



# **MAASAI MARA UNIVERSITY**

## **REGULAR UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR FOURTH YEAR FIRST SEMESTER**

### **SCHOOL OF BUSINESS AND ECONOMICS BACHELOR OF COMMERCE**

**COURSE CODE: BCM 4104**

**COURSE TITLE: MANAGERIAL ACCOUNTING**

**DATE: 11<sup>TH</sup> DECEMBER 2019**

**TIME: 1100 – 1300 HRS**

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#### **INSTRUCTIONS TO CANDIDATES**

1. Answer Question **ONE** and any other **THREE** questions
2. Do NOT write on this Question paper

*This paper consists of 5 printed pages. Please turn over.*

## QUESTION ONE

Chuma Moto prepares its budget for the year every 30<sup>th</sup> June. In relation to total costs, the company estimates that the labour hours influence the level of total costs ( $y=a+bx$ ;  $y$ -total costs,  $a$  - fixed costs,  $b$  - is the variable cost per unit and  $x$  - level of activity). The following data relates to the year ending 30<sup>th</sup> June 2019:

Month	LabourHrs ('000)	Total Costs ('000)	Month	LabourHrs ('000)	Total Costs ('000)
17-Jul	340	6400	18-Jan	260	5000
17-Aug	300	6200	18-Feb	260	5000
17-Sep	340	6200	18-Mar	310	5300
17-Oct	390	5900	18-Apr	350	5500
17-Nov	420	5000	18-May	430	5800
17-Dec	320	5300	18-Jun	480	6800

### Required:

- a) Estimate the cost function of the company using:
  - i) High-low method **(4 marks)**
  - ii) Linear regression **(4 marks)**
- b) Calculate the total costs in the following situations if 550 labour hours are used **(2 marks)**
- c) If the company incurs total costs of sh. 10,000,000 estimate the labour hours applied **(2 marks)**
- d) Aberdeen Company Ltd. is a manufacturing company which produces and sells a single product known as Tumbo<sub>1</sub> at a price of Sh.10 per unit. The company incurs a variable cost of Sh.6 per unit and fixed costs of Sh.400,000. Sales are normally distributed with a mean of 110,000 units and a standard deviation of 10,000 units. The company is considering producing a second product, Tumbo<sub>2</sub> to sell at Sh.8 per unit and incur a variable cost of Sh.5 per unit with additional fixed costs of Sh.50,000. The demand for Tumbo<sub>2</sub> is also normally distributed with a mean of 50,000 units and standard deviation of 5,000 units. If Tumbo<sub>2</sub> is added to the production schedule, sales of Tumbo<sub>1</sub> will shift downwards to a mean of

85,000 units and standard deviation of 8,000 units. The correlation coefficient between sales of Tumbo<sub>1</sub> and Tumbo<sub>2</sub> is -0.9.

**Required:**

- i) The company's break-even point for the current and proposed production schedules **(5 marks)**
- ii) The coefficient of variation for the two proposals. **(6 marks)**
- iii) Based on your computation's in (i) and (ii) above advise the company on whether to add T<sub>2</sub> to its production schedule. **(2 marks)**

**QUESTION TWO**

a) Standards are important in the management of costs. In respect to standards, explain three standards that managerial accountants deal with. **(3 Marks)**

b) KaramboLtd manufactures an oil product whose standard variable cost is given below:

Direct materials (2 kg @ Sh 3)	6
Direct labour (0.75 hours @ Sh 4)	3
Variable overheads	1

The company treats fixed costs as period costs and therefore they are not charged to products. The following information relates to the month of March 2019.

	1/3/2019	31/3/2019
	Sh	Sh
Stocks (all at standard cost)		
Raw materials	12,000	6,000
Finished goods	36,000	42,500

The following information is available for the month of March 2019:

	Sh
Sales @ Sh 20 per unit	200,000
Material purchases @ Sh 3.50 per kg	42,000
Direct labour cost (8000 hours)	30,000
Variable overheads	12,000
Material price variance (adverse)	21,000

The management is wondering whether they could have performed better.

**Required:** Calculate the following variances in each case stating two possible causes of the following variances:

- a) Material usage variance **(3 Marks)**
- b) Labour rate variance **(3 Marks)**
- c) Labour efficiency variance **(2 Marks)**
- d) Variable overhead expenditure variance **(2 Marks)**
- e) Variable overhead efficiency variance **(2 Marks)**

**QUESTION THREE**

Due to comprehensive bargaining agreement, the wage rates for skilled workers are to increase by 50% over the budget figures. There is a shortage of such skilled workers and it takes over a year to train new recruits adequately. The managing director has asked you for advice as to which order of priority on the product range would give best use of the skilled resources available. The cost of unskilled labour of which there is no shortage will go up by 20% over the budget. The original budget figures for the next period before allowing for the increase in labour cost detailed above were as follows;

<b>Product</b>	<b>V</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
Maximum production (Units)	3000	4000	6000	7000	9000
Selling price per Unit	16	15	18	15	30
<b>Variable Costs per Unit:</b>					
Materials	3	5	4	7	6
Skilled labour (sh. 4 per hour)	4	4	6	2	8
Unskilled labour (sh. 2 per hour)	2	2	1	1	4

Variable overheads are recovered at the rate of sh. 1 per labour hour. The skilled labour available amounts to 30000 hours in the period and there are fixed costs of sh. 22,800.

**Required:**

- a) Calculate the product mix that maximizes profits **(10 Marks)**
- b) Discuss the uses of CVP analysis to management accountants **(3 Marks)**
- c) Differentiate between managerial accounting & cost accounting **(2 Marks)**

#### QUESTION FOUR

a) A company produces to order and carries no inventory as a result. Its demand function is estimated to be  $P = 100 - 2Q$  (P- selling price/unit, Q- quantity demanded in thousands of units)

Its cost function is estimated to be  $C = Q^2 + 10Q + 500$  (C-total cost in thousands and Q is quantity demanded in thousands of units)

#### Required:

- i) Calculate the output in units that will maximize total profit, calculate the corresponding unit selling price, total profit and total sales **(4 Marks)**
  - ii) Calculate the output in units that will maximize total revenues and to calculate the corresponding unit selling price, total loss and total sales revenue **(4 Marks)**
- b) The following data relates to the operations of a manufacturing organization. The direct labour needed to make the first machine is 1000 hours and the learning curve is 80%. The direct labour cost is sh. 5 per hour and direct materials cost sh. 1800 per machine while the fixed cost for either size order is sh. 8000.

**Required:** Calculate the average unit cost of making:

- i) 4 machines **(2 Marks)**
- ii) 8 machines **(2 Marks)**
- iii) What accounting and project management areas can learning curves be applied? **(3 Marks)**

#### QUESTION FIVE

Clearly explain the following as used in managerial accounting. Give examples where appropriate and be clear in your explanations.

- a) Target costing **(3 Marks)**
- b) Value chain analysis **(3 Marks)**
- c) Learning curve **(3 Marks)**
- d) Standard costing **(3 Marks)**
- e)  $R^2$  **(3 Marks)**

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