3103
2903/305
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MANAGERIAL ACCOUNTING
July 2017
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

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

MODULE 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.
Candidates should answer the questions in English.

This paper consists of 8 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) Juma is considering investing in one of the investments; X, Y and Z. The returns on the investments will depend on the prevailing business conditions; good, moderate or poor. The estimated probabilities of the good, moderate and poor conditions are 0.3, 0.5 and 0.2, respectively.

The following are the expected returns of the investment in thousands of shilling.

Investment	Good	Moderate	Poor
X	1,400	1,000	(500)
Y	1,500	1,300	(800)
Z	1,200	1,100	300

(i) Draw a decision tree from the information above.

(ii) Advise Juma on the investment to choose, based on the result in (i) above.

(8 marks)

(b) Nairaa Limited intends to invest in either project A or project B. The following estimates relate to the projects:

	Project A (Ksh)	**Project B (Ksh)**
Cash outlay	8,000,000	8,200,000
Expected cash inflows:		
Year		
1	2,000,000	4,000,000
2	3,000,000	3,000,000
3	4,500,000	3,000,000
4	2,500,000	2,000,000
5	2,000,000	2,000,000

The company's cost of capital is 12%.

(i) For each project, determine the:

I. Net Present Value (NPV);
II. Probability Index (PI).

(ii) Advise the management on the project to invest in, based on the probability index.

(12 marks)

2. (a) Explain **four** differences between Financial Accounting and Management Accounting.
(8 marks)

(b) Pectagon Limited manufacturers and sells a single product. The following is the income statement of the firm for the current year.

	Ksh	Ksh
Sales (400,000 units)		9,000,000
Cost of sales:		
Direct materials	800,000	
Direct labour	900,000	
Direct expenses	400,000	
Production overheads:		
Variable	600,000	
Fixed	1,200,000	3,900,000
Gross profit		5,100,000
Less: Fixed administrative expenses	3,600,000	
Variable selling expenses	300,000	3,900,000
Net profit		1,200,000

(i) Determine the:

I. total contribution;
II. contribution per unit;
III. break even point in units;
IV. break even point in shillings.

(ii) The firm intends to reduce the selling price to Ksh 20 per unit in the following year. This is expected to increase the sales volume by 15%. Determine the new:

I. total contribution;
II. break even point in units.

(iii) Advise the management on whether to reduce the selling price or not.
(12 marks)

3. (a) Explain **four** characteristics of a simple queue. (8 marks)

(b) The following information shows different output levels and the corresponding production costs incurred by Jumla Manufacturers.

Output (x) (000's of units)	**Production costs (y) (Ksh 000's)**
20	170
30	230
50	260
70	340
110	460
140	530

Determine the:

(i) regression line, $y = a + bx$, using least squares method.
(ii) total production cost, if the output is 120,000 units.

(12 marks)

4. (a) The following is the budgeted income statement of Zetu Manufacturers for the year ending 31 December 2018.

	Ksh	Ksh
Sales (120,000 units)		2,160,000
Less production costs:		
Direct materials	252,000	
Direct labour	384,000	
Direct expenses	72,000	
Variable production overheads	144,000	
Fixed production overheads	420,000	1,272,000
Gross profit		880,000
Less: Fixed administration overhead	540,000	
Variable sales commission	108,000	648,000
Net profit		240,000

The firm is experiencing a major breakdown in the plant in one of the factories. The firm estimates a production and sale of 90,000 units in the year ending 31 December 2018 due to the breakdown. The fixed production overheads will reduce by one-third.

Prepare a revised budgeted income statement for the year ending 31 December 2018.

(8 marks)

(b) Soka Limited manufactures three products; A, B and C. The following information relates to the products:

	Product A	Product B	Product C
Maximum monthly sales (units)	1,500	2,000	600
Per unit:	Ksh	Ksh	Ksh
Selling price	53	96	70
Direct materials	12	24	18
Direct labour	15	30	20
Variable production overheads	6	12	8

- The fixed administration expenses are Ksh 50,000 per month.
- Labour hours in the coming month will be limited to 1,200 hours.
- Labour rate of pay is Ksh 60 per hour.

(i) For each product, determine the:

I. contribution per unit;
II. contribution per labour hours.

(ii) Rank the products in order of priority.

(iii) Determine the:

I. optimal production mix;
II. net profit for the month under the optimal production mix.

(12 marks)

5. (a) Explain **four** methods of transfer pricing. (8 marks)

(b) Meto Manufacturers produces two products; Citax and Ditax. The following estimates have been obtained for the year ending 31 December 2018.

	Citax	Ditax
Sales (units)	150,000	200,000
Selling price per unit (Ksh)	50	40
Finished goods (units)		
1 January 2018	18,000	31,000
31 January 2018	24,000	19,000
Raw materials per unit (kg)		
M1 (Ksh 5 per kg)	0.2	0.3
M2 (Ksh 7 per kg)	0.4	0.1

Prepare:

(i) sales budget in shilling.

(ii) production budget in units.

(iii) raw material requirements budget in kilograms.

(iv) raw materials purchases budget in shillings.

(12 marks)

6. (a) The arrival of patients at Saba Medical Centre follows a Poisson distribution, with a mean arrival rate of 5 patients per hour. The consultation service to the patients is exponentially distributed with a mean service time of 10 minutes.

Calculate the:

(i) expected number of patients in the system.

(ii) expected time spent in the system.

(iii) expected number of patients in the queue.

(iv) expected time a patient waits in the queue.

(8 marks)

(b) Gento Limited manufactures a product in three factories; F1, F2 and F3. The product is distributed in three locations; A, B and C.

Factories	**Supply (units)**
F1	6,500
F2	7,600
F3	5,900

Location	**Demand (units)**
A	8,500
B	4,700
C	6,800

The following are the transportation cost per unit in shillings, from the factories to the locations.

	A	B	C
F1	60	30	10
F2	50	70	90
F3	80	20	40

Using the North-West corner rule:

(i) prepare a transportation schedule.

(ii) determine the minimum cost of transportation, based on the results in (i) above.

(12 marks)

7 (a) Porta Limited intends to contract companies; A, B, C and D to undertake projects; I, II, III and IV. Each company can only be assigned one project.

The following table shows the quotations from the companies, in million shillings, for the projects:

	Company			
	A	**B**	**C**	**D**
Project:				
I	12	17	13	8
II	25	20	15	9
III	15	23	24	19
IV	14	19	24	12

(i) Assign the projects to the companies in order to minimise the costs.

(ii) Determine the total minimum cost.

(10 marks)

(b) Remo Limited manufactures room heaters. The annual production is 4,000 units which is 80% of the factory's capacity. Each room heater is sold at Ksh 3,000.

The following are the production costs for each room heater:

	Ksh
Direct materials	400
Direct labour	600
Variable factory overheads	150

Fixed administration and selling costs are Ksh 3,500,000 per annum.

The firm has received an offer to sell 1,000 room heaters to Belta Hotel at a price of Ksh 2,000 each. If the offer is accepted, it will utilize the extra capacity.

(i) Using marginal costing approach, prepare:

I. current income statement.
II. income statement if the offer is accepted.

(ii) Advise the management on whether to accept the offer or not.

(10 marks)

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