

**PAPER – 12 : MANAGEMENT ACCOUNTING**

**SUGGETSED ANSWER**

**SECTION – A**

**1.**

- (i) (C)
- (ii) (C)
- (iii) (B)
- (iv) (B)
- (v) (D)
- (vi) (D)
- (vii) (C)
- (viii) (C)
- (ix) (D)
- (x) (C)
- (xi) (D)
- (xii) (D)
- (xiii) (B)
- (xiv) (D)
- (xv) (A)

**SECTION - B**

**2. (a)**

| <b>The basis of comparison</b> | <b>Cost Accounting</b>   | <b>Management Accounting</b>  |
|--------------------------------|--|---|
| Meaning                        | Cost accounting revolves around cost computation, cost control, and cost reduction.                | Management accounting helps management make effective decisions about operations of the business.     |
| Application                    | Cost accounting prevents a business from incurring costs beyond budget.                            | Management accounting offers a big picture of how management should strategize.                       |
| Scope                          | The scope is much narrower.  | The scope is much broader.  |
| Measuring grid                 | Quantitative.  | Quantitative and qualitative.   |
| Sub-set                        | Cost accounting is one of the many sub-sets of management accounting.                              | Management accounting is the universal set.   |
| Basis of decision making       | The task of decision making very less. Even if there is some, it is based on historic information. | Historic and predictive information is the basis of decision-making.                                  |
| Statutory requirement          | Statutory audit of cost accounting is a requirement in some Specified industries.                  | The audit of management accounting has no statutory requirement.                                      |
| Dependence                     | Cost accounting isn't dependent on management accounting to be successfully implemented.           | Management accounting is dependent on both cost & financial accounting for successful implementation. |
| Used for                       | Management, shareholders and vendors   | Only for management   |

2. (b)

(i)

| Cost Pool                           | Cost (₹)<br>[A] | Cost driver<br>[B]                                | Cost Driver Rate (₹)<br>[C] = [A] / [B] |
|-------------------------------------|-----------------|---|---|
| Machine Department Expenses         | 1848000         | Machine hours<br>(132000 hrs.)                    | 14.00                                   |
| Assembly Department Expenses        | 672000          | Assembly hours<br>(42000 hours)                   | 16.00                                   |
| Setup Cost                          | 90000           | No. of Production Runs (450)                      | 200.00                                  |
| Stores Receiving Cost               | 120000          | No. of Requisitions Raised on<br>the Stores (120) | 1000.00                                 |
| Order Processing and Dispatch       | 180000          | No. of Customers Orders<br>Executed (3750)        | 48.00                                   |
| Inspection and Quality Control Cost | 36000           | No. of Production Runs (450)                      | 80.00                                   |
| Total (₹)                           | 2946000         |   |   |

Number of Production Run is = (150 + 120 + 180) = 450

(ii) Statement Showing Overhead Costs Allocation of Product P, Q and R.

| Particulars of Cost                 | Cost Driver                                 | PRODUCTS |          |          |              |
|-------------------------------------|---|----------|----------|----------|--------------|
|                                     |   | P<br>(₹) | Q<br>(₹) | R<br>(₹) | Total<br>(₹) |
| Machine Department Expenses         | Machine Hours                               | 420000   | 672000   | 756000   | 1848000      |
| Assembly Department Expenses        | Assembly Hours                              | 240000   | --       | 432000   | 672000       |
| Setup Cost                          | No. of Production Runs                      | 30000    | 24000    | 36000    | 90000        |
| Stores Receiving Cost               | No. of Requisitions<br>Raised on the Stores | 40000    | 30000    | 50000    | 120000       |
| Order Processing and Dispatch       | No. of Customers<br>Orders Executed         | 60000    | 48000    | 72000    | 180000       |
| Inspection and Quality Control Cost | No. of Production Runs                      | 12000    | 9600     | 14400    | 36000        |
| Overhead                            |   | 802000   | 783600   | 1360400  | 2946000      |

3.

