## MOCK TEST PAPER-1 <br> INTERMEDIATE (NEW) : GROUP - I <br> PAPER - 3: COST AND MANAGEMENT ACCOUNTING SUGGESTED ANSWERS/HINTS

1. (a) (i) Efficiency Ratio $=\frac{\text { Actual Prodcution interms of standard hours }}{\text { Actual hours worked }} \times 100$

$$
=\frac{750 \text { units } \times 10 \text { hours }}{6,000} \times 100=125 \%
$$

(ii) Activity ratio

$$
=\frac{\text { Actual Production in terms of standard hours }}{\text { Budgeted production in terms of standard hours }} \times 100
$$

$$
=\frac{7,500}{880 \times 10} \times 100=85.23 \%
$$

(iii) Capacity Ratio $=\frac{\text { Actual hours worked }}{\text { Maximumhours in a budget period }} \times 100$

$$
\begin{aligned}
& =\frac{6,000}{8,800} \times 100=68.19 \% \\
\text { Activity ratio } & =\quad \text { Efficiency Ratio } \times \text { Capacity Ratio } \\
\text { Or, } \quad 85.23 \% & =\quad 125 \% \times 68.19 \%
\end{aligned}
$$

(b) Working Notes:

1. Depreciation per annum:=$\frac{\text { Purchase price }- \text { Scrap value }}{\text { Estimated life }}$

$$
=\frac{\text { Rs. } 4,00,000-\text { Rs. } 10,000}{5 \text { years }}=\text { Rs. } 78,000
$$

2. Total distance travelled by mini-bus in 25 days:
$=$ Length of the route (two -sides) $\times$ No. of trips per day $\times$ No. of days
$=60 \mathrm{~km} \times 6$ trips $\times 25$ days $=9,000 \mathrm{~km}$
3. Total Passenger-Km:
$=$ Total distance travelled by mini-bus in 25 days $\times$ No. of seats
$=9,000 \mathrm{~km} \times 20$ seats $=1,80,000$ passenger- km
Statement suggesting fare per passenger-km

| Particulars | Cost per <br> annum <br> Rs. | Cost per <br> month <br> Rs. |
| :--- | ---: | ---: |
| Fixed expenses: |  |  |


| Insurance | 15,000 |  |
| :---: | :---: | :---: |
| Garage rent | 9,000 |  |
| Road tax | 3,000 |  |
| Administrative charges | 5,000 |  |
| Depreciation | 78,000 |  |
| Interest on loan | 10,000 |  |
|  | 1,20,000 | 10,000 |
| Running expenses: |  |  |
| Repair and maintenance | 15,000 | 1,250 |
| Replacement of tyre-tube | 3,600 | 300 |
| Diesel and oil cost ( $9,000 \mathrm{~km} \times$ Rs. 5 ) | - | 45,000 |
| Driver and conductor's salary | - | 5,000 |
| Total cost (per month) |  | 61,550.00 |
| Add: Profit 20\% of total revenue cost or $25 \%$ of total cost |  | 15,387.50 |
| Total revenue |  | 76,937.50 |
| Rate per passenger-km Rs. 76,937.50/1,80,000 0.43 i.e., 43 paise | km | $.42743$ |

(c) (1) Comparative Profitability Statements

| Particulars | Process- $\mathbf{A}($ Rs. $)$ | Process- $\mathbf{B}($ Rs. $)$ |
| :--- | ---: | ---: |
| Selling Price per unit | 20.00 | 20.00 |
| Less: Variable Cost per unit | 12.00 | 14.00 |
| Contribution per unit | 8.00 | 6.00 |
| Total Contribution | $32,00,000$ | $24,00,000$ |
|  | (Rs. $8 \times 4,00,000)$ | $($ Rs. $6 \times 4,00,000)$ |
| Less: Total fixed costs | $30,00,000$ | $21,00,000$ |
| Profit | $2,00,000$ | $3,00,000$ |
| *Capacity (units) | $4,30,000$ | $5,00,000$ |
| Total Contribution at full capacity | $34,40,000$ | $30,00,000$ |
|  | (Rs. $8 \times 4,30,000)$ | (Rs. $6 \times 5,00,000)$ |
| Fixed Cost | $30,00,000$ | $21,00,000$ |
| Profit | $4,40,000$ | $9,00,000$ |

