Enown for Best Resuli

PAPER : COSTING
Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium. His/her answer in Hindi will not be valued.

Question No. 1 is compulsory.
Candidates are also required to answer any Four questions from the remaining Five Questions.
In case, any candidate answers extra question(s)/sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.
Wherever necessary, suitable assumptions may be made and disclosed by way of note.

## Answer 1:

(a) Difference between Minimum lead time Maximum lead time $=4$ days

Max. lead time - Min. lead time $=4$ days
Or, Max. lead time $=$ Min. lead time +4 days.
Average lead time is given as 6 days i.e.
$\frac{\text { Max.leadtime }+ \text { Minleadtime }}{2}=6$ days
Putting the value of (i) in (ii),
$\frac{\text { Min lead time }+4 \text { days }+ \text { Minleadtime }}{2}=6$ days
Or, Min. lead time +4 days + Min. lead time $=12$ days
Or, 2 Min. lead time $=8$ days
Or, Minimum lead time $=\frac{8 \text { days }}{2} \quad=4$ days
Putting this Minimum lead time value in (i), we get
Maximum lead time $=4$ days +4 days $=8$ days
(i) Maximum consumption per day:

Re-order level $=\mathrm{Max}$. Re-order period $\times$ Maximum Consumption per day
$1,60,000$ units $=8$ days $\times$ Maximum Consumption per day
Or, Maximum Consumption per day $=\frac{1,60,000 \text { units }}{8 \text { days }}=20,000$ units $\}\{2.5 \mathrm{M}\}$
(ii) Minimum Consumption per day:

Maximum Stock Level $=$
Re-order level + Re-order Quantity - (Min. lead time $\times$ Min. Consumption per day)
Or, $1,90,000$ units $=1,60,000$ units $+90,000$ units $-(4$ days $\times$ Min. Consumption per day)
Or, 4 days $\times$ Min. Consumption per day $=2,50,000$ units $-1,90,000$ units
Or, Minimum Consumption per day $=\frac{60,000 \text { units }}{4 \text { days }}=15,000$ units $\left.\} \mathbf{2} .5 \mathbf{~ M}\right\}$ nown for Best Resull

## Answer:

(b)

Labour Turnover by Replacement Method $=\frac{\text { No. of workers replaced during the quarter }}{\text { Average no. of workers onrollduring the quarter }}$
Or, $0.03 \quad=\frac{\text { No. of workers replaced during the quarter }}{(990+1,010) \div 2}$
Or, No. of workers replaced during the quarter $=0.03 \times 1,000=30$ workers
(i) Labour Turnover by Separation Method

$$
\begin{aligned}
& =\frac{\text { No. of workers separated during the quarter }}{\text { Average no. of workers onrollduring the quarter }} \times 100 \\
& =\frac{\text { Worker at begining }+ \text { Freshrecruitment }+ \text { Replacements }- \text { Workers at closing }}{\text { Average no. of workers onrollduring the quarter }} \times 100 \\
& \left.=\frac{990+40+30-1,010}{(990+1,010) \div 2} \times 100=\frac{50 \text { wor ker s }}{1,000 \text { wor ker } \mathrm{S}} \times 100=5 \%\right\}\{2.5 \mathrm{M}\}
\end{aligned}
$$

(ii) Labour Turnover by Flux Method
$=\frac{\text { No. of workers (Separated }+ \text { Replaced }+ \text { Fresh Re cruitment) during the quarter }}{\text { Average no. of workers onroll during the quarter }} \times 100$
$\left.=\frac{50+30+40}{(990+1,010) \div 2} \times 100 \quad=\frac{120 \text { wor ker } \mathrm{S}}{1,000 \text { wor ker } \mathrm{s}} \times 100=12 \%\right\}\{2.5 \mathrm{M}\}$

## Answer:

(c) Efficiency Ratio can be obtained by dividing the activity ratio by capacity ratio as follows:-

$$
\begin{aligned}
\text { Efficiency Ratio } & =\frac{\text { Activity ratio }}{\text { Capacity ratio }} \times 100 \\
& \left.=\frac{104 \%}{96 \%} \times 100=108.33 \%\right\}\{4 \mathrm{M}\}
\end{aligned}
$$