**Contribution per Room-day:**

| Particulars               | 2023-24 | 2024-25 |
|---------------------------|---------|---------|
| No. of Room days          | 8000    | 8000    |
| Room tariff per day       | ₹ 5000  | ₹ 5500  |
| Less: Variable Cost       | ₹ 2000  | ₹ 2200  |
| Contribution Per Room-day | ₹ 3000  | ₹ 3300  |

**Total Fixed Cost:**

| Particulars                                       | 2023-24<br>(₹) | 2024-25<br>(₹) |
|---|----------------|----------------|
| Fixed Cost - Standard Rooms                       | 6000000        | 6600000        |
| Apportioned cost of Hotels Administrative Charges | 10000000       | 11100000       |
| Total Fixed Cost                                  | 16000000       | 17700000       |

**Cost of Housekeeping staff**

| Particulars                         | 2023-24<br>(₹) | 2024-25<br>(₹) |
|-------------------------------------|----------------|----------------|
| Cost of Housekeeping staff per year | 720000         | 756000         |

(i)

**Profitability of Garlic Hotels**

| Particulars   | 2023-24<br>(₹) | 2024-25<br>(₹) |
|---|----------------|----------------|
| Total Contribution                                      | 24000000       | 26400000       |
| Less: Fixed Cost - Standard Rooms                       | 6000000        | 6600000        |
| Less: Apportioned cost of Hotels Administrative Charges | 10000000       | 11100000       |
| Less: Salary of Housekeeping staff                      | 10800000       | 11340000       |
| Total Profit  | (-)2800000     | (-)2640000     |

**(ii) Break-Even Room Days:**

Break Even Point (BEP) when Room days are less than 7500

$$\text{BEP} = (1,77,00,000 + 7,56,000 \times 10) / 3300$$

7655 Room days

As 7654 room days falls in second slab (7500 to 9500 room days), therefore, 7655 room days is not the Break Even Point as evident from above profitability statement.

Break Even Point (BEP) when Room days are between 7500 to 9500

$$\text{BEP} = (1,77,00,000 + 7,56,000 \times 15) / 3300$$

8800 Room days

As 8800 room days falls within 7500 to 9500 room days, therefore, 8800 room days is the Break-Even Point.

**(iii) Minimum Selling Price to continue Standard Room segment at existing occupancy of Rooms:**

Standard Room segment at existing occupancy of Rooms = (Avoidable Fixed Cost + Housekeeping staff Salary) / Contribution per unit

$$8000 = (66,00,000 + 7,56,000 \times 15) / (\text{Selling Price Per Unit} - \text{Variable Cost Per Unit})$$

$$\text{Or } 8000 = 1,79,40,000 / (\text{Selling Price Per Unit} - 2200)$$

$$\text{Or } 8000 \text{ SPPU} - 1,76,00,000 = 1,79,40,000$$

$$\text{Or Selling Price Per Unit} = ₹ 4,442.50 \text{ OR } ₹ 4443$$

Present tariff of standard room is ₹ 5000.

Therefore, no increase in selling price is required.

4. (a)

(i)

**Profit per Unit in 2024-25.**

| Particulars                          | Per unit (₹) | Total (₹) |
|--------------------------------------|--------------|-----------|
| Selling Price Per Unit               | 200          | 4,00,000  |
| Less: Raw Material Cost Per Unit     | 100          | 2,00,000  |
| Less: Direct Labour Per Unit         | 30           | 60,000    |
| Less: Variable & Fixed Overhead Cost |              | 1,00,000  |
| Total Profit                         |              | 40,000    |
| Therefore, Profit Per Unit           | 20           |           |

(ii)

**Fixed Overheads and Variable Overheads in both the year:**

| Particulars                        | 2024-25 (₹) | 2025-26 (₹) |
|------------------------------------|-------------|-------------|
| Units Sold                         | 2000        | 3000        |
| Variable & Fixed Overhead Cost (₹) | 100000      | 120000      |

Therefore, Variable Cost Per Unit = Change in Total Cost / Change in Quantity

$$= 20000 / 1000 = ₹ 20/-$$

$$\text{Therefore, Fixed Overheads} = 100000 - 2000 \times 20 = ₹ 60000$$

| Particulars                     | 2024-25 (₹) | 2025-26 (₹)                     |
|---------------------------------|-------------|---------------------------------|
| Variable Overheads Per Unit (₹) | 20          | 20                              |
| Fixed Overhead (₹)              | 60000       | 54000<br>at 2025-26 price level |