Process- B should be chosen as it gives more profit as compared to Process-A.
(2)

| Particulars | Process- $\mathbf{A}$ (Rs.) | Process- $\mathbf{B}$ (Rs.) |
| :--- | ---: | ---: |
| ${ }^{*}$ Capacity (units) | $6,00,000$ | $5,00,000$ |
| Total contribution | $48,00,000$ | $30,00,000$ |
|  | (Rs. $8 \times 6,00,000)$ | (Rs. $6 \times 5,00,000)$ |
| Fixed Cost | $30,00,000$ | $21,00,000$ |
| Profit | $18,00,000$ | $9,00,000$ |

If the capacity of the Process $A$ and $B$ is $6,00,000$ units and $5,00,000$ units respectively then Process-A is giving double profit than Process C. Thus Process A be chosen.
*Note: It is assumed that capacity produced equals sales
(d) Statement of cost per batch and per order

No. of batch $=600$ units $\div 50$ units $=12$ batches

|  | Particulars | Cost per batch <br> (Rs.) | Total Cost <br> (Rs.) |
| :--- | :--- | ---: | ---: |
|  | Direct Material Cost | $5,000.00$ | 60,000 |
|  | Direct Wages | 500.00 | 6,000 |
|  | Oven set-up cost | 750.00 | 9,000 |
|  | Add: Production Overheads (20\% of Direct wages) | 100.00 | 1,200 |
|  | Total Production cost | $6,350.00$ | 76,200 |
|  | Add: S\&D and Administration overheads <br>  <br>  <br> (10\% of Total production cost) | 635.00 | 7,620 |
|  | Total Cost |  |  |
|  | Add: Profit $(1 /$ rrd of total cost) | $6,985.00$ | 83,820 |
|  | Sales price | $2,328.33$ | 27,940 |
|  | No. of units in batch | $9,313.33$ | $1,11,760$ |
| (ii) | Cost per unit (Rs.6,985 $\div 50$ units) | 50 units |  |
|  | Selling price per unit $(9,313.33 \div 50$ units) | $\mathbf{1 3 9 . 7 0}$ |  |

(iii) If the order is for 605 cakes, then selling price per cake would be as below:

| Particulars | Total Cost (Rs.) |
| :--- | ---: |
| Direct Material Cost | 60,500 |
| Direct Wages | 6,050 |
| Oven set-up cost | 9,750 |
| Add: Production Overheads (20\% of Direct wages) | 1,210 |
| Total Production cost | 77,510 |
| Add: S\&D and Administration overheads | 7,751 |
| (10\% of Total production cost) |  |
| Total Cost | 85,261 |
| Add: Profit $(1 /$ rrd of total cost) | 28,420 |
| Sales price | $\mathbf{1 , 1 3 , 6 8 1}$ |
| No. of units | 605 units |
| Selling price per unit (Rs. $1,13,681 \div 605$ units) | $\mathbf{1 8 7 . 9 0}$ |

2. (a) (i) Optimal order quantity i.e. E.O.Q.

$$
=\sqrt{\frac{2 \times 4,000 \times 135}{12}}=\sqrt{90,000}=300 \text { units }
$$

Relevant Cost of this order quantity
Ordering cost $=\frac{4,000}{300} 13.33$ say 14 orders at Rs. 135
Carrying Cost $=\frac{1}{2} \times 300 \times 12$
Relevant cost
(ii) Revised EOQ $=\sqrt{\frac{2 \times 4,000 \times 80}{12}}=231$ units

Ordering cost $=\frac{4,000}{231}=17.32$ say 18 orders at Rs. 80
Carrying cost $=\frac{1}{2} \times 231 \times 12$

$$
2,826
$$

Different in cost on account of this error $=3,690-2,826=$ Rs. 864
(iii) In case of discount in purchase price, the total cost of Purchase cost, ordering cost and carrying cost should be compared.

| Original offer at Rs. $\mathbf{9 0}$ per unit |  | Supplier offered at Rs. $\mathbf{8 6}$ per unit |  |
| :--- | ---: | :--- | ---: |
|  | Rs. |  | Rs. |
| Purchase Cost | $3,60,000$ | Purchase cost $4,000 \times 86$ | $3,44,000$ |
| Ordering cost | 1,890 | Ordering cost | Nil |
| Carrying cost | 1,800 | Carrying cost $\frac{1}{2} \times 4,000 \times 12$ | 24,000 |
| Total cost |  |  | $3,68,000$ |