The inter - relationship is shown below:

| Activity Ratio | $=\frac{\text { Std.hoursfor actualproduction }}{\text { BudgetedHours }} \times 100$ |
| ---: | :--- |
| Capacity ratio | $=\frac{\text { Actualworkinghours }}{\text { Budgetedhours }} \times 100$ |
| Efficiency ratio | $=\frac{\text { Std.hoursfor actualproduction }}{\text { Actualhoursworked }} \times 100$ |
| i.e. Efficiency Ratio | $=\frac{\text { Activity Ratio }}{\text { Capacity Ratio }}$ |
|  | $=\frac{\text { Std.hoursfor actualproduction }}{\text { Budgetedhours }} \times \frac{\text { Budgetedhours }}{\text { Actualhours worked }}$ |
|  | $=\frac{\text { Std.hoursfor actualproduction }}{\text { Actualhoursworked }} \times 100$ |

Activity Ratio $=$ Capacity Ratio $\times$ Efficiency Ratio
(Activity Ratio Answer =1 M)

## Answer:

(d) (i) Calculation of cost driver rate:

| Cost pool | Budgeted overheads (Rs.) | Cost driver | Cost driver rate (Rs.) |
| :---: | ---: | ---: | ---: |
| Material procurement | $18,42,000$ | 1,200 | $\mathbf{1 , 5 3 5 . 0 0}$ | Known for Best Resull


| Material handling | $8,50,000$ | 1,240 | $\mathbf{6 8 5 . 4 8}$ |
| :--- | ---: | ---: | ---: |
| Maintenance | $24,56,000$ | 17,550 | $\mathbf{1 3 9 . 9 4}$ |
| Set-up | $9,12,000$ | 1,450 | $\mathbf{6 2 8 . 9 7}$ |
| Quality control | $4,42,000$ | 1,820 | $\mathbf{2 4 2 . 8 6}$ |

(1/2 M each Bold)
(ii) Calculation of cost for the batch:

| Particulars | Amount (Rs.) | Amount (Rs.) |
| :--- | ---: | ---: |
| Material cost |  | $24,62,000.00$ |
| Wages |  | $4,68,500.00$ |
| Overheads: |  |  |
| - Material procurement (Rs. $1,535 \times 56$ orders) | $85,960.00$ |  |
| - Material handling (Rs. $685.48 \times 84$ movements) | $57,580.32$ |  |
| - Maintenance (Rs. $139.94 \times 1,420$ hours) | $1,98,714.80$ |  |
| - Set-up (Rs. $628.97 \times 60$ set-ups) | $37,738.20$ |  |
| - Quality control (Rs. $242.86 \times 18$ inspections) | $4,371.48$ | $3,84,364.80$ |
| Total Cost |  | $33,14,864.80$ |
| No. of units |  | 7,600 |
| Cost per units |  | 436.17 |

(Each Bold 1/4 M)

## Answer 2:

(a) (i) Material Variances

| Budget |  |  | Std. for actual |  |  | Actual |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
| Quantity <br> (Meter) | Price <br> (Rs.) | Amount <br> (Rs.) | Quantity <br> (Meter) | Price <br> (Rs.) | Amount <br> (Rs.) | Quantity <br> (Meter) | Price <br> (Rs.) |  |
| 1 | 60 | 60 | 10,000 | 60 | $6,00,000$ | 11,400 | 58 |  |
|  | $6,61,200$ |  |  |  |  |  |  |  |

Material Cost Variance

$$
=6,00,000-6,61,200
$$

Material Price Variance $=(60-58) 11,400$
Material Usage Variance

$$
=(10,000-11,400) 60
$$

$=(S Q \times S P-A Q \times A P)$
$=$ Rs. 61,200 (A) $\quad\{1 \mathrm{M}\}$
$=(S P-A P) A Q$ = Rs. 22,800 ( F ) $\quad\{1 \mathrm{M}\}$
$=(S Q-A Q) S P$
$=$ Rs. $84,000(\mathrm{~A}) \quad\{1 \mathrm{M}\}$
(ii) Variable Overheads variances

