## Downloaded From www.castudynotes.com

## PAPER - 3: COST AND MANAGEMENT ACCOUNTING

Question No. 1 is compulsory.
Attempt any four questions out of 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.

Working notes should form part of the answer.

## Question 1

Answer the following:
(a) ABC Limited manufactures a product 'AM25' using material 'CEE'.

The following information is available regarding material 'CEE':

| Purchase price per unit | $₹ 300$ |
| :--- | :--- |
| Cost of placing an order | $₹ 150$ |
| Carrying cost per unit per annum | $6 \%$ of purchase price |
| Consumption of material 'CEE' per annum | $1,94,400$ units |
| Lead time | Average 6 days, Maximum 8 days, <br> Minimum 4 days |

Maximum consumption of material 'CEE' per day is 200 kg more than the average consumption per day.

## Required:

Calculate the following in relation to material 'CEE':
(i) Economic Order Quantity.
(ii) Reorder Level
(iii) Maximum Stock Level. (Assume 360 days in a year)
(b) A worker took 60 hours to complete a job in a factory. The normal rate of wages is ₹ 80 per hour. The worker is entitled to receive bonus according to the Halsey Premium Plan. Factory overhead is recovered on the job at ₹ 60 per man hour actually worked. The factory cost of the job is ₹ 37,280 and material cost of the job is ₹ 28,400 .
Required:
(i) Calculate the standard time for completing the job and effective hourly rate under the Halsey Premium plan.
(ii) Calculate the effective rate of earnings per hour if wages would have been paid under the Rowan Plan.
(5 Marks)

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

(c) XYZ Limited manufactures three joint products $A, B$ and $C$ from a joint process. Product $B$ is sold at split off point whereas product $A$ and $C$ are sold after further processing. 10\% of the quantity of product $A$ is lost in further processing. Data regarding these products for the year ending 31 st March, 2023 are as follows:

|  | A | B | C |
| :--- | ---: | ---: | ---: |
| Number of units produced and sold | $3,60,000$ | $2,10,000$ | $4,50,000$ |
| Selling price per unit at split off point | - | $₹ 6$ | - |
| Selling price per unit after further processing | $₹ 9.50$ | - | $₹ 12$ |
| Further processing costs | $₹ 8,60,000$ | - | $₹ 10,40,000$ |

The joint production cost upto the split off point at which $A, B$ and $C$ become separable products is ₹ $57,26,000$.

## Required:

(i) Prepare a statement showing apportionment of joint cost to the products using Net realizable value method.
(ii) Assume XYZ Limited has received an offer from D Limited to purchase product 'A' at the split off point at $₹ 7$ per unit and another company PQR Limited has offered to purchase product ' C ' at split off point at 9 per unit.
Advise whether these offers should be accepted or not?
(5 Marks)
(d) Unique Construction Limited commenced a contract on 01.08.2022. The total contract price was $₹ 96,00,000$. The following information was available from their costing records as at 31.03.2023:

| Material consumed | $₹ 35,91,000$ |
| :--- | ---: |
| Wages paid | $₹ 9,65,000$ |
| Wages outstanding as on 31.03.2023 | $₹ 75,000$ |
| Plant issued to site on 01.08.2022 | $₹ 7,50,000$ |
| Direct expenses | $₹ 1,96,650$ |
| General overheads | $₹ 2,08,000$ |

A supervisor who was paid $₹ 18,000$ per month, had spent $40 \%$ of his time on this contract. Plant costing ₹ 60,000 was transferred to other contracts on 31.12.2022. Plant was to be depreciated at $15 \%$ per annum on straight line method (SLM) basis. On 31.03.2023, 60\% of the contract was completed. The architect's certificate had been issued covering 50\% of the contract price. 1
Prepare a Contract account and show the notional profit or loss as on 31.03.2023.
(5 Marks)