This special offer at Rs. 86 per unit should not be accepted as its total cost is higher by Rs. 4,310 ( $3,68,000-3,63,690$ ). as compared to original offer.
(b) Workings:

Preparation of Cost Sheet/ Cost Statement

| Particulars | Amount (Rs.) |
| :--- | ---: |
| Materials | $26,80,000$ |
| Wages | $17,80,000$ |
| Prime Cost | $44,60,000$ |
| Add: Factory expenses (20\% of Rs. 44,60,000) | $8,92,000$ |
| Factory Cost | $53,52,000$ |
| Add: Administrative expenses (10\% of Rs. $53,52,000)$ | $5,35,200$ |
| Cost of Production | $58,87,200$ |


| Less: Closing Stock $\left(\frac{\text { Rs. } 58,87,200}{52,000 \text { units }} \times 2,000\right.$ units $)$ | $(2,26,431)$ |
| :--- | ---: |
| Cost of Goods Sold | $56,60,769$ |
| Add: Selling expenses (Rs. $10 \times 50,000$ units) | $5,00,000$ |
| Cost of Sales | $61,60,769$ |
| Profit (Balancing figure) | 39,231 |
| Sales Value | $62,00,000$ |

## Costing Profit and Loss Account

| Particulars | Amount (Rs.) | Particulars | Amount (Rs.) |
| :--- | ---: | :--- | ---: |
| To Materials | $26,80,000$ | By Sales | $62,00,000$ |
| To Wages | $17,80,000$ | By Closing stock | $2,26,431$ |
| To Factory expenses | $8,92,000$ |  |  |
| To Administrative expenses | $5,35,200$ |  |  |
| To Selling expenses | $5,00,000$ |  |  |
| To Profit (Balancing figure) | 39,231 |  |  |
|  | $64,26,431$ |  | $64,26,431$ |

Reconciliation of profit as per Cost Accounts and as per Financial Accounts

| Particulars | Amount (Rs.) |
| :--- | ---: |
| Profit as per Cost Accounts | 39,231 |
| Additions: |  |
| Administrative expenses (Over-absorbed) (Rs. $5,35,200-$ Rs.4,80,200) | 55,000 |
| Selling expenses (Overcharged) (Rs. $5,00,000-$ Rs. 2,50,000) | $2,50,000$ |
| Dividend received | 20,000 |
| Deductions: | $3,64,231$ |
| Factory expenses (Under -absorbed) (Rs. $9,50,000-8,92,000)$ | 58,000 |
| Closing stock (Over-valued) (Rs.2,26,431 - Rs. $1,50,000)$ | 76,431 |
| Preliminary expenses written off | 50,000 |
|  | $1,84,431$ |
| Profit as per Financial Accounts | $1,79,800$ |

(Reconciliation statement may also be prepared by taking financial profit as base.)
3. (a) Working Notes:
(i) Computation of Allocation Ratio for Joint Costs

|  | Products |  |  |
| :--- | ---: | ---: | ---: |
|  | X | $\mathbf{Y}$ | Z. |
|  | Rs. | Rs. | Rs. |
| Selling Price | 13.75 | 8.75 | 7.50 |
| Less: Anticipated margin@ 25\% on cost or 20\% on sales | 2.75 | 1.75 | 1.50 |
| Cost of sales | 11.00 | 7.00 | 6.00 |
| Less: Post split off cost | 5.00 | 4.00 | 2.50 |


| Joint cost per unit | 6.00 | 3.00 | 3.50 |
| :--- | ---: | ---: | ---: |
| Output (units) | 8,000 | 6,000 | 4,000 |
| Total output cost | 48,000 | 18,000 | 14,000 |
| Allocation ratio for joint costs | 24 | 9 | 7 |

(ii) Computation of net allocable joint costs

|  | Rs. | Rs. |
| :--- | ---: | ---: |
| Joint input cost including material cost |  | 90,800 |
| Less: Credit for realization from by-product B: <br> Sales revenue (1,000 $\times$ Re. 1) | 1,000 |  |
| Less: profit @ $25 \%$ on cost or 20\% on sales | 200 | 800 |
| Net joint costs to be allocated |  | 90,000 |