Variable overhead cost Variance
= Standard variable overhead - Actual Variable Overhead
$=(10,000$ units $\times 2$ hours $\times$ Rs. 10$)-2,24,400=$ Rs. $24,400(A)\}\{\mathbf{M}\}$
Variable overhead Efficiency Variance
$=($ Standard Hours - Actual Hours) $\times$ Standard Rate per Hour
Let Actual Hours be ' $X$ ', then:

$$
\begin{array}{lll}
(20,000-X) \times 10 & =4,000(\mathrm{~A}) & \\
2,00,000-10 \mathrm{X} & =-4,000 & \\
X & =2,04,000 \div 10 & \\
\text { Therefore, Actual Hours }(\mathrm{X}) & =\mathbf{2 0 , 4 0 0} & \} \mathbf{1 ~ M}\}
\end{array}
$$

Variable overhead Expenditure Variance
$=$ Variable Overhead at Actual Hours - Actual Variable Overheads
$=20,400 \times$ Rs. $10-2,24,400=$ Rs. $20,400(A) \quad\{1 \mathrm{M}\}$
(iii) Labour variances

| Budget |  |  | Std. for actual |  | Actual |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Hours | Rate | Amount | Hours | Rate | Amount | Hours | Rate |
| Amount |  |  |  |  |  |  |  | Known for Best Resull


|  | (Rs.) | (Rs.) |  | (Rs.) | (Rs.) |  | (Rs.) | (Rs.) |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 20 | 40 | 20,000 | 20 | $4,00,000$ | 20,400 | $22^{*}$ | $4,48,800$ |

*Actual Rate $=$ Rs. $4,48,800 \div 20,400$ hours $=$ Rs. $22 \quad\{1 \mathrm{M}\}$
Labour Cost Variance $=(\mathbf{S H} \times \mathbf{S R})-(\mathbf{A H} \times \mathrm{AR})$
$=4,00,000-4,48,800=$ Rs. $48,800(\mathrm{~A}) \quad\}\{1 \mathrm{M}\}$
Labour Rate Variance $=(\mathbf{S R}-\mathrm{AR}) \times \mathrm{AH}$
$=(20-22) \times 20,400=$ Rs. 40,800 (A)
Labour Efficiency Variance $=(\mathbf{S H}-\mathrm{AH}) \times \mathbf{S R}$
$=(20,000-20,400) \times 20=$ Rs. $8,000(A) \quad\} 1 \mathbf{~ M}\}$

## Answer:

(b) Store Ledger of Aditya Ltd. (Weighted Average Method)

| Date | Receipts |  |  | Issues |  |  | Balance of Stock |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Feb. | $\begin{array}{r} \text { Qty } \\ (\mathrm{kg} .) \end{array}$ | $\begin{aligned} & \text { Rate } \\ & \text { (Rs.) } \end{aligned}$ | Amount (Rs.) | $\begin{gathered} \text { Qty } \\ \text { (kg.) } \end{gathered}$ | $\begin{aligned} & \text { Rate } \\ & \text { (Rs.) } \end{aligned}$ | Amount (Rs.) | $\begin{gathered} \text { Qty } \\ \text { (kg.) } \end{gathered}$ | $\begin{aligned} & \text { Rate } \\ & \text { (Rs.) } \end{aligned}$ | Amount (Rs.) |
| 1 | - |  |  |  |  |  | 1,200 | 475.00 | 5,70,000 |
| 5 |  | - |  | 975 | 475.00 | 4,63,125 | 225 | 475.00 | 1,06,875 |
| 6 | 3,500 | 460.00 | 16,10,000 |  |  |  | 3,725 | 460.91 | 17,16,875 |
| 7 |  | - |  | 2,400 | 460.91 | 11,06,175 | 1,325 | 460.91 | 6,10,700 |
| 9 | 475 | 460.91 | 2,18,932 | - |  |  | 1,800 | 460.91 | 8,29,632 |
| 15 | 1,800 | 480.00 | 8,64,000 | - |  |  | 3,600 | 470.45 | 16,93,632 |
| 17 |  | - |  | 140 | 480.00 | 67,200 | 3,460 | 470.07 | 16,26,432 |
| 20 | - | - |  | 1,900 | 470.07 | 8,93,133 | 1,560 | 470.06 | 7,33,299 |
| 28 | - | - | - | 180* | 470.06 | 84,611 | 1,380 | 470.06 | 6,48,688 |

