The Management University of Africa

MUA

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UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF MANAGEMENT AND LEADERSHIP

BML 212/BML 300: **COST ACCOUNTING**

DATE: **4TH APRIL 2025**

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided.**

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

ALPHA MANUFACTURING COMPANY'S COSTING DILEMMA

Alpha Manufacturing produces three products: Product A, Product B, and Product C. The company is currently using absorption costing but considering switching to Activity-Based Costing (ABC) to better allocate overheads. The following data is provided for the quarter:

Item	Product A	Product B	Product C
Units produced	1,500	2,500	3,500
Direct labor hours (DLH) per unit	6	5	4
Machine hours (MH) per unit	3	5	7
Direct material cost per unit	$60	$50	$45
Direct labor cost per unit	$40	$35	$30

Overhead costs are as follows:

- Setup Costs: $50,000 (allocated based on setups)
- Machine Maintenance: $75,000 (allocated based on machine hours)
- Inspection Costs: $30,000 (allocated based on inspections)

The number of setups and inspections:

- Product A: 8 setups, 15 inspections
- Product B: 12 setups, 20 inspections
- Product C: 18 setups, 25 inspections

Required:

a) Calculate the total overhead cost allocated to each product using absorption costing. **(5 marks)**

b) Recalculate the overhead cost per product using Activity-Based Costing (ABC) with detailed allocation for setup costs, machine maintenance, and inspection costs. **(5 marks)**

c) Evaluate the impact of shifting from absorption costing to ABC on product profitability. **(5 marks)**

d) Assess the total cost per unit for each product under ABC and calculate the new break-even point in units for each product if the fixed costs are $180,000 and the selling prices are $180, $150, and $130, respectively. **(5 marks)**

e) Evaluate whether Product C should be discontinued based on ABC data and your break-even calculations. What other qualitative factors should management consider before making a decision? **(5 marks)**

QUESTION TWO

a) A manufacturing company reports the following production and cost data for three consecutive periods:

At 4,000 units: Total costs $100,000

At 6,500 units: Total costs $140,000

At 9,000 units: Total costs $195,000

Required:

Using the high-low method, calculate:

i. The variable cost per unit **(2 Marks)**

ii. The total fixed costs **(1 Marks)**

iii. Compare high-low method with regression analysis. **(2 marks)**

b) Assess the advantages of zero-based budgeting over incremental budgeting, and compute a zero-based budget for a department that plans activities for next year using the following data:

Activity 1: Expected cost $50,000 (required)

Activity 2: Expected cost $30,000 (optional)

Activity 3: Expected cost $20,000 (additional, non-critical) **(5 marks)**

c) XYZ Ltd. has incurred the following costs for a production batch of 3,000 units:

- Direct materials: $70,000
- Direct labor: $40,000
- Overheads: $30,000

Required:

i. Using a job-order costing system, calculate the unit cost for the batch **(2 marks)**

ii. Assess how batch costing applies in industries with custom production orders. **(3 marks)**

QUESTION THREE

a) A company operates with fixed costs amounting to $200,000 and maintains a contribution margin ratio of 45%. The company aims to achieve a net profit of $100,000 for the fiscal year.

Required:

i. Calculate the total sales revenue required to reach the target profit. **(2 marks)**

ii. Assuming the company expects to incur additional variable costs of $30,000 during this period, adjust your calculations to account for these costs and determine the new required sales revenue **(2 marks)**

iii. Assess how fluctuations in the contribution margin ratio could affect the sales revenue target. **(1 Mark)**

b) Classify the following costs into fixed, variable, or semi-variable, and explain how each would behave at different production levels:

i. Factory rent

ii. Utilities cost (fixed charge plus per-unit consumption)

iii. Direct labor cost

iv. Raw material cost **(5 marks)**

c) XYZ Company which uses a process costing system has provided you with the following Data:

Units started: 10,000

Units completed: 7,000

Units in process (50% complete): 3,000

Total production costs: $200,000

Required:

i. Calculate the equivalent units of production. **(3 marks)**

ii. Calculate the total cost per unit for a product. **(2 marks)**

QUESTION FOUR

a) A product sells for $90 per unit. Variable costs per unit are $60, and fixed costs total $180,000.

Required:

Calculate

i. The contribution margin per unit, **(1.5 marks)**

ii. The contribution margin ratio, and **(1.5 marks)**

iii. The break-even point in both units and sales revenue. **(2 marks)**

b) ABC ltd has provided you with data below from their operations.

Standard material cost: $50 per unit

Actual material cost: $55 per unit

Quantity purchased: 3,000 units

Required:

i. Assess the significance of variance analysis for performance measurement **(3 Marks)**

ii. Calculate the material price variance **(2 Marks)**

c) Define responsibility accounting and evaluate its application in managing cost centers, profit centers, and investment centers. Provide examples of each. **(5 marks)**

QUESTION FIVE

a) A company's EOQ model yields an optimal order quantity of 2,000 units. The company operates 350 days a year, with an annual demand of 10,000 units.

Required:

i. Calculate the number of orders placed each year and the average time between orders. **(3 marks)**

ii. Evaluate the cost trade-offs involved in EOQ calculations. **(2 marks)**

b) The following data relates to Romulus Incorporated., Standard labor hours: 2 hours per unit

- Actual labor hours worked: 5,500 hours
- Standard rate per hour: $15
- Actual rate per hour: $17

Required:

i. Calculate labor variances **(3 Marks)**

ii. Explain the significance of labor variances in evaluating organizational performance **(2 Marks)**

c) The following data has been provided in regard to a manufacturing company.

Units purchased: 1,000 at $10 each

Units sold: 800

Closing inventory: 200 units

Required:

i. Compare First in First Out (FIFO) and Last in First Out (LIFO) inventory valuation methods **(2 marks)**

ii. Calculate the value of ending inventory using both methods given the above data. **(3 marks)**

QUESTION SIX

a) A construction company is working on a long-term contract. In the first year, it has completed 40% of the project, and the total contract value is $1,500,000.

Required:

i. Using contract costing, calculate the amount of revenue to be recognized in the first year **(3 marks)**

ii. Assess the importance of progress payments in contract accounting. **(2 marks)**

b) You have been provided with the following data:

Selling price: $25 per unit

Variable cost: $15 per unit

Fixed costs: $100,000

Required: Using marginal costing, calculate the total contribution margin and the number of units that must be sold to cover both fixed costs and a target profit of $50,000 **(5 marks)**

c) Assess the behavioral impacts of using tight (unattainable) versus loose (easily attainable) standards in standard costing systems. How might such standards affect employee performance and motivation? Provide recommendations for setting appropriate standards. **(5 marks)**