Determination of joint cost per unit of each product

| Product | Net joint costs allocation <br> Rs. | Output(units) <br> Rs. | Joint cost per unit <br> Rs. |
| :---: | :---: | :---: | :---: |
| X | $54,000($ Note $: 1)$ | 8,000 | 6.75 |
| Y | 20,250 | 6,000 | 3.38 |
| Z | 15,750 | 4,000 | 3.94 |
|  | 90,000 |  |  |

Profit margin available on each product as a percentage on cost

| Product | Joint Cost | Post spilt <br> off cost <br> Rs. | Total <br> Cost <br> Rs. | Selling <br> Price <br> Rs. | Margin <br> Rs. | Margin \% on <br> cost <br> Rs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| X | 6.75 | 5.00 | 11.75 | 13.75 | 2.00 | 17.02 |
| Y | 3.38 | 4.00 | 7.38 | 8.75 | 1.37 | 18.56 |
| Z | 3.94 | 2.50 | 6.44 | 7.50 | 1.06 | 16.46 |

Note: 1

$$
\begin{array}{ll}
X=\frac{24}{40} \times 90,000 & =54,000 \\
Y=\frac{9}{40} \times 90,000 & =20,250 \\
Z=\frac{7}{40} \times 90,000 & =\underline{15,750} \\
\underline{90,000}
\end{array}
$$

(b) Working Notes:

1. (i) Effective hours for standing charges (208 hours -8 hours) $=200$ hours
(ii) Effective hours for variable costs ( 208 hours -28 hours) $=180$ hours
2. Standing Charges per hour

|  | Cost per month <br> (Rs.) | Cost per hour (Rs.) <br> (Cost per month $\div 200$ hours) |
| :--- | ---: | ---: |
| Supervisor's salary $\left(\frac{\text { Rs. } 6,000}{3 \text { machines }}\right)$ | 2,000 | 10.00 |
| Rent of building $\left(\frac{1}{6} \times \frac{\text { Rs. } 72,000}{12 \text { months }}\right)$ | 1,000 | 5.00 |
| General lighting |  |  |
| Total Standing Charges | 1,000 | 5.00 |

3. Machine running expenses per hour

|  | Cost per month (Rs.) | Cost per hour (Rs.) |
| :---: | :---: | :---: |
| Depreciation $\left(\frac{\text { Rs. }(5,00,000-20,000)}{10 \text { years }} \times \frac{1}{12 \text { months }}\right)$ | 4,000 | $\begin{array}{r} 20.00 \\ \left(\frac{\text { Rs. } 4,000}{\text { 200hours }}\right) \end{array}$ |
| Wages | 2,500 | $\begin{array}{r} 12.50 \\ \left(\frac{\text { Rs.2,500 }}{200 \text { hours }}\right) \end{array}$ |
| Repairs \& Maintenance $\left(\frac{\text { Rs. } 60,480}{12 \text { months }}\right)$ | 5,040 | $\begin{array}{r} 28.00 \\ \left(\frac{\text { Rs. } 5,040}{180 \text { hours }}\right) \end{array}$ |
| Consumable stores $\left(\frac{\text { Rs. } 47,520}{12 \text { months }}\right)$ | 3,960 | $\begin{array}{r} 22.00 \\ \left(\frac{\text { Rs. } 3,960}{180 \text { hours }}\right) \end{array}$ |
| Power (25 units $\times$ Rs. $2 \times 180$ hours) | 9,000 | 50.00 |
| Total Machine Expenses | 24,500 | 132.50 |

## Computation of Two - tier machine hour rate

|  | Set up time rate per <br> machine hour <br> (Rs.) | Running time rate per <br> machine hour <br> (Rs.) |
| :--- | ---: | ---: |
| Standing Charges | 20.00 | 20.00 |
| Machine expenses : |  |  |
| Depreciation | 20.00 | 20.00 |
| Repair and maintenance | - | 28.00 |
| Consumable stores | - | 22.00 |
| Power | - | 50.00 |
| Machine hour rate of overheads | 40.00 | 140.00 |
| Wages | 12.50 | 12.50 |
| Comprehensive machine hour rate | 52.50 | 152.50 |