**Contribution Per Unit in 2025-26**

| Particulars                       | Amount (₹) |
|-----------------------------------|------------|
| Selling Price Per Unit            | 200        |
| Less: Raw Material Cost Per Unit  | 100        |
| Less: Direct Labour Per Unit      | 36         |
| Less: Variable Overheads Per Unit | 20         |
| Contribution Per Unit             | 44         |

Target Profit Per Unit in 2025-26 is ₹ 20

Now, let's assume that X Units to be sold in 2025-26 in order to make same amount of Profit Per Unit.

Therefore,

$$X = (54000 + 20X) / 44$$

$$\text{Or } 44X = 54000 + 20X$$

$$\text{Or } 24X = 54000$$

$$\text{Or } X = 2250$$

Therefore, 2250 units to be sold in 2025-26 in order to make same amount of profit per unit.

4. (b)

**Statement showing cost reduction program envisaged (Reduction in fixed expenses product-wise)**

|     | Particulars                          | XB (₹)  | YB (₹)  |
|-----|--------------------------------------|---------|---------|
| (a) | Sale (₹)                             | 4000000 | 4800000 |
| (b) | Selling Price per unit (Revised) (₹) | 8000    | 9000    |
| (c) | Sales unit (a/b)                     | 500     | 533.33  |
| (d) | Previous fixed cost (given) (₹)      | 1000000 | 1500000 |
| (e) | New P/V Ratio (same as old) (Given)  | 25%     | 30%     |
| (f) | Break even sales                     | 3200000 | 3600000 |
| (g) | Revised fixed cost (e x f) (₹)       | 800000  | 1080000 |
| (h) | Reduction in fixed cost (d - g) (₹)  | 200000  | 420000  |

So, cost reduction program is required to be envisaged in previous level by ₹ 200000 in Mobile - XB and ₹ 420000 in Mobile - YB

5.

(i)

**Standard Cost Card (per unit)**

| Particulars         | (₹) |
|---------------------|-----|
| Direct Material     | 200 |
| Direct Labour       | 66  |
| Overheads           | 180 |
| Total Standard Cost | 446 |

Overhead rate =  $900000/60000 = ₹ 15$  per hour

(ii) **Material Costs Variances:**

Standard quantity for actual output = 4800 x 20 = 96000

**Statement showing the basic calculation for the computation of Material Cost Variances**

| SQ for AQ | SP | SQ x SP<br>(₹) | AQ     | AP   | AQ x AP<br>(₹) | AQ x SP<br>(₹) |
|-----------|----|----------------|--------|------|----------------|----------------|
| 96000     | 10 | 960000         | 100000 | 10.5 | 1050000        | 1000000        |

Material Cost Variances = 960000 - 1050000 = ₹ 90000 (A)

Material Usage Variances = 960000 - 1000000 = ₹ 40000 (A)

Material Price Variances = 1000000 - 1050000 = ₹ 50000 (A)

**Labour Cost Variances:**

Standard hour for actual output = 4800x12 = 57600

**Statement showing the basic calculation for the Computation for Labour Cost Variances:**

| SHforAQ | SR  | SH x SR<br>(₹) | AH    | AR | AH x AR<br>(₹) | AH x SR<br>(₹) |
|---------|-----|----------------|-------|----|----------------|----------------|
| 57600   | 5.5 | 316800         | 62000 | 5  | 310000         | 341000         |

Labour Cost Variance = 316800 - 310000 = ₹ 6800 (F)

Labour Efficiency Variances = 316800 - 341000 = ₹ 24200 (A)

Labour Rate Variances = 341000- 310000 = ₹ 31000 (F)

**Overhead Cost Variances:**

Budgeted Hours = ₹ 900000 / ₹ 15 = 60000

Note: All overheads are fixed.