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

## Answer

(a) (i) Economic Order Quantity $(E O Q)=\sqrt{\frac{2 A O}{C}}$

Where, $A=$ Annual demand for the material $C E E=1,94,400 \mathrm{Kgs}$
$0=$ Ordering cost $=₹ 150$
$C=$ Carrying cost per unit per annum $=6 \%$ of $₹ 300=18$
$E O Q=\sqrt{\frac{2 \times 1,94,400 \times 150}{18}}=1,800$ Units (Kgs.)
(ii) Re-order level (ROL) $=$ Maximum consumption ${ }^{\#} \times$ Maximum lead time

ROL $=740 \times 8=5,920 \mathrm{Kg}$.
\# Maximum Consumption = Average consumption +200 kg
$=\frac{1,94,400}{360}+200=540+200 \mathrm{Kg}=740 \mathrm{Kg}$.
Maximum lead time $=8$ days
(iii) Maximum Stock level $=\mathrm{Re}$-order quantity +Re -order level - (Min. consumption* $\times$ Min. lead time)
$=1,800+5,920-(340 \times 4)$
$=7,720-1,360=6,360 \mathrm{Kg}$
*Minimum consumption $=2 \times$ Average consumption - Maximum Consumption
$=2 \times 540-740$
$=1080-740=340 \mathrm{~kg}$.
(b) (i) Calculation of standard time and effective hourly rate:

Standard time $=$ Actual hours worked + time saved $=60+12=72$ hours
Effective hourly rate under Halsey premium plan $=\frac{\text { Total labour cost }}{\text { Actual hour worked }}=\frac{5,280}{60}$ = ₹ 88
(ii) Calculation of effective rate earnings under Rowan plan:
(Rate $\times$ Actual hours worked) + Rate $\times \frac{\text { Time Saved }}{\text { Std. Time }} \times$ Time taken
₹ $80 \times 60$ hours $+₹ 80 \times \frac{12}{72} \times 60$
₹ $4,800+800=₹ 5,600$

## Downloaded From www.castudynotes.com

Effective rate per hour $=5,600 \div 60$ hour $=₹ 93.33$

## Working Note:

(1) Calculation of labour cost $=$ Factory cost - Material cost - Factory Overhead
$=37,280-28,400-$ (₹ $60 \times 60$ hours)
$=37,280-28,400-3,600=₹ 5,280$
(2) Calculation of bonus and time saved

Total labour cost $=$ Normal Rate $\times$ Actual hours worked $+1 / 2$ time saved $\times$ normal rate
₹ $5,280=(₹ 80 \times 60$ hours $)+1 / 2($ time saved $\times$ ₹ 80$)$
$40 \times$ time saved $=₹ 5,280-₹ 4,800$
Time saved $=(5,280-4,800) \div 40$
Time saved $=12$ hours
The solution can also be presented in following way:
(b)

| Particulars | $\mathbf{( ₹ )}$ |
| :--- | ---: |
| Factory Cost | 37,280 |
| Less: Factory Overheads $60 \times ₹ 60$ | 3,600 |
| Prime Cost | 33,680 |
| Direct material | 28,400 |
| Direct wages (Balancing Figure) | 5,280 |

(i) Wages under Halsey Plan (Rate $\times$ Actual hours worked) + Rate $\times \frac{\text { Time Saved }}{\text { Std. Time }} \times$ Time taken
₹ $5,280=60 \times ₹ 80+\left(S^{*}-60\right) / 2 x$ ₹ 80
₹ $5,280=₹ 4,800+40 \mathrm{~S}-2,400$
$S=₹ 2,880 / 40=72$ hours
*Standard time
Effective rate of earnings per hour $=5,280 / 60 \quad=₹ 88$

