

COST AND MANAGEMENT ACCOUNTING-PERFORMANCE APPRAISAL – STAGE-3

Marks

Q.2 (i) Allocation of costs to the activity cost pools:

| Activity cost pools | Assembling Units | Processing Orders | Supporting Customers | Rs. '000' | | |
|-------------------------------------|---------------------|----------------------|-------------------------|------------|--------------|----------|
| | | | | Others | Total | |
| Production overhead | 1,000 | 700 | 100 | 200 | 2,000 | 1 |
| Selling and administrative overhead | 120 | 540 | 300 | 240 | 1,200 | 1 |
| Total overhead costs | 1,120 | 1,240 | 400 | 440 | 3,200 | 1 |

(ii) Activity rates for the activity cost pools:

| | Total Cost (Rs.) | Total Activity | Activity Rate (Rs.) | |
|----------------------|------------------|----------------|---------------------|---|
| Assembling units | 1,120,000 | 1,000 units | 1,120 per unit | 1 |
| Processing orders | 1,240,000 | 250 orders | 4,960 per order | 1 |
| Supporting customers | 400,000 | 100 customers | 4,000 per customer | 1 |

(iii) Overhead cost attributable to 4 orders of 80 cabinets.

| | Activity Rate (Rs.) | Activity | ABC Cost (Rs.) | |
|----------------------|---------------------|------------|----------------|---|
| Assembling units | 1,120 | 80 units | 89,600 | 1 |
| Processing orders | 4,960 | 4 orders | 19,840 | 1 |
| Supporting customers | 4,000 | 1 customer | 4,000 | 1 |

(iv) Customer Margin:

| | Rs. | | |
|---------------------------------------|--------------|---------|---|
| Sales (80 units @ Rs.2,380) | 190,400 | | 1 |
| <u>Less: Costs</u> | | | |
| Direct materials (80 units @ Rs. 720) | 57,600 | } | 1 |
| Direct labour (80 units @ Rs.200) | 16,000 | | |
| <u>Overhead under ABC method:</u> | | | |
| Unit related overhead | 89,600 | | |
| Order related overhead | 19,840 | | |
| Customer related overhead | 4,000 | | |
| | | 187,040 | 1 |
| Customer margin | 3,360 | | |

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Q.3 (a) Statement of equivalent units:

| Units input | Particulars | Units Output | Material | | Labor | | Overhead | |
|-------------|------------------------------------------------------------|----------------|----------|---------------|-------|---------------|----------|---------------|
| | | | % | Units | % | Units | % | Units |
| 10,000 | Opening WIP units, completed and transferred to warehouse. | 10,000 | - | - | 40 | 4,000 | 40 | 4,000 |
| 100,000 | Unit completed and transferred to warehouse | 82,500 | 100 | 82,500 | 100 | 82,500 | 100 | 82,500 |
| | Closing WIP units | 7,500 | 100 | 7,500 | 50 | 3,750 | 50 | 3,750 |
| | Normal loss (5% of 100,000) | 5,000 | - | - | - | - | - | - |
| | Abnormal loss | 5,000 | 100 | 5,000 | 80 | 4,000 | 80 | 4,000 |
| 110,000 | Total | 110,000 | | 95,000 | | 94,250 | | 94,250 |
| 1 | | +1 | | +1 | | +1 | | +1 |

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(b) Statement of cost per equivalent unit and total cost:

| Particulars | Process | Material | Total Material | Labour & OH | Rs. |
|------------------------------------------------------------------------|----------------|----------------|----------------|----------------|--------------|
| | | | | | Total |
| Cost | 427,500 | 197,500 | 625,000 | 518,375 | |
| Less: Recovery from sale of 5,000 units @ 1.50 per unit of Normal loss | | 7,500 | 7,500 | | |
| Total Cost | 427,500 | 190,000 | 617,500 | 518,375 | |
| Equivalent units | | | 95,000 | 94,250 | |
| Cost per equivalent unit: Material | | | 6.50 | | 1 |
| Conversion | | | | 5.50 | 1 |
| Total | | | | | 12.00 |

Total cost of 92,500 completed units transferred to warehouse (Rs.):

| | | |
|-----------------------------------------------------------------------------|------------------|---|
| Cost of 10,000 completed opening units Rs.114000+(4000 units x 5.50) | 136,000 | 1 |
| Cost of 82,500 completed units @ Rs. 12.00 | 990,000 | 1 |
| Total cost of 92,500 completed Units | 1,126,000 | |
| Cost of 7,500 closing WIP units (7500 units x Rs.6.50)(3750 x 5.50) | 69,375 | 1 |
| Cost of 5,000 abnormal loss units (5000 units x Rs.6.50)(4000 units x 5.50) | 54,500 | 1 |
| | 1,249,875 | |