**Statement showing the basic Calculation for the computation of Overhead Cost Variances:**

| SH for AQ | SR | SH x SR<br>(₹) | AH    | AR    | AH x AR<br>(₹) | AH x SR<br>(₹) | BH    | BH x SR<br>(₹) |
|-----------|----|----------------|-------|-------|----------------|----------------|-------|----------------|
| 57600     | 15 | 864000         | 60000 | 15.43 | 926000         | 900000         | 60000 | 900000         |

Fixed Overhead Efficiency Variance = 864000 - 900000 = ₹ 36000 (A)

Fixed Overhead Capacity Variance = 900000 - 900000 = ₹ 00

Fixed Overhead Expenditure Variance = 900000 - 926000 = ₹26,000 (A)

Total Fixed Overhead Cost Variance = 36000 + 00 + 26000 = ₹ 62000 (A)

6. (a)

**Basic Calculation**

| Material   | Standard for 640 kg. Output |          |          | Actual for 680 kg. Output |          |          |
|------------|-----------------------------|----------|----------|---------------------------|----------|----------|
|            | Qty. Kg.                    | Rate (₹) | Amt. (₹) | Qty. Kg.                  | Rate (₹) | Amt. (₹) |
| A          | 480                         | 50       | 24000    | 540                       | 60       | 32400    |
| B          | 320                         | 60       | 19200    | 260                       | 50       | 13000    |
| Total      | 800                         |          | 43200    | 800                       |          | 45400    |
| Less: Loss | 160                         | --       | --       | 120                       | --       | --       |
|            | 640                         |          | 43200    | 680                       |          | 45400    |

Standard Cost of actual output = ₹ 43200 x 680/640 = ₹ 45900

(i) Material Cost Variance = (45900 - 45400) = ₹ 500 (F)

(ii) Material Price Variance (MPV):

Material A = (50 - 60) x 540 = ₹ 5400 (A)

Material B = (60 - 50) x 260 = ₹ 2600 (F)

MPV ₹ 2800 (A)

(iii) Material Mix Variance (MMV):

A = 50 x (480 Kg. - 540 Kg.) = ₹ 3000 (A)

B = 60 x (320 Kg. - 260 Kg.) = ₹ 3600 (F)

MMV ₹ 600 (F)

(iv) Material Yield Variance = (680 - 640) x 43200/640 = ₹ 2700 (F)

OR

Material A = (510 - 480) x 50 = ₹ 1500 (F)

Material B = (340 - 320) x 60 = ₹ 1200 (F)

₹ 2700 (F)

6. (b)

(i)

**Production Budget (in units) for the year ended 31st March 2025**

| Particulars                    | Product M (₹) | Product N (₹) |
|--------------------------------|---------------|---------------|
| Budgeted sales (units)         | 28,000        | 13,000        |
| Add: Increase in closing stock | 320           | 160           |
| No. good units to be produced  | 28,320        | 13,160        |
| Post production rejection rate | 4%            | 6%            |
| No. of units to be produced    | 29,500        | 14,000        |

(ii)

**Purchase budget (in kgs and value) for Material Z**

| Particulars                                | Product M     | Product N  |
|--|---------------|------------|
| No. of units to be produced                | ₹ 29,500      | ₹ 14,000   |
| Usage of Material Z per unit of production | 5 kg.         | 6 kg.      |
| Material needed for production             | 1,47,500 kg.  | 84,000 kg. |
| Materials to be purchased                  | 1,63,889 kg.  | 88,421 kg. |
| Total quantity to be purchased             | 2,52,310 kg.  |            |
| Rate per kg. of Material Z                 | ₹ 72          |            |
| Total purchase price                       | ₹ 1,81,66,320 |            |

7. (a)

**Earnings After Tax (EAT):**

| Particulars                | Amount (₹) |
|----------------------------|------------|
| Total Cost per unit        | 20         |
| Selling price per unit     | 23         |
| Profit                     | 3          |
| EBIT                       | 1500000    |
| Less: Interest on 12% Bond | 120000     |
| EBT                        | 1380000    |
| Less: Tax @ 30% on 1380000 | 414000     |
| EAT                        | 966000     |

**Note:** Profit on sale of Asset is not from operation of the Company. Hence, the same is not considered in calculation NOPAT. So, it has been excluded here also.