* 180 kgs . is abnormal loss, hence it will be transferred to Costing Profit \& Loss A/c. \}(1.6 M)

Answer 3:
(a) Statement Showing "Budgeted Cost per unit of the Product"

| Activity | Activity Cost (Budgeted) (Rs.) | Activity Driver | No. of Units of Activity Driver (Budget) | Activity Rate (Rs.) | Deposits | Loans | Credit Cards |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ATM Services | 8,00,000 | No. of ATM Transaction | 2,00,000 | 4.00 | 6,00,000 | --- | 2,00,000 |
| Computer Processing | 10,00,000 | No. of Computer processing Transaction | 20,00,000 | 0.50 | 7,50,000 | 1,00,000 | 1,50,000 |
| Issuing Statements | 20,00,000 | No. of Statements | 5,00,000 | 4.00 | 14,00,000 | 2,00,000 | 4,00,000 |
| Customer Inquiries | 3,60,000 | Telephone Minutes | 7,20,000 | 0.50 | 1,80,000 | 90,000 | 90,000 |
| Budgeted Cost | 41,60,000 |  |  |  | 29,30,000 | 3,90,000 | 8,40,000 |
| Units of Product (as estimated in the budget period) |  |  |  |  | 58,600 | 13,000 | 14,000 |
| Budgeted Cost per unit of the product |  |  |  |  | 50 | 30 | 60 |
| (Each bold 1/10 M) |  |  |  |  |  |  |  |

## Working Note

| Activity | Budgeted Cost (Rs.) | Remark |
| :---: | :---: | :---: |
| ATM Services: |  |  |
| (a) Machine Maintenance | 4,00,000 | - All fixed, no change. |
| (b) Rents | 2,00,000 | - Fully fixed, no change. |
| (c) Currency <br> Replenishment Cost | 2,00,000 | - Doubled during budget period. |
| Total | 8,00,000 |  |
| Computer Processing | 2,50,000 | - Rs. 2,50,000 (half of Rs. 5,00,000) is fixed and no change is expected. <br> - Rs. 2,50,000 (variable portion) is |


|  | Total | $\begin{array}{r} 7,50,000 \\ \mathbf{1 0 , 0 0 , 0 0 0} \end{array}$ | expected to increase to three times the current level. |
| :---: | :---: | :---: | :---: |
| Issuing Statements | Total | $\begin{array}{r} 18,00,000 \\ \underline{2}, 00,000 \\ \hline \end{array}$ <br> 20,00,000 | - Existing. <br> - 2 lakh statements are expected to be increased in budgeted period. For every increase of one lakh statement, one lakh rupees is the budgeted increase. |
| Computer Inquiries | Total | $\begin{array}{r} 3,60,000 \\ 3,60,000 \end{array}$ | - Estimated to increase by 80\% during the budget period. <br> (Rs. $2,00,000 \times 180 \%$ ) |

(Each Bold 2 M)

## Answer:

(b)

Journal Entries in Cost Books
Maintained on non-integrated system

|  |  | (Rs.) | (Rs.) |
| :---: | :---: | :---: | :---: |
| (i) Work-in-Progress Ledger Control A/c Factory | Dr. | 5,50,000 |  |
| Overhead Control A/c | Dr. | 1,50,000 |  |
| To Stores Ledger Control A/c |  |  | 7,00,000 |
| (Being issue of materials) |  |  |  |
| (ii) Work-in Progress Ledger Control A/c Factory | Dr. | 2,00,000 |  |
| Overhead control A/c | Dr. | 40,000 |  |
| To Wages Control A/C |  |  | 2,40,000 |
| (Being allocation of wages and salaries) |  |  |  |
| (iii) Factory Overhead Control A/c | Dr. | 20,000 |  |
| To Costing Profit \& Loss A/c |  |  | 20,000 |
| (Being transfer of over absorption of overhead) |  |  |  |
| Costing Profit \& Loss A/c | Dr. | 10,000 |  |
| To Administration Overhead Control A/c |  |  | 10,000 |
| (Being transfer of under absorption of overhead) |  |  |  |