(c) Process Account:

| Particulars | Units | Rs. | Particulars | Units | Rs. |
|--------------------------|----------------|------------------|-----------------|----------------|------------------|
| Opening WIP | 10,000 | 114,000 | Normal loss | 5,000 | 7,500 |
| Units received | 100,000 | 427,500 | Completed units | 92,500 | 1,126,000 |
| <u>Expenses incurred</u> | | | | | |
| Materials | | 197,500 | Closing WIP | 7,500 | 69,375 |
| Labour | | 345,575 | Abnormal loss | 5,000 | 54,500 |
| Overhead | | 172,800 | | | |
| | 110,000 | 1,257,375 | | 110,000 | 1,257,375 |

3

+2

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Q.4 (a) Following are the general criticism against standard costing:

- (i) It is usually suitable to the companies where processes or jobs are repetitive.
- (ii) It requires a lot of input data base which can be expensive.
- (iii) Accuracy of these standards are affected by inflation, technological changes, economical and political factors.
- (iv) Any evaluation and pricing will be meaningless if these are not accurately framed.
- (v) It needs to be revised and updated as and when required.
- (vi) Variance analysis are the postmortem of past events. It cannot be useful in future in different/ un-identical situations.
- (vii) It involves forecasting and subjective judgments which have inherent possibilities of arguments, errors and mistakes.

(Stating 6 points @ 1 mark)

6

(b) (i) Missing figures of direct labour hours:

| | |
|------------------------------------------------------------------------------------------------------|---|
| Variable overhead efficiency variance = Standard variable overhead per hour (Std hrs. - Actual hrs.) | 1 |
| Rs.(15,000) = Rs. 30 (6,000 hours - Actual hours) | |
| Rs.30 x Actual hrs = Rs. 180,000 + Rs 15,000 | |
| Actual hrs = 6,500 | 1 |

(ii) Missing figures of direct labour hour rate:

| | |
|----------------------------------------------------------------|---|
| Labour rate per hour = Direct labour cost / Total actual hours | |
| = Rs.279,500 / 6,500 hours | |
| = Rs.43 | 2 |

(iii) Total standard and actual costs:

| | Rs. | |
|------------------------------------------|-----------|---|
| Direct material (6,000 units @ Rs.120) | 720,000 | |
| Direct labour (6,000 hours @ Rs.44) | 264,000 | |
| Variable overheads (6,000 hours @ Rs.30) | 180,000 | |
| Total standard cost | 1,164,000 | 2 |

| | | |
|----------------------------------------|-----------|---|
| Direct material (126,700Kgs @ Rs.5.70) | 722,190 | |
| Direct labour (6,500 hours @ Rs.43) | 279,500 | |
| Variable overheads | 204,750 | |
| Total actual cost | 1,206,440 | 2 |

(iv) Material price and usage variances:

| | |
|------------------------------------------------------------------------|---|
| Price variance = Actual quantity consumed x (Std price - Actual Price) | |
| = 126,700 Kgs x (Rs. 6 - Rs. 5.70) | |
| = 126,700 Kgs x (Rs. 0.30) | |
| = 38,010 Favourable | 2 |

| | |
|--------------------------------------------------------------------|---|
| Usage variance = Standard Price x (Std Quantity - Actual Quantity) | |
| = Rs. 6 x (120,000 - 126,700) | |
| = Rs. 6 x (- 6,700) | |
| = Rs. 40,200 Unfavourable | 2 |

(v) Labour rate and efficiency variances:

| | |
|-------------------------------------------------------------------|---|
| Labour rate variance = Actual hours (Standard rate - Actual rate) | |
| = 6,500 x (Rs. 44 - Rs. 43) | |
| = 6,500 x (1) | |
| = Rs. 6,500 Favourable | 2 |

| | |
|---------------------------------------------------------------------------------------|---|
| Labour efficiency variance = Standard rate per hour x (Standard hours - Actual hours) | |
| = Rs. 44 x (6,000 hours – 6,500 hours) | |
| = Rs. 44 x (- 500 hours) | |
| = Rs. 22,000 Unfavourable | 2 |

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(vi) Variable overhead efficiency and budget variances:

$$\begin{aligned} \text{Variable overhead eff. variance} &= \text{Standard variable overhead per hour} \times \\ &\quad (\text{Standard hours for Actual output} - \text{Actual hours}) \\ &= \text{Rs. } 30 \times (6,000 \text{ hours} - 6,500 \text{ hours}) \\ &= \text{Rs. } 30 \times (-500 \text{ hours}) \\ &= \text{Rs. } 15,000 \text{ Unfavourable} \end{aligned}$$

2

$$\begin{aligned} \text{Budget variance} &= \text{Budgeted variable overhead} - \text{Actual variable overhead} \\ &= (6,500 \times \text{Rs. } 30) - \text{Rs. } 204,750 \\ &= \text{Rs. } 195,000 - \text{Rs. } 204,750 \\ &= \text{Rs. } 9,750 \text{ Unfavourable} \end{aligned}$$

2

Q.5 (i) Variable production cost budget:

| | Rs. '000' | | | |
|--------------------------------------------------------------|-----------|-------|-------|--------|
| | April | May | June | Total |
| Raw materials * | 3,024 | 3,321 | 4,050 | 10,395 |
| Direct labour and variable overheads @ Rs. 130 on prod units | 4,550 | 4,375 | 5,850 | 15,275 |
| | 7,574 | 8,196 | 9,900 | 25,670 |
| | 1 | +1 | +1 | +1 |