**Cost of 12% Bond (Post Tax):**

|                                |   |      |
|--------------------------------|---|------|
| Rate of interest               | = | 12%  |
| Less: Tax Rate 30% (12% x 30%) | = | 3.6% |
| Effective cost of Bond         | = | 8.4% |

**Alternative:**

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| Interest on 12% Bond                 | ₹ 120000                          |
| Less: Tax savings (120000 x 30%)     | ₹ 36000                           |
| Interest Cost after tax savings      | ₹ 84000 (120000 – 36000)          |
| Therefore, Cost of 12% Bond post tax | = (84000 / 1000000) x 100 = 8.40% |

**Cost of Equity:**

Cost of Equity = Risk free rate of return +  $\beta$  x (Market rate of return – Risk free rate of return)  
 Therefore, Cost of Equity = 10 + 0.90 x (15 – 10) = 10 + 4.50 = 14.50%

**Weighted Average Cost of Capital (WACC):**

$$\text{WACC} = \{(1000000 / 1800000) \times 8.40\% + (800000 / 1800000) \times 14.50\% \}$$

$$= 4.67 + 6.44 = 11.11\%$$

**Cost of Capital Employed:**

|                      |           |
|----------------------|-----------|
| 12% Bond             | = 1000000 |
| Equity Share Capital | = 700000  |
| Reserve & Surplus    | = 100000  |
| Capital Employed     | = 1800000 |

Therefore, Cost of Capital Employed = Capital Employed x Weighted Average Cost of Capital (WACC) = 1800000 x 11.11% = ₹ 199980

**Economic Value Added (EVA):**

| Particulars                                  | Amount (₹) |
|--|------------|
| EAT  | 966000     |
| Add: Interest on 12% Bond net of tax savings | 84000      |
| NOPAT  | 1050000    |
| Less: Cost of Capital Employed               | 199980     |
| Economic Value Added (EVA)                   | 850020     |

**Comment:**

Positive EVA of ₹ 850020 indicates that M/s Aptamil Limited surpassed the expectation of its shareholders. It creates wealth for its shareholders.

**7. (b)****(i) Total time taken to produce 16 Units**

$$Y = 20(16) - 0.322 \times 16 = 20 \times 0.4095 \times 16 = 131.04 \text{ hours}$$

| Total Sales Value of 16 units of Pen | (₹)     |
|--------------------------------------|---------|
| Direct Material                      | 320.00  |
| Direct Labour                        | 786.24  |
| Variable overheads                   | 65.52   |
| Fixed overhead Apportioned           | 655.20  |
| Total cost                           | 1826.96 |
| Profit Mark - up (20 % on Cost)      | 365.39  |
| Total Sale Value                     | 2192.35 |
| Sale Price per Unit of Pen           | 137.02  |

(ii) **Total time taken to produce 36 units:**

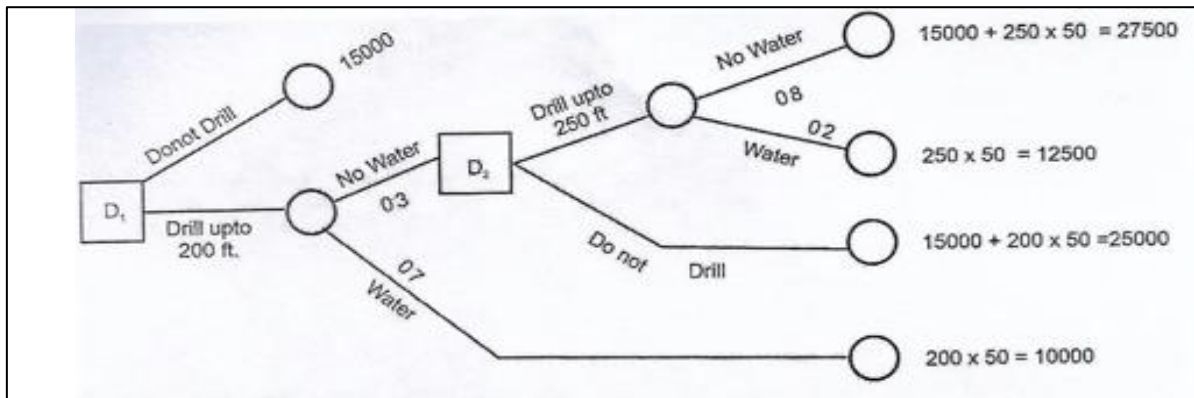
$$Y = 20(36) - 0.322 \times 36 = 20 \times 0.3154 \times 36 = 227.09 \text{ Direct Labour hours}$$