## Downloaded From www.castudynotes.com

(ii) Wages under Rowan Plan: (Rate $\times$ Actual hours worked) + Rate $\times \frac{\text { Time Saved }}{\text { Std. Time }} \times$ Time taken
$=60 \times 80+\frac{72-60}{72} \times 60 \times 80 \quad=₹ 5,600$
Effective rate of earnings per hour $=5,600 / 60 \quad=₹ 93.33$
(c) (i) Statement showing apportionment of joint cost to the products using NRV method

| Particulars | Product A (₹) | Product B (₹) | Product C (₹) |
| :--- | ---: | ---: | ---: |
| Sales value | $34,20,000$ | $12,60,000$ | $54,00,000$ |
|  | $(3,60,000 \times ₹ 9.5)$ | $(2,10,000 \times ₹ 6)$ | $(4,50,000 \times ₹ 12)$ |
| Less: Further <br> processing cost | $8,60,000$ | - | $10,40,000$ |
| Net Realisable <br> Value | $25,60,000$ | $12,60,000$ | $43,60,000$ |
| Apportionment of <br> Joint cost of <br> ₹ 57,26,000 in the <br> ratio of 256:126:436 | $17,92,000$ | $8,82,000$ | $30,52,000$ |

(ii) Decision whether to Process further or not

| Particulars | Product A (₹) | Product C (₹) |
| :--- | ---: | ---: |
| Incremental Revenue | $9,00,000$ | $13,50,000$ |
|  | $(₹ 9.5-₹ 7) \times 3,60,000$ | (₹ 12-₹ 9) $\times 4,50,000$ |
| Less: Further processing <br> cost | $8,60,000$ | $10,40,000$ |
| Less: wastage if further <br> processed | $2,80,000$ |  |
| Incremental <br> profit/(loss) | $\mathbf{F} 7 \times(3,60,000 * 10 \% / 90 \%)$ | - |

On comparing incremental sales revenue with further processing cost, there is net loss of ₹ $2,40,000$ in case of product A and profit of ₹ $3,10,000$ in case of product $C$. Hence offer of D Ltd should be accepted and Product A should be sold at split off point Whereas product $C$ should be sold after further processing.

## Downloaded From www.castudynotes.com

The solution can also be presented in following way:
Profit from further processing

| Particulars | Product A (₹) | Product C (₹) |
| :--- | ---: | ---: |
| Sales Revenue | $34,20,000$ | $54,00,000$ |
|  | $(3,60,000 \times 9.5)$ | $(4,50,000 \times 12)$ |
| Less: Joint cost | $17,92,000$ | $30,52,000$ |
| Less: Further processing cost | $8,60,0000$ | $10,40,000$ |
| (i) Profit/(loss) | $7,68,000$ | $13,08,000$ |

Profit from Accepting offer (Sale at separation point)

| Particulars | Product A (₹) <br> D Limited offer <br> accepted | Product C (₹) <br> PQR Limited offer <br> accepted |
| :--- | ---: | ---: |
| Sales Revenue | $28,00,000$ | $40,50,000$ |
|  | $(3,60,000 / 0.90) \times 7$ | $(4,50,000 \times 9)$ |
| Less: Joint cost | $17,92,000$ | $30,52,000$ |
| (ii) Profit/(loss) | $\mathbf{1 0 , 0 8 , 0 0 0}$ | $9,98,000$ |
| Incremental profit (loss) (i)-(ii) | $\mathbf{( 2 , 4 0 , 0 0 0 )}$ | $\mathbf{3 , 1 0 , 0 0 0}$ |

On comparing profit at separation point with further processing profit, there is net loss of ₹ $2,40,000$ in case of product $A$ and profit of ₹ $3,10,000$ in case of product C . Hence offer of D Ltd should be accepted and Product A should be sold at split off point Whereas product $C$ should be sold after further processing.
(d)

Contract A/c for the year ending 31/03/23

| Particulars | (₹) | Particular | (₹) |  |
| :--- | ---: | :--- | ---: | ---: |
| To Material | $35,91,000$ | By work in Progress: |  |  |
| To Wages: |  | Work certified | $48,00,000$ |  |
| Current Wages $9,65,000$ |  | Work uncertified | $\underline{8,61,000}$ | $56,61,000$ |
| Add: outstanding Wages $\underline{75,000}$ | $10,40,000$ | By Plant (Transferred) | 60,000 |  |
| To Plant | $7,50,000$ | Less: Dep @ 15\% for 5 months $\underline{3,750}$ | 56,250 |  |
| To Direct Expenses | $1,96,650$ | By Plant at site | $6,21,000$ |  |
| To General overheads | $2,08,000$ | (7,50,000 $-60,000-69,000)$ |  |  |
| To Supervision Salary | 57,600 |  |  |  |
| $\quad(18,000 \times 8 \times 40 \%)$ |  |  |  |  |
| To Notional profit c/d | $4,95,000$ |  |  |  |
|  | $63,38,250$ |  | $63,38,250$ |  |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