(Each Entry 2.5 M)

## Answer 4:

(a)

Process III
Process Cost Sheet (FIFO Method)
Opening Stock: 2,000 units; Introduced: 53,000 units
Statement of Equivalent Production

| Input |  | Output |  | Equivalent production |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Item | Units | Item | Units | Mat- A | (\%) | Mat- B | (\%) | Labour \& OHs. | (\%) |
| Opening stock | 2,000 | Work on opening WIP | 2,000 |  |  | 400 | 20 | 800 | 40 |
| Process II transfer | 53,000 | Introduced \& completed during the period <br> (48,000-2000) | 46,000 | 46,000 | 100 | 46,000 | 100 | 46,000 | 100 |
|  |  |  | 48,000 |  |  |  |  |  |  |
|  |  | Normal Loss |  |  |  |  |  |  |  |
|  |  | $\begin{aligned} & (2,000+53,000-5,000) \\ & \mathrm{x} \% \end{aligned}$ | 2,500 |  |  |  |  |  |  |
|  |  | Closing WIP | 5,000 | 5,000 | 100 | 3,500 | 70 | 2,500 | 50 |
|  |  |  | 55,500 | 51,000 |  | 49,900 |  | 49,300 |  |
|  |  | Abnormal Gain | 500 | 500 | 100 | 500 | 100 | 500 | 100 |
|  | 55,000 |  | 55,000 | 50,500 |  | 49,400 |  | 48,800 |  |

(Each Bold 1/3M)
Statement of Cost for each Element

| Element of cost | Cost (Rs.) | Equivalent <br> Production | Cost per unit <br> (Rs.) |
| :--- | :---: | :---: | :---: |


| Material A: |  |  |  |
| :--- | ---: | ---: | ---: |
| Transfer from Process-II | $4,11,500$ |  |  |
| Less: Scrap value of Normal Loss (2,500 $\times$ Rs. 3) | 7,500 |  |  |
|  | $4,04,000$ | 50,500 | $\mathbf{8}$ |
| Material B | $1,97,600$ | 49,400 | $\mathbf{4}$ |
| Wages | 97,600 | 48,800 | $\mathbf{2}$ |
| Overheads | 48,800 | 48,800 | $\mathbf{1}$ |
|  | $7,48,000$ |  | $\mathbf{1 5}$ |

(Each Bold 1/3 M)

| Process Cost Sheet |  |
| :---: | :---: |
|  | (Rs.) |
| Opening WIP (for completion): |  |
| Material-B (400 units $\times$ Rs. 4) | 1,600 |
| Wages (800 units $\times$ Rs. 2) | 1,600 |
| Overheads (800 units $\times$ Rs. 1) | 800 |
|  | 4,000 |
| Introduced and completely processed during the period (46,000 units $\times$ Rs. 15) | 6,90,000 |
| Closing WIP: |  |
| Material- A ( 5,000 units $\times$ Rs. 8) | 40,000 |
| Material- B (3,500 units $\times$ Rs. 4) | 14,000 |
| Wages (2,500 units $\times$ Rs. 2) | 5,000 |
| Overheads (2,500 units $\times$ Rs. 1 ) | 2,500 |
|  | 61,500 |
| Abnormal Gain (500 units $\times$ Rs. 15) | 7,500 |

(Each Bold 1/3 M)

| Process III A/c |  |  |  |  |  |  |
| :--- | ---: | ---: | :--- | ---: | ---: | :---: |
| Particulars Units Amount Particulars Units Amount <br> To Balance b/d 2,000 25,750 By Normal Loss 2,500 7,500 <br> To Process II A/c 53,000 $4,11,500$ By Process IV A/c (Rs. $6,90,000$ <br> + Rs. $4000+$ Rs. 25,750$)$ 48,000 $7,19,750$ <br> To Direct Material  $1,97,600$ By Balance c/d 5,000 61,500 <br> To Direct Wages  97,600    <br> To Production OH  48,800    <br> To Abnormal Gain 500 7,500  55,500 $7,88,750$ <br>  55,500 $7,88,750$    |  |  |  |  |  |  |

