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2907/305
MANAGERIAL ACCOUNTING
November 2021
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN SUPPLY CHAIN MANAGEMENT
DIPLOMA IN BUSINESS MANAGEMENT
DIPLOMA IN CO-OPERATIVE MANAGEMENT
DIPLOMA IN HUMAN RESOURCE MANAGEMENT
MODULE III
BUSINESS EDUCATION SINGLE AND GROUP CERTIFICATE EXAMINATIONS
STAGE III

MANAGERIAL ACCOUNTING

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of SEVEN questions.
Answer any FIVE questions in the answer booklet provided.
ALL questions carry equal marks.
Show all your workings.
Candidates should answer the questions in English.

This paper consists of 9 printed pages.

Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.

1. (a) Explain each of the following methods of evaluating investment projects.

    (i)   Payback period;
    (ii) Net present value (NPV);
    (iii) Profitability index (PI);
    (iv) Internal rate of return (IRR).

    (8 marks)

    (b) Adip Limited offers transport on four different routes; A, B, C and D. The following table shows the daily revenue, in thousands of shillings, collected by each driver from each route.

Route \ Driver	John	Mary	Jane	Joseph
A	10	12	14	11
B	6	10	11	8
C	5	8	10	8
D	2	7	12	10

    Determine the:

    (i)   optimal assignment schedule that will maximize revenue.

    (ii) maximum revenue.

    (12 marks)

2. (a) A petrol pump attendant at Mobik Filling Station can serve an average of one client in every 3 minutes. On average, a client arrives after every 5 minutes.

    Using the simple queuing model, determine the:

    (i)   expected number of customers in the queue.

    (ii) average number of customers in the queuing system.

    (iii) average time spent by a customer in the queuing system.

    (8 marks)

(b) Kalamindi operates three timber yards; TY_1, TY_2 and TY_3. The stock of timber (in tonnes) in each of the timber yards is as follows:

Timber yard	Tonnes available
TY_1	155
TY_2	170
TY_3	180

Three contractors; C_1, C_2 and C_3 requires to be supplied with timber as follows:

Contractor	Tonnes required
C_1	175
C_2	180
C_3	150

The transportation cost, in shillings, of one tonne of timber from the yards to the contractors' sites is as shown below:

Contractor / Timber Yards	C_1	C_2	C_3
TY_1	1,500	600	1,400
TY_2	1,400	650	1,600
TY_3	1100	1,300	1,600

Using the Vogels Approximation Method (VAM), determine the:

(i)   optimal transportation schedule that minimizes the total transportation cost.

(ii) minimum transportation cost.

(12 marks)

3. (a) Explain **four** assumptions of the Cost-Volume-Profit (CVP) analysis. (8 marks)

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(b) The following data relates to the total cost of producing product P_{220} at Pinky Limited.

Stock is constant. and verhod ... marsion ...

Month	Output (units)	Total Cost (Ksh.)
January	15	3,400
February	18	3,450
March	16	3,510
April	24	3,500
May	25	3,600
June	23	3,580

Highest cost - Lowest cost

Highest output - lowest output

(i) Using the High-Low method, calculate the:

T.c
$$Y = a + bx$$
$$3600 = a + 20(25)$$
$$a = 3100$$

(I) fixed cost;
(II) variable cost per unit.

(ii) Using the result in (i) above, determine the linear equation in the form of: $Y = a + bx$.

3100 + 20x

(iii) Estimate the total cost of producing 30 units of the product.

3100 + 20(30)

(12 marks)

4. (a) Explain **four** objectives of performance evaluation in a business organization.

(8 marks)

(b) The following information relates to Limo Traders for the year 2020.

- Production 108,000 units
- Sales 90,000 units

	Ksh.
Direct materials	216,000
Direct labour	90,000
Variable overheads	36,000
Fixed production cost	30,000
Fixed administration cost	17,500

Additional information:

- The selling price is Ksh. 50.

EMV A
(0.5 + 160000) + (0.3 + 100000) + (0.2 + 40000)
= 118,000

EMV B
(0.5 + 200000) + (0.3 + 60000) + (0.2 + 30000)
= 124000

(i) Prepare a profit statement using the:

    (I)   absorption costing technique;

    (II)   marginal costing technique.

(ii) Reconcile the profit as per absorption costing technique to the profit as per marginal costing technique.

(12 marks)

5. (a) Highlight **four** differences between Managerial Accounting and Financial Accounting.

(8 marks)

(b) Detergex Limited intends to produce either detergent A or detergent B. The following are the expected net profits and associated probabilities under different market conditions.

| | | Net Profit | |
Market Demand	Probability	Detergent A Ksh.	Detergent B Ksh.
High	0.5	160,000	200,000
Moderate	0.3	100,000	60,000
Low	0.2	40,000	30,000

(i) For each of the detergents, A and B, determine the Expected Monetary Value (EMV).

(ii) A consultancy firm can provide perfect information on market demand at a cost of Ksh. 15,000. Advise the management on whether to hire the consultancy firm or not.

(12 marks)

6. (a) Zala Limited manufactures and sells a single product, Pd_{12}. The following data relates to the product.

	Ksh.
Fixed costs per annum	1,200,000
Selling price	4,000
Variable cost per unit	2,000
Sales	1,600 units

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Calculate the:

(i) break even point, in units and in shillings.

(ii) margin of safety, in units and in shillings.

(iii) Selling price that should be charged in order to make a profit of Ksh. 3,600,000 at the current level of sales.

(8 marks)

(b) Rama Limited manufactures and sells two types of products, M and N, using two types of raw materials, P and Q.

The following estimates relate to the month of December 2022.

(I) Expected sales:

Product	Units	Selling price
M	1,500	50
N	1,100	75

(II) Standard material requirements per unit:

Material	Product M	Product N
P (kg)	5	1
Q (kg)	2	3

(III) Cost of materials per kg.

Material	Ksh.
P	25
Q	40

(IV) Raw materials inventory.

	P kg.	Q kg.
1 December 2022	100	190
31 December 2022	110	185

Prepare:

    (i)   sales budget in shillings;

    (ii)   production budget in units;

    (iii)   material usage budget in units;

    (iv)   material purchases budget in shillings.

                                                    (12 marks)

7.   (a)   Lamek Limited intends to invest Ksh. 4,000,000 in project Z. The expected net cash inflows from the project are as follows.

Year	Expected net cash inflows Ksh.
1	1,200,000
2	1,800,000
3	1,900,000

The cost of capital is 10%.

    (i)   Calculate the internal rate of return (IRR) of the project using discounting rates of 10% and 12%.

    (ii)   Advise the management on whether to invest in the project or not.

                                                    (10 marks)

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(b) Tapa Limited manufactures product P_x in three factories; F_1, F_2 and F_3. The quantities available in each of the factories is as follows:

Factory	F_1	F_2	F_3
Quantity available (units)	200	120	230

The company supplies the product to three warehouses; W_1, W_2 and W_3. The quantities requested by each of the warehouses is as shown below.

W1	W2	W3
Units	Units	Units
150	300	100

The cost, in shillings, of transporting one unit of the product from each of the factories to the warehouses is as follows:

Warehouse / Factory	Transportation cost		
	W_1	W_2	W_3
F_1	1,000	1,200	1,500
F_2	1,600	800	1,000
F_3	600	900	1,200

Using the least cost method, determine the:

(i) optimal schedule of transportation that minimizes transportation costs.

(ii) minimum transportation cost.

(10 marks)

MA   FD

- Internal use External use
- use box monitor ad - the
  no pem
- flowup arrow - historical

Narrow   Broad