## Working Note:

Calculation of cost of work uncertified:

| Particular | (₹) |
| :--- | ---: |
| Cost incurred till date | $51,66,000$ |
| Estimated total cost <br> $(51,66,000 / 60 \%)$ | $86,10,000$ |
| Cost of work certified <br> $(86,10,000 \times 50 \%)$ | $43,05,000$ |
| Cost of uncertified work <br> $(51,66,000-43,05,000)$ | $\mathbf{8 , 6 1 , 0 0 0}$ |

The solution can also be presented in following way and depreciation can be calculated as shown below:

Contract A/c for the year ending 31/03/23

| Particulars | (₹) | Particular | (₹) |
| :---: | :---: | :---: | :---: |
| To Material | 35,91,000 |  |  |
| To Wages: |  |  |  |
| Current Wages 9,65,000 |  |  |  |
| Add: outstanding Wages 75,000 | 10,40,000 |  |  |
| To Depreciation on plant | 72,750 |  |  |
| To Direct Expenses | 1,96,650 |  |  |
| To General overheads | 2,08,000 |  |  |
| To Supervision Salary $(18,000 \times 8 \times 40 \%)$ | 57,600 | By work Cost (Bal Fig.) | 51,66,000 |
|  | 51,66,000 |  | 51,66,000 |
| To work cost | 51,66,000 | By work certified | 48,00,000 |
| To Notional profit c/d | 4,95,000 | By Work uncertified | 8,61,000 |
|  | 56,61,000 |  | 56,61,000 |

## Working Note:

1. Calculation of cost of work uncertified:

| Particular | (₹) |
| :--- | ---: |
| Cost incurred till date | $51,66,000$ |
| Estimated total cost | $86,10,000$ |

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

| $(51,66,000 / 60 \%)$ |  |
| :--- | ---: |
| Cost of work certified <br> $(86,10,000 \times 50 \%)$ | $43,05,000$ |
| Cost of uncertified work <br> $(51,66,000-43,05,000)$ | $8,61,000$ |

2. Calculation of Depreciation

Plant value ( $7,50,000-60,000$ ) $=$ ₹ $6,90,000$ used for 8 months and plant value ₹ 60,000 used for 5 months.
Depreciation amount for 8 months $=(6,90,000 \times 15 \% \times 8$ months $) / 12=₹ 69,000$
Depreciation amount for 5 months $=(60,000 \times 15 \% \times 5$ months $) / 12=₹ 3,750$
Total depreciation amount $=₹ 72,750$

## Question 2

(a) The following data relates to the manufacture of product BXE for the year ended 31st March, 2023:

|  | Amount (₹) |
| :--- | ---: |
| Value of stock as on 1st April,2022 |  |
| Raw materials | $27,00,000$ |
| Work in progress | $10,60,000$ |
| Finished Goods | $25,00,000$ |
| Material purchased | $2,48,00,000$ |
| Freight inward | $7,50,000$ |
| Direct wages | $42,00,000$ |
| Power \& Fuel | $18,75,000$ |
| Cost of special drawings | $3,60,000$ |
| Trade Discount | $4,50,000$ |
| Insurance on material procured | 15,000 |
| Rent of Factory Building (1/5th used for office purpose) | $7,00,000$ |
| Depreciation on machinery | $6,25,000$ |
| Depreciation on Delivery Vans | $1,20,000$ |
| Consumable stores and indirect wages | $15,20,000$ |
| Quality Control cost | $9,00,000$ |
| Primary packing cost | $12,90,000$ |