(Each Bold 1/3 M)

## Answer:

(b) Revised Sales Value $\left.=\frac{\text { Desired Contribution }}{\text { Revised P/VRatio* }}=\frac{0.40}{0.25}=1.6\right\}\{4 \mathrm{M}\}$

This means sales value to be increased by $60 \%$ of the existing sales.
*Revised P/V Ratio $=\frac{\text { Revised Contribution }}{\text { Revised Selling Price }}=\frac{0.80-0.60}{0.80}=0.25$ \{1 M
Required Sales Quantity $\left.=\frac{\text { Desired Contribution }}{\text { Revised P/VRatio*×Revised Selling Price }}=\frac{0.40}{0.25 \times 0.80}=2\right\}\{\mathbf{1} \mathbf{~ M}$
Therefore, Sales value to be increased by $60 \%$ and sales quantity to be doubled to offset the reduction in selling price.

## Proof:

Let selling price per unit is Rs. 10 and sales quantity is 100 units.
Data before change in selling price:
(Rs.) Enown for Best Resull

| Sales (Rs. $10 \times 100$ units) | 1,000 |
| :--- | ---: |
| Contribution (40\% of 1,000) | 400 |
| Variable cost (balancing figure) | $\mathbf{6 0 0}$ |

(Bold 1 M)

## Data after the change in selling price:

Selling price is reduced by $20 \%$ that means it became Rs. 8 per unit. Since, we have to maintain the earlier contribution margin i.e. Rs. 400 by increasing the sales quantity only. Therefore, the target contribution will be Rs. 400.
The new P/V Ratio will be

|  | (Rs.) |
| :--- | ---: |
| Sales | 8.00 |
| Variable cost | 6.00 |
| Contribution per unit | 2.00 |
| P/V Ratio | $\mathbf{2 5 \%}$ |

(Bold 1 M)
Sales Value $\left.=\frac{\text { DesiredContribution }}{\text { Revised P/VRatio }}=\frac{₹ 400}{0.25}=₹ 1,600 \quad \boldsymbol{\{ 1} \mathbf{~ M}\right\}$
Sales quantity $=\frac{\text { Sales value }}{\text { Selling price per unit }}=\frac{₹ 1,600}{₹ 8}=200$ units $\left.\boldsymbol{\{ 1} \mathbf{M}\right\}$

## Answer 5:

(a) Total direct wages
$=$ Rs. $42,000+$ Rs. $54,000+$ Rs. $48,000=$ Rs. $1,44,000$
Percentage absorption of production overhead on the basis of direct wages
$=\frac{2,88,000}{1,44,000} \times 100=200 \%$
(i)

Process-I A/c

| Particulars | Units | Amt.(Rs.) | Particulars | Units | Amt.(Rs.) |
| :--- | ---: | ---: | :--- | ---: | ---: |
| To Materials | $\mathbf{7 , 0 0 0}$ | $\mathbf{1 , 4 0 , 0 0 0}$ | By Normal loss <br> (5\% of 7,000 units) | $\mathbf{3 5 0}$ | $\mathbf{3 , 5 0 0}$ |
| To Other materials | - | $\mathbf{6 2 , 0 0 0}$ | By Process-II* | $\mathbf{6 , 6 0 0}$ | $\mathbf{3 , 3 5 , 9 5 5}$ |
| To Direct wages | - | $\mathbf{4 2 , 0 0 0}$ | By Abnormal loss* $^{*}$ | 50 | $\mathbf{2 , 5 4 5}$ |
| To Direct expenses | - | $\mathbf{1 4 , 0 0 0}$ |  |  |  |
| To Production OH <br> (200\% of Rs. 42,000) | - | 84,000 |  |  |  |
|  | $\mathbf{7 , 0 0 0}$ | $\mathbf{3 , 4 2 , 0 0 0}$ |  | $\mathbf{7 , 0 0 0}$ | $\mathbf{3 , 4 2 , 0 0 0}$ |

