KASNEB

CPA PART III SECTION 5

ADVANCED MANAGEMENT ACCOUNTING

WEDNESDAY: 23 November 2016. **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) Business organisations are required to factor in environmental concerns in their decision making.

Describe four ways of aligning business operations with environmental issues. (8 marks)

(b) The following information relates to night shift operations at Waki Ltd., a manufacturing company.

1. The night shift workers normally consist of 30 skilled men, 15 semi-skilled men and 10 unskilled men, who are paid at standard hourly rates of Sh.80, Sh.60 and Sh.40 respectively.
2. A normal working week consists of 40 hours.
3. The weekly output for night shift workers is expected to be 2,000 units.
4. In the second week of the month of October 2016, the night shift workers consisted of 40 skilled men, 10 semi-skilled men and 5 unskilled men, who were paid at Sh.70, Sh.65 and Sh.30 respectively. During that week, 4 hours were lost due to abnormal idle time and 1,600 units were produced.

Required:
Compute for the second week of October 2016:

(i) Labour cost variance. (2 marks)

(ii) Labour rate variance. (2 marks)

(iii) Labour efficiency variance. (3 marks)

(iv) Labour mix variance. (3 marks)

(v) Idle time variance. (2 marks)
(Total: 20 marks)

QUESTION TWO

(a) SL Ltd. manufactures and stocks component Q which is used as an input material in another department within the organisation. The past data on component Q is as follows:

- Average demand per day is 130 units.
- Average production lead time is 5 days.

The frequency distribution of actual demand during lead time is given below:

Actual demand (units)	Frequency
300-399	0
400-499	16
500-599	20
600-699	25
700-799	14
800-899	8
900-999	3

The company targets an 85% service level during lead time.

Required:

(i) The re-order level. (9 marks)

(ii) The safety stock level. (3 marks)

(b) Innovators Ltd. has designed a new model of a manufacturing machine. The cost and sales price of the first machine to be produced has been estimated as follows:

	"Sh.000"
Materials	25,000
Labour (2,000 hours x Sh.15,000 per hour)	30,000
Overhead (50% of labour cost)	15,000
	70,000
Profit mark-up (25%)	17,500
Selling price	87,500

The company plans to sell all the machines at full cost plus 25%. A 90% learning curve is expected to apply to the production work. Only one customer has expressed interest in buying the machine so far, but he views Sh.87,500,000 as too high a price to pay. He could buy more of the machines in the coming periods.

Required:

(i) If the customer above paid Sh.87,500,000 for the first machine, determine the price he would have to pay later for a second machine. (4 marks)

(ii) Advise the management of Innovators Ltd. on the price quotation per machine if the customer above places an order for the third and the fourth machines as a single order. (4 marks)

(Total: 20 marks)

QUESTION THREE

Best deal Ltd. has developed a new product and is currently considering the marketing and pricing policy that it should employ for the product. Specifically, it is considering whether the sales price should be set at Sh.150 per unit or at a higher price of Sh.240 per unit. Sales volume and respective probabilities at these two prices are as follows:

Sales price of Sh.150 Forecast sales volume	**Probability**	**Sales price of Sh.240 Forecast sales volume**	**Probability**
20,000	0.1	18,000	0.1
30,000	0.6	16,000	0.3
40,000	0.3	20,000	0.3
		24,000	0.3

Additional information:

1. Fixed production cost of the venture will be Sh.380,000.
2. The level of advertising and publicity costs will depend on the sales price and the market aimed for. With a sales price of Sh. 150 per unit, the advertising and publicity costs will amount to Sh.120,000. With a sales price of Sh.240 per unit, these costs will amount to Sh.1,220,000.
3. Labour and variable overhead costs will amount to Sh.50 per unit produced.
4. Each unit produced requires 2 Kgs of raw materials and the basic cost is expected to be Sh.40 per Kg. However, the suppliers of the raw materials are prepared to lower the price in return for a firm agreement to purchase a guaranteed minimum quantity. If Best deal Ltd. contracts to purchase at least 40,000 Kgs, then the price will be reduced to Sh.37.5 per Kg for all purchases. If Best deal Ltd. contracts to purchase a minimum of 60,000 Kgs, then the price will be reduced to Sh.35 per Kg for all purchases. It is only if Best deal Ltd. guarantees either of the above minimum levels of purchases in advance that the appropriate reduced prices will be effected.
5. If Best deal Ltd. was to enter into one of the agreements for the supply of the raw materials and was to find that it did not require to utilise the entire quantity of materials purchased, then the excess could be sold. The sales price will depend upon the quantity that is offered for sale. If 16,000 Kgs or more is sold, the sales price will be Sh.29 per Kg for all sales. If less than 16,000 Kgs are offered, the sales price will only be Sh.24 per Kg.
6. Irrespective of the amount sold, the costs incurred in selling the excess raw materials per kg. will be as follows:

	Sh.
Packaging	3.00
Delivery	4.50
Insurance	1.50

7. Best deal Ltd.'s management team feels that losses are undesirable while high expected monetary values are desirable. Therefore, it is considering the utilisation of a formula that incorporates both aspects of the outcome to measure the desirability of each strategy. The formula to be used to measure desirability is:

Desirability = L + 3 E

Where L = The lowest outcome of the strategy.
E = The expected monetary value of the strategy.

The higher this measure is, the more desirable the strategy.

The marketing manager seeks your advice, as the management accountant, to assist in deciding on the appropriate strategy.