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

| General Administrative overheads (excluding rent of building) | $17,50,000$ |
| :--- | ---: |
| Salary paid to Marketing Staff | $9,60,000$ |
| Packing cost for transportation | $1,84,000$ |
| Value of stock as on 31st March, 2023 |  |
| Raw materials | $32,60,000$ |
| Work in progress | $11,80,000$ |
| Finished Goods | $28,38,000$ |

## Additional Information:

- Further, some of the finished product was found defective and the defective products were rectified by incurring expenditure of additional factory overheads to the extent of ₹ 33,600 . The cost of rectification is not included in details mentioned above.
- An amount of ₹ $1,20,600$ was realised by selling scrap and waste generated during the year.
Prepare Cost sheet for the year ended 31stMarch, 2023 showing:
(i) Prime cost,
(ii) Factory cost,
(iii) Cost of production.
(iv) Cost of goods sold, and
(v) Cost of sales.
(10 Marks)
(b) HL Limited produces and sells four varieties of beverage. The past data shows different demand patterns for various quarters during the year. The sales quantity and selling price for the month of September 2023 is as follows:

|  | Sales Quantity | Selling Price per unit |
| :--- | ---: | ---: |
| Hot Coffee | $1,40,000$ Units | ₹ $20 /-$ |
| Cold Coffee | $3,40,000$ Units | ₹40/- |
| Fruit Juice | $4,20,000$ Units | ₹ $20 /-$ |
| Carbonated Soft Drink | $2,70,000$ units | ₹ $20 /-$ |

For the quarter October to December 2023, it is estimated that due to climate changes the demand for Hot Coffee would increase every month by $50 \%$ of the previous month and the demand for Cold Coffee would decrease every month by $30 \%$ of the previous month. The demand for Fruit Juice would decrease by 20\% in the month of October 2023 and thereafter it will remain constant. HL Limited would be able to sell only 60,000 units, 50,000 units and 30,000 units of Carbonated Soft Drink respectively during the months of October,

## Downloaded From www.castudynotes.com

November and December 2023. There would be no change in the selling price of all the products during the next quarter.
Standard Quantity of closing stock for the period September 2023 to December 2023 is as follows: (in units)

|  | Hot Coffee | Cold Coffee | Fruit Juice | Carbonated Soft <br> Drink |
| :--- | ---: | ---: | ---: | ---: |
| September 2023 | 12,000 | 13,000 | 11,000 | 7,500 |
| October 2023 | 15,000 | 14,000 | 12,000 | 5,500 |
| November 2023 | 13,000 | 15,000 | 10,000 | 6,000 |
| December 2023 | 11,000 | 16,000 | 13,000 | 7,000 |

You are required to prepare a Production Budget (in units) and Sales Budget (in units and sales value) for the months of October, November and December 2023.
(10 Marks)
Answer
(a)

Cost Sheet for the product BXE

| SI. No. | Particulars | (₹) | (₹) |
| :---: | :---: | :---: | :---: |
| (i) | Material Consumed: |  | 2,45,55,000 |
|  | Raw materials purchased | 2,48,00,000 |  |
|  | Freight inwards | 7,50,000 |  |
|  | Insurance on material procured | 15,000 |  |
|  | Less: Trade discount | $(4,50,000)$ |  |
|  | Add: Opening stock of raw materials | 27,00,000 |  |
|  | Less: Closing stock of raw materials | $(32,60,000)$ |  |
| (ii) | Direct wages |  | 42,00,000 |
| (iii) | Direct expenses: |  |  |
|  | Power \& fuel | 18,75,000 |  |
|  | Cost of special drawings | 3,60,000 | 22,35,000 |
|  | Prime Cost |  | 3,09,90,000 |
| (iv) | Works/ Factory overheads: |  |  |
|  | Rent of factory building (4/5th of 7,00,000) | 5,60,000 |  |
|  | Depreciation on machinery | 6,25,000 |  |
|  | Defective rectification cost | 33,600 |  |
|  | Consumable stores \& indirect wages | 15,20,000 | 27,38,600 |
|  | Gross works cost |  | 3,37,28,600 |

