# KASNEB

## CPA PART III SECTION 5

## ADVANCED MANAGEMENT ACCOUNTING

**WEDNESDAY: 25 May 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)    Management accountants are required to conduct themselves ethically. A commitment to ethical professional practice requires observation of principles that express values and standards that guide conduct such as honesty. fairness. objectivity and responsibility.

**Required:**
With reference to the above statement. summarise six benefits of ethical behaviour by management accountants in business.                                                                                         (6 marks)

(b)    (i)    The learning phenomenon applies to time and will affect any cost which is a function of time. Whenever costs are estimated, the potential impact of learning should be considered.

**Required:**
Highlight four areas where the learning curve is applied in business.                           (4 marks)

(ii)    Describe four limitations of using the learning curve in business.                            (4 marks)

(c)    Space Com Ltd. is about to bid on a new radar system. Although the product uses new technology, Space Com Ltd. believes that a learning rate of 75% is appropriate. The first unit is expected to consume 700 hours and the contract is for 40 units.

**Required:**
(i)      The total amount of hours required to build the 40 units.                                    (2 marks)

(ii)     The average time to build each of the 40 units.                                              (2 marks)

(iii)    Assuming that a worker works 2,080 hours per year, determine the number of workers that should be assigned to this contract to complete it in a year.                                                           (2 marks)

                                                                                              **(Total: 20 marks)**

## QUESTION TWO

The Raha Resort, which is privately owned, is a world famous luxury hotel and cricket complex. It has been chosen as the venue to stage "The Ribon Cup", a cricket tournament which is contested by teams from across the world. The tournament is scheduled to take place during the month of December 2016. The resort will offer accommodation for each of the five nights that guests would require accommodation.

The following information is available regarding the period of the tournament:

1.    Hotel data:
      Total number of rooms        2.400
      Rooms mix:
      • Double rooms                75%
      • Single rooms                15%
      • Family rooms                10%
      Fees per room per night (Sh.):
      • Double rooms                4.000
      • Single rooms                3,000
      • Family rooms                6,000
      Number of guests per room:
      • Double rooms                2
      • Single rooms                1
      • Family rooms                4
      Note: When occupied. all rooms will contain the number of guests as above.

Costs:
Variable cost per guest per night   Sh.1,000
Attributable fixed costs for the five-day period:
- Double rooms   Sh.5,160,000
- Single and family rooms (total) Sh.3,000,000

2. Accommodation for guests is provided on an all-inclusive basis (meals, drinks and entertainment).
3. The hotel management expects all single and family rooms to be "sold out" for each of the five nights of the tournament. However, they are unsure whether the fee in respect of double rooms should be increased or decreased. At a price of Sh.4,000 per room per night they expect an occupancy rate of 80% of available double rooms. For each Sh.100 increase/decrease, they expect the number of rooms to decrease/increase respectively by 40.
4. The objective of the hotel management is to maximise profit.

**Required:**

(a) (i) The fees that should be charged per double room per night in order to maximise profits during the tournament.
(6 marks)

(ii) The profit that would be earned from staging the tournament as a consequence of charging the fee determined in (a)(i) above.
(4 marks)

(b) The management of the hotel is concerned about the level of variable costs per guest per night to be incurred in respect of the tournament. A recent review of proposed operational activities has concluded that variable cost per guest per night in all rooms in the hotel would be reduced by 20% if proposed changes in operational activities were made. However, this would result in additional attributable fixed costs amounting to Sh.2,000,000 in respect of the five-day period.

**Required:**
Advise the management whether, on purely financial grounds, they should make the proposed changes in operational activities.
(6 marks)

(c) Discuss two initiatives that the management might consider in order to further improve the profit from staging the cricket tournament.
(4 marks)
**(Total: 20 marks)**

**QUESTION THREE**
(a) Sawasawa Ltd. is a fitness centre serving traders within the Central Business District (CBD). Currently, the centre has 4,000 members with each member paying a subscription fee of Sh.35,000 per annum.

The centre comprises of a gym, a swimming pool and a small exercise area.

A competitor plans to open a new fitness centre within the same locality. This is expected to cause a decrease in membership numbers for Sawasawa Ltd. unless its facilities are upgraded.

Consequently, Sawasawa Ltd. is considering the following options in a bid to improve its membership numbers:

**Option 1**
No upgrade. In this case, membership numbers would be expected to fall to 3,250 per annum for the next four years. Operational costs would remain unchanged at the current level of Sh.4,500 per member per annum.