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* Calculation of material cost:

| | |
|-----------------------------------------------------------|-------|
| April: Consumption from Opening units 35,000 @ Rs. 86.40 | 3,024 |
| May: Consumption from Opening units 15,000 @ Rs. 86.40 | 1,296 |
| May: Consumption from purchased units 22,500 @ Rs. 90.00 | 2,025 |
| | 3,321 |
| June: Consumption from purchased units 45,000 @ Rs. 90.00 | 4,050 |

(ii)

**Projected Balance Sheet
as on June 30, 2011**

Rs. '000'

Assets and equities**Assets****Non-current assets:**

| | Note | | |
|-----------------------------------------------|------|---------|----------------|
| Property, plant and equipment | (1) | | 657,867 |
| Current assets: | | | |
| Raw material inventory (55,000 Kgs @ Rs 90) | (2) | 4,950 | |
| Finished Goods (42,500 Units @ Rs 220) | (3) | 9,350 | |
| Accounts receivable (sales of May & June) | (4) | 39,420 | |
| Cash and bank balances | | 16,913 | 70,633 |
| Total assets | | | 728,500 |
| Equity and Reserve | | | |
| Issued, subscribed and paid-up Capital | | | 500,000 |
| Unappropriated profit (100,840+9,835) | | | 110,675 |
| | | | 610,675 |
| Shareholders' equity | | | |
| Current liabilities: | | | |
| Accounts payable (June units 42,500 @ Rs.90) | | 3,825 | |
| Short term borrowing | | 114,000 | |
| | | | 117,825 |
| Total equity, reserves and liabilities | | | 728,500 |

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Note: (1) Written down value

Rs. '000'

| | Cost | Accumulated Depreciation | Written Down Value |
|--------------------------------|---------|--------------------------|--------------------|
| Land & buildings | 500,000 | - | 500,000 |
| Plant, machinery and equipment | 236,000 | 100,233 | 135,767 |
| Motor vehicles | 42,000 | 19,900 | 22,100 |
| | 778,000 | 120,133 | 657,867 |

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Note: (2) Raw material inventory

Kgs in '000'

| | April | May | June |
|------------------|--------|--------|--------|
| Opening | 50.0 | 55.0 | 57.5 |
| Add: Purchases | 40.0 | 40.0 | 42.5 |
| Less: Production | (35.0) | (37.5) | (45.0) |
| Closing | 55.0 | 57.5 | 55.0 |

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Note: (3) Finished goods inventory

Units in '000'

| | April | May | June |
|-----------------|--------|--------|--------|
| Opening | 55.0 | 50.0 | 45.5 |
| Add: Production | 35.0 | 37.5 | 45.0 |
| Less: Sold | (40.0) | (42.0) | (48.0) |
| Closing | 50.0 | 45.5 | 42.5 |

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| Unit cost of finished goods at variable costing: | Rs. |
|--------------------------------------------------|-----|
| Material Cost (1 Kg @ Rs 90) | 90 |
| Direct labour and Variable Overheads @ Rs 130 | 130 |
| Valuation of finished goods | 220 |

Note: (4) Accounts receivable

Sales May & June (90,000 units @ Rs.438) Rs.39,420,000

2

Q.6 (i) Rate of return on capital employed:

| | Rs. in million | | | |
|---------------------------------|----------------|--------|--------|-------|
| Divisions | A | B | C | Total |
| Net operating income / (loss) | – 3 | 9 | 7 | 13 |
| Capital employed | 24 | 65 | 49 | 138 |
| Rate of return on cap. employed | -12.50% | 13.85% | 14.29% | 9.42% |

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(ii) Profit statement useful to management:

| | Rs. in million | | | |
|-----------------------------------|----------------|-----|----|-------|
| Divisions | A | B | C | Total |
| Sales | 28 | 100 | 72 | 200 |
| Variable cost | 12 | 40 | 30 | 82 |
| Contribution margin | 16 | 60 | 42 | 118 |
| Traceable fixed cost: | | | | |
| Advertising | 8 | 22 | 12 | 42 |
| Depreciation of special equipment | 4 | 8 | 8 | 20 |
| Salaries – supervisors | 1 | 1 | 1 | 3 |
| Total traceable fixed cost | 13 | 31 | 21 | 65 |
| Divisional margin | 3 | 29 | 21 | 53 |
| Common fixed cost | | | | 40 |
| Net operating income | | | | 13 |

1 +1 +1 +1 = 4

(iii) Impact of discontinuation on overall income of the company:

| | Rs. in million |
|-----------------------------------------------------------|----------------|
| Contribution margin lost in discontinuation of Division-A | 16 |
| Less : Fixed cost avoidable | |
| Advertising | 8 |
| Salaries - supervisors | 1 |
| | 9 |
| Decrease in overall income of the company | 7 |

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