4. (a) (i)

|  | Rs. |
| :--- | ---: |
| Sales 50,000 units at Rs. 7 | $3,50,000$ |
| Variable cost $50,000 \times 3$ | $1,50,000$ |
| Contribution $50,000 \times 4$ | $2,00,000$ |
| Fixed costs | $1,20,000$ |
| Profit | 80,000 |

P/V ratio $=\frac{S-V}{S} \times 100=\frac{7-3}{7} \times 100=\frac{4}{7} \times 100=57.14 \%$
BEP (units) $=\frac{F}{\text { contribution per unit }}=\frac{1,20,000}{4}=30,000$ Units
BEP (Value) $=30,000$ Units $\times 7=$ Rs. 2,10,000
Profit Rs. 80,000 (as calculated above)
(ii) with a $10 \%$ increase in output \& sales
i.e., $50,000+5,000=55,000$ units

| Contribution $55,000 \times$ Rs. 4 per unit | Rs. $2,20,000$ |
| :--- | :--- |
| Fixed costs | Rs. $1,20,000$ |
| Profit | Rs. $1,00,000$ |

(iii) with a $10 \%$ increase in Fixed Cost

| Contribution $(50,000 \times$ Rs. 4 per unit) | Rs. $2,00,000$ |
| :--- | :--- |
| Fixed cost $(1,20,000+12,000)$ | Rs. $1,32,000$ |
| Profit | Rs. 68,000 |

(iv) with a $10 \%$ increase in variable costs

| Selling price per unit | 7.00 |
| :--- | ---: |
| Less: variable cost $(3+0.30)$ | 3.30 |
| Contribution per unit | 3.70 |
| Total contribution $50,000 \times 3.70$ | $1,85,000$ |
| Fixed costs | $1,20,000$ |
| Profit | 65,000 |

(v) with a $10 \%$ increase in selling price

| Selling price per unit $(7.00+0.70)$ | 7.70 |
| :--- | ---: |
| Variable cost per unit | 3.00 |
| Contribution per unit | 4.70 |
| Total contribution $50,000 \times$ Rs. 4.70 | $2,35,000$ |
| Fixed costs | $1,20,000$ |
| Profit | $1,15,000$ |

(vi) Effect of all the four above:-

| Sales $55,000 \times$ Rs. 7.70 per unit | Rs. $4,23,500$ |
| :--- | ---: |
| Variable cost $55,000 \times 3.30$ | Rs. $1,81,500$ |
| Contribution $55,000 \times 4.40$ | Rs. $2,42,000$ |
| Fixed cost $1,20,000+12,000$ | Rs. $1,32,000$ |
| Profit | Rs. $1,10,000$ |

Note: It is assumed that the increased output of 55,000 units has been sold.
(b) Working Notes:
(i) Calculation of no. of employees at the beginning and end of the year

|  | At the Beginning <br> of the year | At the end <br> of the year |
| :--- | ---: | ---: |
| Data Processors | 540 | 1,560 |
| Payroll Processors [Left- 60 + Closing- 40 - Joined- 20] | 80 | 40 |
| Supervisors* | 30 | 90 |
| Voice Agents* | 30 | 30 |
| Assistant Managers* | 20 | 30 |
| Senior Voice Agents | 4 | 12 |
| Senior Data Processors | 8 | 34 |
| Team Leaders | 60 | 0 |
| Total | $\mathbf{7 7 2}$ | $\mathbf{1 , 7 9 6}$ |

${ }^{(*)}$ At the beginning of the year:
Strength of Supervisors, Voice Agents and Asst. Managers =
[772-\{540 $+80+4+8+60\}$ employees] or [772-692 $=80$ employees]
[\{Supervisors- $80 \times \frac{3}{8}=30$, Voice Agents- $80 \times \frac{3}{8}=30 \&$ Asst. Managers- $\left.80 \times \frac{2}{8}=20\right\}$ employees]
At the end of the year:
[Supervisor-(Opening- $30+60$ Joining) $=90$; Voice Agents- (Opening- $30+20$ Joined -20 Left) $=30$ ]
(ii) No. of Employees Separated, Replaced and newly recruited during the year