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

|  | Add: Opening work in process Less: Closing work in process | $\begin{array}{r} 10,60,000 \\ (11,80,000) \end{array}$ |
| :---: | :---: | :---: |
|  | Factory cost | 3,36,08,600 |
| (v) | Quality control cost | 9,00,000 |
| (vi) | Primary packing cost | 12,90,000 |
| (vii) | Less: Amount realised from scrap sale | (1,20,600) |
|  | Cost of production | 3,56,78,000 |
|  | Add: Opening stock of finished goods | 25,00,000 |
|  | Less: Closing stock of finished goods | $(28,38,000)$ |
|  | Cost of Goods Sold | 3,53,40,000 |
|  | Administrative overheads: |  |
| (viii) | Rent of factory building ( $1 / 5^{\text {th }}$ of 7,00,000) | 1,40,000 |
|  | General administrative overheads | 17,50,000 |
|  | Selling and Distribution overheads: |  |
| (x) | Salary paid to marketing staff | 9,60,000 |
| (xi) | Packing cost for transportation | 1,84,000 |
| (xii) | Depreciation on delivery vans | 1,20,000 |
|  | Cost of Sales | 3,84,94,000 |

Alternatively, Power and fuel expenses of ₹ $18,75,000$ can be taken as a part of factory overhead. Accordingly, prime cost will be $2,91,15,000$. However, there will be no change in factory cost, cost of production, cost of goods sold and cost of sales.
(b)

Production Budget (in units)

| Particulars | Hot Coffee | Cold Coffee | Fruit Juice | Carbonated <br> Soft Drink |
| :--- | ---: | ---: | ---: | ---: |
| October 2023 |  |  |  |  |
| Sales* | $2,10,000$ | $2,38,000$ | $3,36,000$ | 60,000 |
| Add: Closing stock | 15,000 | 14,000 | 12,000 | 5,500 |
| Total Quantity Required | $2,25,000$ | $2,52,000$ | $3,48,000$ | 65,500 |
| Less: Opening stock | 12,000 | 13,000 | 11,000 | 7,500 |
| Production | $\mathbf{2 , 1 3 , 0 0 0}$ | $\mathbf{2 , 3 9 , 0 0 0}$ | $\mathbf{3 , 3 7 , 0 0 0}$ | 58,000 |
| November 2023 |  |  |  |  |
| Sales $^{*}$ | $3,15,000$ | $1,66,600$ | $3,36,000$ | 50,000 |
| Add: Closing stock | 13,000 | 15,000 | 10,000 | 6,000 |
| Total Quantity Required | $3,28,000$ | $1,81,600$ | $3,46,000$ | 56,000 |

## Downloaded From www.castudynotes.com

| Less: Opening stock | 15,000 | 14,000 | 12,000 | 5,500 |
| :--- | ---: | ---: | ---: | ---: |
| Production | $\mathbf{3 , 1 3 , 0 0 0}$ | $\mathbf{1 , 6 7 , 6 0 0}$ | $3,34,000$ | $\mathbf{5 0 , 5 0 0}$ |
| December 2023 |  |  |  |  |
| Sales* | $4,72,500$ | $1,16,620$ | $3,36,000$ | 30,000 |
| Add: Closing stock | 11,000 | 16,000 | 13,000 | 7,000 |
| Total Quantity Required | $4,83,500$ | $1,32,620$ | $3,49,000$ | 37,000 |
| Less: Opening stock | 13,000 | 15,000 | 10,000 | 6,000 |
| Production | $\mathbf{4 , 7 0 , 5 0 0}$ | $\mathbf{1 , 1 7 , 6 2 0}$ | $\mathbf{3 , 3 9 , 0 0 0}$ | $\mathbf{3 1 , 0 0 0}$ |

