor performance as 20%. The sales revenue depending on the state of nature is as shown below:

	<b>State of nature</b>		
<b>Decision</b>	<b>Good performance (S1) Sh."million"</b>	<b>Fair performance (S2) Sh."million"</b>	<b>Poor performance (S3) Sh."million"</b>
Neither	0	0	0
Product 1 only	30	15.6	7.2
Product 2 only	25.2	14.4	7.2
Both	52.8	8.8	3.2

**Required:**

- (i) For each decision, determine the expected monetary value. (4 marks)
- (ii) Advise the management of Marima Ltd. on the action to take assuming that Rima Ltd. could supply perfect information at a cost of Sh.5 million. (4 marks)
- (Total: 20 marks)**

**QUESTION TWO**

- (a) Discuss five challenges associated with the return on investment (ROI) approach in financial performance measurement. (10 marks)
- (b) Faidika Ltd. buys and sells a single product branded "NN". The demand and lead time of product NN is not constant.

The following probability distribution has been provided:

Demand (units)	Probability
2	0.02
3	0.08
4	0.22
5	0.34
6	0.18
7	0.09
8	0.07

Lead time (weeks)	Probability
1	0.23
2	0.45
3	0.17
4	0.09
5	0.06

**Additional information:**

- The re-order point and the re-order quantity has been set at 40 units and 30 units respectively.
- The holding cost per unit per week is Sh.35.
- The cost of placing an order is Sh.350.
- If the company runs out of stock, a contribution of Sh.120 per unit is lost.
- The opening inventory at the beginning of the first week was 60 units.

**Required:**

Using simulation of the above problem for 10 weeks, determine the average weekly cost using the following random numbers:

50    68    52    08    59    90    81    85    95    15    89    28    60    03  
(10 marks)

**(Total: 20 marks)**

**QUESTION THREE**

Kitchen Masters Ltd. specialises in the manufacture and sale of firewood ovens.

Each oven consists of a main unit plus a set of oven fittings. The company has two divisions; A and B. Division A manufactures the oven while Division B manufactures the sets of oven fittings.

Currently, all of Division A's sales are made externally. However, Division B sells to Division A as well as to external customers. Both divisions are profit centres.

The following data is available for both divisions:

Division A	Sh.
Current selling price for each oven	450
<b>Costs per oven:</b>	
• Fittings from division B	75
• Other materials from external suppliers	200
• Labour costs	45

	<b>Sh.</b>
Annual fixed overheads	7,440,000
Annual production and sales of ovens (units)	80,000
Maximum annual market demand for ovens (units)	80,000

<b>Division B</b>	<b>Sh.</b>
Current external selling price per set of fittings	80
Current price for sales to Division A	75

**Costs per set of fittings:**

• Materials	5
• Labour costs	15
Annual fixed overheads	4,400,000

	<b>Units</b>
Maximum annual production and sale of sets of fittings (including internal and external sales)	200,000
Maximum annual external demand for sets of fittings	180,000
Maximum annual internal demand for sets of fittings	80,000

**Additional information:**

1. The transfer price charged by Division B to Division A was negotiated some years ago between the previous divisional managers, who have now both been replaced by new managers.
2. Head office only allows Division A to purchase its fittings from Division B, although the new manager of Division A believes that he could obtain fittings of the same quality and appearance for Sh.65 per set, if he was given the autonomy to purchase from outside the company.
3. Division B makes no cost savings from supplying internally to Division A rather than selling externally.

**Required:**

- (a) Under the current transfer pricing system, prepare a profit statement showing the profit for each of the divisions and for Kitchen Masters Ltd. as a whole. Your sales and cost figures should be split into external sales and inter-divisional transfers, where appropriate. (6 marks)

- (b) Head office is considering changing the transfer pricing policy to ensure maximisation of company's profits without demotivating either of the divisional managers. Division A will be given autonomy to buy from external suppliers and Division B to supply external customers in priority to supplying Division A.