Required:

(a) Prepare statements showing the various expected outcomes of each of the choices open to Best deal Ltd. (14 marks)

(b) Advise the management of Best deal Ltd. on the best choice of strategies if the company's objective is to:

(i) Maximise expected monetary value. (2 marks)

(ii) Minimise the harm done to the firm if the worst outcome of each choice was to occur. (2 marks)

(iii) Maximise the score on the above mentioned measure of desirability. (2 marks)

(Total: 20 marks)

QUESTION FOUR

Everlast Ltd. operates three health and fitness centres in the country. Each centre offers dietary plans and fitness facilities or programmes to clients under the supervision of dieticians and fitness trainers.

Residential accommodation is also available at each centre. The centres are located in the Western, Eastern and Central parts of the country.

The following information is available:

1. Summary of financial data for Everlast Ltd. for the financial year ended 30 June 2016:

	Western Sh. "000"	Eastern Sh. "000"	Central Sh. "000"	Total Sh. "000"
Revenue:				
Fees received	1,800	2,100	4,500	8,400
Variable cost	(468)	(567)	(1,395)	(2,430)
Contribution	1,332	1,533	3,105	5,970
Fixed cost	(936)	(1,092)	(2,402)	(4,430)
Operating profit	396	441	703	1,540
Interest cost on long-term debt at 10%				(180)
Profit before tax				1,360
Income tax for the year				(408)
Profit for the year				952
Average book values for 2016:				
Assets:				
Non-current assets	1,000	2,500	3,300	6,800
Current assets	800	900	1,000	2,700
Total assets	1,800	3,400	4,300	9,500
Equity:				
Share capital				2,500
Retained earnings				4,400
Non-current liability:				
Long-term borrowing				1,800
Current liabilities	80	240	480	800
Total equity and liabilities				9,500

2. Everlast Ltd. defines residual income (RI) for each centre as operating profit minus required rate of return of 12% of the total assets of each centre.

3. At present, Everlast Ltd. does not allocate long-term borrowings of the group to the three separate centres.
4. Each centre faces similar risk.
5. Tax is payable at the rate of 30%.
6. The market value of the equity capital of Everlast Ltd. is Sh.9 million and the cost of equity is 15%.
7. The market value of long-term borrowing is equal to its book value.
8. The directors are concerned about the return on investment (ROI) generated by Eastern centre and are considering using sensitivity analysis in order to show how target ROI of 20% might be achieved.
9. The marketing director stated at a recent board meeting that "The Group's success depends on the quality of service to our clients. In my opinion, we need only to concern ourselves with the number of complaints received from clients during each period as this is the most important performance measure of our business. The number of complaints received from clients is a perfect performance measure. As long as the number of complaints received from customers is not increasing from period to period, then we can be confident about our future prospects".

Required:
The directors of Everlast Ltd. have requested you as the management accountant to prepare a report providing them with explanations as to the following:

(a) The most successful centre. Your report should include commentary on return on investment (ROI), residual income (RI) and economic value added (EVA) as measures of financial performance. Detailed calculations regarding each of the three measures must be included as part of your report. (12 marks)

(b) The percentage change in revenue, total cost and net assets during the period that would have been required in order to achieve a target ROI of 20% for Eastern centre. (6 marks)

(c) State whether you agree with the statement of the marketing director in note (9) above. (2 marks)
(Total: 20 marks)

QUESTION FIVE
Sang Ltd. has two divisions namely; X and Y. Division X manufactures electrical components which it sells to division Y and external customers.

Division Y has designed a new product branded "Yetu" and has requested division X to supply the electrical component which is required in the manufacture of the new product. Each unit of product "Yetu" will require one electrical component. This component will no longer be sold by division X to external customers. Division X has quoted a transfer price to division Y of Sh.45 for each unit of the electrical component.

It is the policy of Sang Ltd. to reward managers based on their individual division's return on capital employed.

The details of the monthly production for each division are as follows:

Division X
- Output: The electrical component will be produced in batches of 1,000 units. The maximum capacity is 6,000 components per month.
- Variable cost: Sh.15 per component.
- Fixed cost: Sh.50,000 (these are incurred specifically to manufacture the electrical component).

Division Y
- Output: Product "Yetu" will be produced in batches of 1,000 units. The maximum customer demand is 6,000 units of product "Yetu" per month.
- Variable cost: Sh.9 per unit plus the cost of electrical component.
- Fixed cost: Sh.75,000 (these are incurred specifically to manufacture product "Yetu").

The relationship between the monthly customer demand and the selling price of product "Yetu" is as follows:

Demand (units)	Selling price per unit (Sh.)
1,000	120
2,000	110
3,000	100
4,000	90
5,000	80
6,000	67

Required:

(a) Based on a transfer price of Sh.45 per electrical component, advise the management of Sang Ltd. on the monthly profit that would be earned as a result of selling product "Yetu". (6 marks)

(b) Determine the maximum monthly profit from the sale of product "Yetu" for Sang Ltd. (4 marks)

(c) Using the marginal cost of electrical component as a transfer price, advise the management of Sang Ltd. on the monthly profit that would be earned as a result of selling product "Yetu" by divisions X and Y and the company as a whole. (6 marks)

(d) (i) Using the above scenario, discuss the problem of setting a transfer price. (2 marks)

(ii) Suggest a transfer pricing policy that would help Sang Ltd. to overcome the transfer pricing problems that it faces. (2 marks)

(Total: 20 marks)

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