* Cost per unit $=\frac{\text { Rs. }(3,42,000-3,500)}{(7,000-350) \text { units }}=$ Rs. 50.9022
(Each Bold 1/6 M)

| Process-II A/c |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Particulars | Units | Amt.(Rs.) | Particulars | Units | Amt.(Rs.) |
| To Process-I A/c | 6,600 | 3,35,955 | By Normal loss ( $10 \%$ of 6,600 units) | 660 | 6,600 |
| To Other materials | - | 1,36,000 | By Process-III** | 5,200 | 5,63,206 |
| To Direct wages | - | 54,000 | By Abnormal loss** | 740 | 80,149 |
| To Direct expenses | - | 16,000 |  |  |  |
| To Production OH ( $200 \%$ of Rs 54,000 ) | - | 1,08,000 |  |  |  |
|  | 6,600 | 6,49,955 |  | 6,600 | 6,49,955 |

(Each Bold 1/6 M)
${ }^{* *}$ Cost per unit $=\frac{\text { Rs. }(6,49,955-6,600)}{(6,600-660) \text { units }}=$ Rs. 108.3089

| Process-III A/c |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Particulars | Units | Amt.(Rs.) | Particulars | Units | Amt.(Rs.) |
| To Process-I A/c | 5,200 | 5,63,206 | By Normal loss ( $5 \%$ of 5,200 units) | 260 | 2,600 |
| To Other materials | - | 84,200 | By Product-X** | 4,800 | 8,64,670 |
| To Direct wages | - | 48,000 |  |  |  |
| To Direct expenses | - | 14,000 | By Product-Z\# | 600 | 21,000 |
| To Production OH ( $200 \%$ of Rs. 48,000 ) | - | 96,000 | (Rs. $35 \times 600$ units) |  |  |
| To Abnormal gain*** | 460 | 82,864 |  |  |  |
|  | 5,660 | 8,88,270 |  | 5,660 | 8,88,270 |

(Each Bold 1/6 M)
${ }^{* * *}$ Cost per unit $=\frac{\text { Rs. }(8,05,406-2,600-21,000)}{(5,200-260-600) \text { units }}=$ Rs. 180.1396
\# Realisable value = Rs. $135-(85+15)=$ Rs. 35
(ii)

By-Product Process A/c

| Particulars | Units | Amt. (Rs.) | Particulars | Units | Amt. (Rs.) |
| :--- | ---: | ---: | :--- | ---: | ---: |
| To Process-III A/c | 600 | 21,000 | By Product-Z | 600 | $\mathbf{8 1 , 0 0 0}$ |
| To Processing cost | - | 51,000 |  |  |  |
| To Selling expenses | - | 9,000 |  |  |  |
|  | 600 | 81,000 |  | 600 | $\mathbf{8 1 , 0 0 0}$ |

(Each Bold 1/6 M)

## Answer:

(b)
Production Budget for the year 2013 by Quarters
(i)

|  | II | III | IV | Total |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Sales demand(Unit) | 18,000 | 22,000 | 25,000 | 27,000 | 92,000 |
| I | Opening Stock | 6,000 | 7,200 | 8,100 | 8,700 | 30,000 |
| II | $70 \%$ of Current Quarter's Demand | 12,600 | 15,400 | 17,500 | 18,900 | 64,400 |
| III | $30 \%$ of Following Quarter's Demand | 6,600 | 7,500 | 8,100 | 7,400 | 29,600 |
| IV | Total Production(II \&III) | 19,200 | 22,900 | 25,600 | 26,300 | 94,000 |
| V | Closing Stock (I + IV - Sales) | 7,200 | 8,100 | 8,700 | 8,000 | 32,000 |