**Option 2**
Upgrade the exercise area. The capital cost of this upgrade would be Sh.18,000,000. The expected effect on membership numbers for the next four years is as follows:

| Probability | Effect on membership numbers |
|---|---|
| 0.3 | Remain at their current level of 4,000 members per annum. |
| 0.7 | Increase to 4,800 members per annum. |

The effect on operational costs for the next four years is expected to be:

| Probability | Effect on operational costs |
|---|---|
| 0.4 | Increase to Sh.6,000 per annum per member. |
| 0.6 | Increase to Sh.8,000 per annum per member. |

Any improvements are expected to last for four years.

**Required:**
(i)     Using the expected monetary value (EMV) criterion, recommend the decision that Sawasawa Ltd. should make.
(8 marks)

(ii)    Advise on the maximum price that Sawasawa Ltd. should pay for perfect information about the upgrade of the exercise area. (4 marks)

(b)     James Makali prides himself as the largest sausage supplier in the city. Small, freshly baked sausages are the speciality of his shop. He has sought help in determining the number of sausages he should make each day so as to maximise his long run profitability.

From an analysis of past demand, he estimates the demand for sausages as follows:

| Demand (packets) | Probability of demand |
|---|---|
| 1,800 | 0.05 |
| 2,000 | 0.10 |
| 2,200 | 0.20 |
| 2,400 | 0.30 |
| 2,600 | 0.20 |
| 2,800 | 0.10 |
| 3,000 | 0.05 |

**Additional information:**
1.  The selling price per packet amounts to Sh.90.
2.  The cost per packet which includes handling and transportation amounts to Sh.65.
3.  Sausages that are not sold at the end of the day are sold as day-old merchandise the following day at Sh.30 per packet.

**Required:**
Using continuous analysis of probability distribution of demand, advise on the optimal production quantity (in packets) for the sausages. (8 marks)
**(Total: 20 marks)**

**QUESTION FOUR**
(a)     Environmental Management Accounting (EMA) is broadly defined as the identification, collection, analysis and use of two types of information for internal decision making namely:

1.  Physical information on the use and flow of energy, water and materials including waste.
2.  Monetary information on environmental related costs, earnings and savings.

The management accountant possesses important cost data and information regarding the environment.

**Required:**
With regard to the above statement, evaluate the role of management accountants in Environmental Management Accounting (EMA). (6 marks)

(b)     Ujuzi Ltd. operates a standard marginal cost accounting system. The information relating to product "Exa" which is manufactured in one of the company's department is given below:

| | Standard marginal cost per unit Sh. |
|---|---|
| Direct materials: 6 kgs at Sh.40 per kg. | 240 |
| Direct labour: 1 hour at Sh.70 per hour | 70 |
| Variable production overhead | 30 |
| | 340 |

**Additional information:**
1.  Variable production overheads vary with units produced.
2.  Budgeted fixed production overheads per month amount to Sh.1,000,000.

3.    Budgeted production for product Exa amounted to 20,000 units per month.
4.    Budgeted selling price per unit amounted to Sh.440.
5.    The actual results for the month of April 2016 were as follows:

Units of Exa produced                                    18,500

                                                         **Sh.**

Direct materials purchased and used (113,500 kgs.)       4,426,500
Direct labour (17,800 hours)                             1,299,400
Variable production overheads incurred                     588,000
Fixed production overheads incurred                      1,040,000
                                                         7,353,900

Actual selling price per unit Sh.480

**Required:**
(i)    Prepare in columnar format, the original budget, flexed budget and actual profit statement.        (6 marks)

(ii)   Statement reconciling the original budgeted profit and the actual profit.
       (Show all operating variances).

                                                                                        (8 marks)
                                                                                  **(Total: 20 marks)**

**QUESTION FIVE**
(a)    Discuss the application of the Fitzgerald and Moon's building block model in performance measurement with particular
       focus to service organisations.                                                         (10 marks)

(b)    The following information relates to investment opportunities available to Tumaini Ltd:

| Investment opportunity | Annual profit Sh. | Cost of investment Sh. |
|---|---|---|
| A | 300,000 | 900,000 |
| B | 300,000 | 1,600,000 |
| C | 240,000 | 1,200,000 |
| D | 280,000 | 800,000 |
| E | 260,000 | 1,000,000 |

**Additional information:**
1.    The company currently has profits of Sh.1,250,000 and investments of Sh.5,000,000.
2.    The minimum required rate of return of the company is 20%.
3.    The company will only invest in projects that will improve on the current performance.

**Required:**
(i)    The return on investment (ROI) and the residual income (RI) for each of the investment opportunities.  (5 marks)

(ii)   Based on the performance measures above, rank the investment opportunities in their order of preference.
       Comment on the project (s) that the company should invest in.                            (5 marks)
       (Hint:  Select the project (s) that will maximise the final profitability).

                                                                                  **(Total: 20 marks)**
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