| Particulars | Separations | New Recruitment | Replacement | Total Joining |
| :--- | ---: | ---: | ---: | ---: |
| Data Processors | 60 | 1,020 | 60 | 1,080 |
| Payroll Processors | 60 | -- | 20 | 20 |
| Supervisors | -- | 60 | -- | 60 |
| Voice Agents | 20 | -- | 20 | 20 |
| Assistant Managers | 10 | 10 | 10 | 20 |
| Sr. Voice Agents | -- | 8 | -- | 8 |
| Sr. Data Processors | -- | $\mathbf{-}$ | -- | $\mathbf{- -}$ |
| Team Leaders | 60 | $\mathbf{-}$ | $\mathbf{2 6}$ |  |
| Total | $\mathbf{2 1 0}$ | $\mathbf{1 , 1 2 4}$ | $\mathbf{1 1 0}$ | $\mathbf{1 , 2 3 4}$ |

(Since, Corrs Consultancy Ltd. and its subsidiary are maintaining separate Personnel Department, so transfer-in and transfer-out are treated as recruitment and separation respectively.)
(a) Calculation of Labour Turnover:

$$
\begin{aligned}
\text { Replacement Method } & =\frac{\text { No.of employees replacedduringthe year }}{\text { Averageno.of employeesonroll }} \times 100 \\
& =\frac{110}{(772+1,796) / 2} \times 100=\frac{110}{1,284} \times 100=8.57 \% \\
\text { Separation Method } & =\frac{\text { No.of employees separatedduringthe year }}{\text { Averageno.of employeesonroll }} \times 100 \\
& =\frac{210}{1,284} \times 100=16.36 \%
\end{aligned}
$$

(b) Labour Turnover under Flux Method

$=\frac{\text { No. of employees (Replaced }+ \text { New recruited }+ \text { Separated) during the year }}{\text { Average no.of employees onroll }} \times 100$
$=\frac{1,234+210}{1,284} \times 10=112.46 \%$
Labour Turnover calculated by the executive trainee of the Personnel department is incorrect as it has not taken the No. of new recruitment while calculating the labour turnover under Flux method.

## 5. (a) Working Notes

## Standard Costs

|  | Rs. |
| :--- | ---: |
| Direct materials $(6,000 \times$ Rs. 12 $)$ | 72,000 |
| Direct labour $(6,000 \times$ Rs. 4.40 $)$ | 26,400 |
| Variable overheads $(6,000 \times$ Rs. 3) | 18,000 |
| Total | $1,16,400$ |

Actual Cost

| Direct Materials $(12,670 \times 5.70)$ | 72,219 |
| :--- | ---: |
| Direct wages | 27,950 |
| Variable overhead incurred | 20,475 |
| Total | $1,20,644$ |

Total Variance $=$ SC- AC $=1,16,400-1,20,644=$ Rs. 4,244 (A)

## Missing Figures

1. Actual Direct Labour Hours (DLH)

We can find out this through Variable overhead efficiency variance of Rs. 1,500 adverse

VOH Efficiency Variance= SR (SH - AH)

| $1,500 \mathrm{~A}$ | $=$ | $3(6,000-\mathrm{AH})$ |
| :--- | ---: | ---: |
| $-1,500$ | $=$ | $18,000-3 \mathrm{AH}$ |
| 3 AH | $=$ | $18,000+1,500=19,500$ |
| $\mathrm{AH}=19,500 / 3$ | $=$ | 6,500 Actual Hours i.e. Actual DLH. |

2. Actual Labour Rate per hour $=\frac{\text { Rs. } 27,950}{6,500 \mathrm{DLH}}=$ Rs. 4.30

Relevant Variances:
Material Variances:
(a) $\mathrm{MCV}=\mathrm{SC}-\mathrm{AC}=72,000-72,219=$
(b) $\mathrm{MPV}=\mathrm{AQ}(\mathrm{SR}-\mathrm{AR})=12,670(6-5.70)=$