*Balancing Figure
(Each bold 1/5 M)

$$
\text { (ii) } \quad \begin{aligned}
\text { Break Even Point } & =\text { Fixed Cost } \div \text { PV Ratio } \\
& =\text { Rs. } 2,20,000 \div 13.75 \%=\text { Rs. } 16,00,000 \text { or } 40,000 \text { units. } \\
\text { P/V Ratio } & \\
& =\text { (Rs. } 40-\text { Rs. } 34.50=\text { Rs. } 5.50) \div 40 \times 100=13.75 \%
\end{aligned}
$$

(Or, Break Even Point $=$ Fixed Cost $\div$ Contribution $=$ Rs. $2,20,000 \div$ Rs. $5.50=40,000$ Units)
Total sales in the quarter II is 40,000 equal to BEP means BEP achieved in II quarter.
( $4 \mathrm{M}=$ Any 40,000 Units)

## Answer 6:

## (a) INSTALLATION OF COSTING SYSTEM

As in the case of every other form of activity, it should be considered whether it would be profitable to have a cost accounting system. Management of an organisation needs complete and accurate information to make decisions. A wellestablished Costing system should provide all relevant information as and when required by management as well as various stakeholders.
Before setting up a system of cost accounting the under mentioned factors should be studied:
(a) Objective: The objective of costing system, for example whether it is being introduced for fixing prices or for establishing a system of cost control.
(b) 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.
(c) Organisational Hierarchy: Costing system should fulfill 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.
(d) 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 accounts for by-products as well. In case of perishable or short self- life products, marginal costing is appropriate to know the contribution and minimum price at which products could be sold.
(e) 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 know-how and process peculiarity.
(f) 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.
(g) 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.
(h) Statutory compliances and audit: Records are to be maintained to comply with statutory requirements and applicable cost accounting standards to be followed.
(i) 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).
(1 M for each point for any five points)

## Answer:

(b) Objectives of Budgetary Control System

1. Portraying with precision the overall aims of the business and determining targets of performance for each section or department of the business.
2. Laying down the responsibilities of each of the executives and other personnel so that everyone knows what is expected of him and how he will be judged. Budgetary control is one of the few ways in which an objective assessment of executives or department is possible.
3. Providing a basis for the comparison of actual performance with the predetermined targets and investigation of deviation, if any, of actual performance and expenses from the budgeted figures. This naturally helps in adopting corrective measures.
4. Ensuring the best use of all available resources to maximise profit or production, subject to the limiting factors. Since budgets cannot be properly drawn up without considering all aspects usually there is good coordination when a system of budgetary control operates.
5. Co-ordinating the various activities of the business, and centralising Enown for Best Resull
control and yet enabling management to decentralise responsibility and delegate authority in the overall interest of the business.
6. Engendering a spirit of careful forethought, assessment of what is possible and an attempt at it. It leads to dynamism without recklessness. Of course, much depends on the objectives of the firm and the vigour of its management.
7. Providing a basis for revision of current and future policies.
8. Drawing up long range plans with a fair measure of accuracy.
9. Providing a yardstick against which actual results can be compared.
(1 M for each point for any five points)

## Answer:

(c) Assumptions underlying E.O.Q. : The calculation of economic order of material to be purchased is subject to the following assumptions :
(i) Ordering cost per order and carrying cost per unit per annum are known and they are fixed.
(ii) Anticipated usage of material in units is known.
(iii) Cost per unit of the material is constant and is known as well.
(iv) The quantity of material ordered is received immediately i.e. the lead time is zero.
(1.25 M each point)

## Answer:

(d) Product Cost vis-à-vis Period cost

Product costs are those costs that are identified with the goods purchased or produced for resale. In a manufacturing organisation they are attached to the product and that are included in the inventory valuation for finished goods, or for incompleted goods. Product cost is also known as inventoriable cost. Under absorption costing method it includes direct material, direct labour, direct expenses, directly attributable costs (variable and non variable) and other production (manufacturing) overheads. Under marginal costing method Product Costs includes all variable production costs and the all fixed costs are deducted from the contribution.
\}\{2.5 M\}
Periods costs are the costs, which are not assigned to the products but are charged as expense against revenue of the period in which they are incurred. General Administration, marketing, sales and distributor overheads are recognized as period costs.
\}\{2.5 M\}