Evaluate the maximum profit that could be earned by Kitchen Masters Ltd. if transfer pricing is optimised. (8 marks)

- (c) Discuss the issues of encouraging divisional managers to take decisions in the interest of the company as a whole, where transfer pricing is used. Provide a reasoned recommendation of a policy that Kitchen Masters Ltd. should adopt. (6 marks)

**(Total: 20 marks)**

**QUESTION FOUR**

- (a) Highlight four ethical standards of management accountants. (4 marks)

- (b) Bidii Ltd. operates a single retail outlet which sells directly to the public. The profit statement for the months of March 2019 and April 2019 are provided as follows:

	<b>March</b> <b>Sh."000"</b>	<b>April</b> <b>Sh."000"</b>
Sales	8,000	9,000
Cost of sales	<u>(5,000)</u>	<u>(5,500)</u>
Gross profit	3,000	3,500
<b>Expenses:</b>		
Selling and distribution costs	(800)	(900)
Administrative costs	<u>(1,500)</u>	<u>(1,500)</u>
Net profit	<u>700</u>	<u>1,100</u>

**Required:**

- (i) Using the high-low points technique, identify the behaviour of cost of sales, selling and distribution costs and administrative costs. (6 marks)
- (ii) Draw a contribution break-even chart and identify the monthly break-even sales value and area of contribution. (4 marks)

- (iii) Assuming a margin of safety equal to 30% of the break-even value, calculate Bidii Ltd.'s annual profits. (2 marks)
- (iv) Bidii Ltd. is now considering opening another retail outlet selling the same product. The company plans to use the same profit margins in both outlets and has estimated that the specific costs of the second outlet will be Sh.10,000,000 per annum. Bidii Ltd. also expects that 10% of its annual sales from its existing outlet would transfer to this second outlet if it were to be opened.

**Required:**

Annual value of sales required from the new outlet in order to achieve the same profit as previously obtained from the single outlet. (4 marks)

**(Total: 20 marks)**

**QUESTION FIVE**

- (a) Global Chain Ltd. has supermarkets located in most towns and cities across the East African region. Over the last few years, profits have fallen prompting the top management to seek technical advice from CP Ltd., a consulting firm that specialises in business turn-around.

CP Ltd. has managed to obtain relevant information from the management of the company and has organised it as follows:

		2016	2017	2018
Percentage of staff promoted	Actual	6%	5%	8%
	Budget	30%	30%	30%
Average lead time for re-stocking	Actual	3 days	3.25 days	4.1 days
	Target	3 days	3 days	3 days
Sales/Turnover (Sh. billion)	Actual	200	192	169
	Target	208	210	215
Loyalty points awarded to customers (percentage of sales value)	Actual	1.4%	1.3%	1.2%
	Target	1.5%	1.5%	1.5%
Total number of staff grievances lodged in a year	Actual	47	101	123
	Target	Nil	Nil	Nil
Operating expenses (Sh. billion)	Actual	190	196	199
	Target	180	182	185
Customer satisfaction index	Actual	78%	63%	59%
	Target	95%	95%	95%
Processing time for goods returned on warranties (Replacements)	Actual	2 weeks	3 weeks	3 weeks
	Target	1 week	1 week	1 week

**Required:**

Explaining the current status of Global Chain Ltd., prepare a balanced scorecard report covering the four perspectives, using the above information. (12 marks)

- (b) Hazina Ltd. is a cosmetics company that produces perfumes. The perfume market is very competitive and subject to frequent changes. The finance team at Hazina Ltd. prepare monthly rolling budgets as part of their planning and management control process.

The data for the forthcoming new budget period are as follows:

- The variable cost of producing a bottle of perfume is Sh.210.
- The planned selling price of a bottle of perfume is Sh.450 and at this selling price, demand for the perfume is expected to be 125,000 bottles.
- Information from the marketing division at Hazina Ltd. suggests that for every Sh.30 increase in the selling price, the customer demand would reduce by 10,000 bottles and that for every Sh.30 decrease in the selling price, the customer demand would increase by 10,000 bottles.

**Required:**

- (i) Advise on the revenue that Hazina Ltd. would earn if the selling price of a bottle of perfume was set in such a way that profits would be maximised for the forthcoming budget period. (6 marks)

- (ii) Explain the use of rolling budgets in planning and management control process at Hazina Ltd. (2 marks)

**(Total: 20 marks)**