Rs. 219 (A)
or $\quad=19,000(6-5.70)=$
(c) $\mathrm{MUV}=\mathrm{SR}(\mathrm{SQ}-\mathrm{AQ})=6(6,000 \times 2-12,670)$

$$
=6(12,000-12,670)=
$$

Labour Variances:
(a) $\mathrm{LCV}=\mathrm{SC}-\mathrm{AC}=26,400-27,950=$

Rs. 1,550 (A)
(b) $\quad \operatorname{LRV}=A H P(S R-A R)=6,500(4.40-4.30)=$
(c) $\operatorname{LEV}=\mathrm{SR}(\mathrm{SH}-\mathrm{AHP})=4.40(6,000-6,500)=$

Rs. 650 (F)
Rs. 2,200 (A)
3. Variable Overhead Variances: (Output Basis)
(a) $V O H$ Variance $=$ SVO - AVO $=18,000-20,475$

Rs. 2,475 (A)
(b) Efficiency Variance $=S R(S Q-A Q)($ Note 1)

$$
=3(6,500-6,000)=
$$

(c) Expenditure Variance $=($ SVOSP - AVO $)($ Note 2)

$$
=(19,500-20,475)=
$$

Rs. 3,801 (F)
Rs. 5,700 (F)

Rs. 4,020 (A)
$=3(6,500-6,000)=$
Rs. 1,500 (A)

Rs. 975 (A)

## Note :

1. One unit of production in one hour. For $6,500 \mathrm{DLH}, 6,500$ units should have been produced (SQ). But $A Q=6,000$ units. i.e. less than SQ. Hence, it is adverse variance of Rs. 1,500.
2. Standard Variable Overhead on Standard Production $=6,500 \times 3=$ Rs. 19,500
(b) (i) Production Statement

For the year ended 31 st March, 20X8

|  |  | Amount (Rs.) |
| :--- | :--- | ---: |
| Direct materials |  | $9,00,000$ |
| Direct wages | Prime Cost | $16,50,000$ |
|  |  | $4,50,000$ |
| Factory overheads | Cost of Production | $21,00,000$ |
|  |  | $4,20,000$ |
| Administration overheads |  | $5,25,000$ |
| Selling and distribution overheads |  | $30,45,000$ |
|  | Cost of Sales | $6,09,000$ |
| Profit |  | $36,54,000$ |

## Calculation of Rates:

1. Percentage of factory overheads to direct wages $=\frac{R s \cdot 4,50,000}{R s .7,50,000} \times 100=60 \%$
2. Percentage of administration overheads to Cost of production $=\frac{R s \cdot 4,20,000}{R s \cdot 21,00,000} \times 100=20 \%$
3. Selling and distribution overheads $=$ Rs. $5,25,000 \times 115 \%=$ Rs. $6,03,750$

Selling and distribution overhead \% to Cost of production
$=\frac{\text { Rs. } 6,03,750}{\text { Rs. } 21,00,000} \times 100=28.75 \%$
4. Percentage of profit to sales $=\frac{\text { Rs. } 6,09,000}{R s \cdot 36,54,000} \times 100=16.67 \%$
(ii) Calculation of price for the job received in 20X8-X9

|  |  | Amount (Rs.) |
| :--- | ---: | ---: |
| Direct materials |  | $2,40,000$ |
| Direct wages |  | $1,50,000$ |
| Prime Cost | $3,90,000$ |  |
| Factory overheads (60\% of Rs.1,50,000) |  | 90,000 |
| Cost of Production | $4,80,000$ |  |
| Administration overheads (20\% of Rs.4,80,000) | 96,000 |  |
| Selling and distribution overheads (28.75\% of Rs.4,80,000) | $1,38,000$ |  |
| Cost of Sales | $7,14,000$ |  |
| Profit (20\% of Rs.7,14,000) | $1,42,800$ |  |
| Sales value | $8,56,800$ |  |

6. (a) Difference between cost control and cost reduction are tabulated as below:

| Cost Control | Cost Reduction |
| :---: | :---: |
| 1. Cost control aims at maintaining <br> the costs in accordance with the <br> established standards. | 1. Cost reduction is concerned with reducing costs. <br> It challenges all standards and endeavours to <br> better them continuously |
| 2. Cost control seeks to attain lowest <br> possible cost under existing <br> conditions. | 2. Cost reduction recognises no condition as <br> permanent, since a change will result in lower cost. |
| 3. In case of Cost Control, emphasis <br> is on past and present | 3. In case of cost reduction it is on present and <br> future. |
| 4. Cost Control is a preventive <br> function | 4. Cost reduction is a corrective function. It operates <br> even when an efficient cost control system exists. |
| 5. Cost control ends when targets are <br> achieved | 5. Cost reduction has no visible end. |