$$\text{Total time taken for produce next 20 units} = 227.09 - 131.04 = 96.05 \text{ hours}$$

| Total estimated sale value for 20 units | ₹       |
|---|---------|
| Direct Material                         | 400.00  |
| Direct Labour                           | 576.30  |
| Variable overheads                      | 48.03   |
| Fixed overhead apporportioned           | 480.25  |
| Total cost                              | 1504.58 |
| Profit Mark-up (20% on Cost)            | 300.92  |
| Total Estimated Sale                    | 1805.50 |
| Minimum quoted Sales Price per unit:    | 90.27   |

8. (a)

**Decision Tree analysis**



**Decision at the Point D<sub>2</sub>**

| (1) Decision             | (2) Event    | (3) Probability | (4) Cash out flow (₹) | (3) X (4) Expected Cash outflow (₹) |
|--------------------------|--------------|-----------------|-----------------------|-------------------------------------|
| (i) Drill up to 250 feet | (a) Water    | 0.2             | 12500                 | 2500                                |
|                          | (b) No Water | 0.8             | 27500                 | 22000                               |
|                          |              |                 | E M V = (Out flows)   | 24500                               |
| (ii) Do not Drill        |              |                 | E M V = (Out flows)   | 25000                               |

**Decision at the Point D<sub>1</sub>**

| (1) Decision            | (2) Event    | (3) Probability | (4) Cash out flow (₹) | (3) X (4) Expected Cash outflow (₹) |
|-------------------------|--------------|-----------------|-----------------------|-------------------------------------|
| (i) Drill up to 200feet | (a) Water    | 0.7             | 10000                 | 7000                                |
|                         | (b) No Water | 0.3             | 24500                 | 7350                                |
|                         |              |                 | E M V = (Out flows)   | 14350                               |
| (ii) Do not Drill       |              |                 | E M V = (Out flows)   | 15000                               |

The decision at D<sub>1</sub> is drill upto 200 feet.

**Comment:** The optimum strategy of the farm owner will be to:

- (i) Drill the tube well up to 200 feet and if water is not struck, then
- (ii) To drill up to 250 feet if necessary.



**8. (b)**

A responsibility accounting system helps organizational unit managers to conduct the five basic control functions. These basic Control Functions are as follows:

- (i) Preparing a plan (e.g., using budgets and standards) and use it to communicate output expectations and delegate authority.
- (ii) Gathering actual data classified in accordance with the activities and categories specified in the plan. The responsibility accounting system can be used to record and summarize data for each organizational unit.
- (iii) Monitoring the differences between planned and actual data at scheduled intervals. Responsibility reports for subordinate managers and their immediate supervisors normally include comparisons of actual results with flexible budget figures. In contrast, responsibility reports can provide comparisons of actual performance to the master budget.
- (iv) Exerting managerial influence in response to significant differences. Because of day-to-day contact with operations, unit managers should be aware of any significant variances before they are reported, identify the variance causes, and attempt to correct them. Top management, on the other hand, might not know about operational variances until it receives responsibility reports. By the time top management receives the reports, the problems causing the variances should have been corrected, or subordinate managers should have explanations as to why the problems were not or could not be resolved.
- (v) Continuing comparing data and responding; then, at the appropriate time, the process will begin again. Responsibility reports reflect the upward flow of information from operational units to company top management and illustrate the broadening scope of responsibility. Managers receive detailed information on the performance of their immediate areas of control and summary information on all organizational units for which they are responsible. Upper-level managers desiring more detail than is provided in summary reports can obtain it by reviewing the responsibility reports prepared by their subordinates.