(b) Before setting up a system of cost accounting the under mentioned factors should be studied:
(i) Objective: The objective of costing system, for example whether it is being introduced for fixing prices or for insisting a system of cost control.
(ii) Nature of Business or Industry: The Industry in which business is operating. Every business industry has its own peculiarity and objectives. According to its cost information requirement cost accounting methods are followed. For example, an oil refinery maintains process wise cost accounts to find out cost incurred on a particular process say in crude refinement process etc.
(iii) Organisational Hierarchy: Costing system should fulfil the information requirements of different levels of management. Top management is concerned with the corporate strategy, strategic level management is concerned with marketing strategy, product diversification, product pricing etc. Operational level management needs the information on standard quantity to be consumed, report on idle time etc.
(iv) Knowing the product: Nature of product determines the type of costing system to be implemented. The product which has by-products requires costing system which account for by-products as well. In case of perishable or short self- life, marginal costing method is required to know the contribution and minimum price at which it can be sold.
(v) Knowing the production process: A good costing system can never be established without the complete knowledge of the production process. Cost apportionment can be done on the most appropriate and scientific basis if a cost accountant can identify degree of effort or resources consumed in a particular process. This also includes some basic technical knowhow and process peculiarity.
(vi) Information synchronisation: Establishment of a department or a system requires substantial amount of organisational resources. While drafting a costing system, information needs of various other departments should be taken into account. For example, in a typical business organisation accounts department needs to submit monthly stock statement to its lender bank, quantity wise stock details at the time of filing returns to tax authorities etc.
(vii) Method of maintenance of cost records: The manner in which Cost and Financial accounts could be inter-locked into a single integral accounting system and how the results of separate sets of accounts i.e. cost and financial, could be reconciled by means of control accounts.
(viii) Statutory compliances and audit: Records are to be maintained to comply with statutory requirements and applicable cost accounting standards to be followed.
(ix) Information Attributes: Information generated from the Costing system should possess all the attributes of information i.e. complete, accurate, timeliness, relevant etc. to have an effective management information system (MIS).
(c) Difference between Fixed and Flexible Budgets:

| SI. <br> No. | Fixed Budget | Flexible Budget |
| :--- | :--- | :--- |
| 1. | It does not change with actual volume of <br> activity achieved. Thus it is known as <br> rigid or inflexible budget | It can be re-casted on the basis of activity <br> level to be achieved. Thus it is not rigid. |
| 2. | It operates on one level of activity and <br> under one set of conditions. It assumes <br> that there will be no change in the <br> prevailing conditions, which is <br> unrealistic. | It consists of various budgets for different <br> levels of activity |
| 3. | Here as all costs like - fixed, variable and <br> semi-variable are related to only one <br> level of activity so variance analysis <br> does not give useful information. | Here analysis of variance provides useful <br> information as each cost is analysed <br> according to its behaviour. |


| 4. | If the budgeted and actual activity levels <br> differ significantly, then the aspects like <br> cost ascertainment and price fixation do do <br> not give a correct picture. | Fexible budgeting at different levels of <br> activity facilitates the ascertainment of cost, <br> fixation of selling price and tendering of <br> quotations. |
| :--- | :--- | :--- |
| 5. | Comparison of actual performance with <br> budgeted targets will be meaningless <br> specially when there is a difference <br> between the two activity levels. | of the actual peaningful basis of comparison <br> bargets. |

(d) Net Realisable Value method:The realisation on the disposal of the by-product may be deducted from the total cost of production so as to arrive at the cost of the main product. For example, the amount realised by the sale of molasses in a sugar factory goes to reduce the cost of sugar produced in the factory.
When the by-product requires some additional processing and expenses are incurred in making it saleable to the best advantage of the concern, the expenses so incurred should be deducted from the total value realised from the sale of the by-product and only the net realisations should be deducted from the total cost of production to arrive at the cost of production of the main product. Separate accounts should be maintained for collecting additional expenses incurred on:
(i) further processing of the by-product, and
(ii) selling, distribution and administration expenses attributable to the by-product.