*sales units are taken from sales budget
Sales Budget (in Units and sales value)

| Particulars | Hot Coffee | Cold Coffee | Fruit Juice | Carbonated Soft Drink |
| :---: | :---: | :---: | :---: | :---: |
| October 2023 (in units) | $\begin{array}{r} 2,10,000 \\ {[1,40,000} \\ +(1,40,000 \\ \times 50 \%)] \end{array}$ | $\begin{array}{r} 2,38,000 \\ {[3,40,000} \\ -(3,40,000 \\ \times 30 \%)] \end{array}$ | $\begin{array}{r} 3,36,000 \\ {[420000} \\ -(4,20,000 \times 20 \%)] \end{array}$ | 60,000 |
| October 2023 <br> (Sales Value in ₹) | $\begin{array}{r} 42,00,000 \\ (2,10,000 \\ x ₹ 20) \end{array}$ | $\begin{array}{r} 95,20,000 \\ (2,38,000 \\ x ₹ 40) \end{array}$ | $\begin{array}{r} 67,20,000 \\ (3,36,000 \times ₹ 20) \end{array}$ | $\begin{array}{r} 12,00,000 \\ (60,000 \\ \text { x ₹ } 20) \end{array}$ |
| November 2023 (in units) | $\begin{array}{r} 3,15,000 \\ {[2,10,000} \\ +(2,10,000 \\ \times 50 \%)] \end{array}$ | $\begin{array}{r} 1,66,600 \\ {[2,38,000} \\ -(2,38,000 \\ \times 30 \%)] \end{array}$ | 3,36,000 | 50,000 |
| November 2023 <br> (Sales Value in ₹) | $\begin{array}{r} 63,00,000 \\ (3,15,000 \\ \text { ₹ } ₹ 20) \end{array}$ | $\begin{array}{r} 66,64,000 \\ (1,66,600 \\ x ₹ 40) \end{array}$ | $\begin{array}{r} 67,20,000 \\ (3,36,000 \times ₹ 20) \end{array}$ | $\begin{array}{r} 10,00,000 \\ (50,000 \\ x \text { ₹ } 20) \end{array}$ |
| December 2023 (in units) | $\begin{array}{r} 4,72,500 \\ {[3,15,000} \\ +(3,15,000 \\ \times 50 \%)] \end{array}$ | $\begin{array}{r} 1,16,620 \\ {[1,66,600} \\ -(1,66,600 \\ \times 30 \%)] \end{array}$ | 3,36,000 | 30,000 |
| December 2023 <br> (Sales Value in ₹) | $\begin{array}{r} 94,50,000 \\ (4,72,500 \\ \times ₹ ₹ 20) \end{array}$ | $\begin{array}{r} 46,64,800 \\ (1,16,620 \\ x ₹ 40) \end{array}$ | $\begin{array}{r} 67,20,000 \\ (3,36,000 \times ₹ 20) \end{array}$ | $\begin{array}{r} 6,00,000 \\ (30,000 \\ \text { x } ₹ 20) \end{array}$ |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

Sales Budget can also be presented in following way:

|  | Oct 2023 |  | Nov 2023 |  | Dec 2023 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Quantity <br> (units) | Amount <br> (₹) | Quantity <br> (units) | Amount <br> (₹) | Quantity <br> (units) | Amount <br> (₹) |
| Hot Coffee @ ₹ 20 <br> per unit | $2,10,000$ | $42,00,000$ | $3,15,000$ | $63,00,000$ | $4,72,500$ | $94,50,000$ |
| Cold Coffee @ ₹ 40 <br> per unit | $2,38,000$ | $95,20,000$ | $1,66,600$ | $66,64,000$ | $1,16,620$ | $46,64,800$ |
| Fruit Juice @ ₹ 20 <br> per unit | $3,36,000$ | $67,20,000$ | $3,36,000$ | $67,20,000$ | $3,36,000$ | $67,20,000$ |
| Carbonated <br> Drink @ ₹ 20 peft <br> unit | 60,000 | $12,00,000$ | 50,000 | $10,00,000$ | 30,000 | $6,00,000$ |
|  |  | $\mathbf{2 , 1 6 , 4 0 , 0 0 0}$ |  | $\mathbf{2 , 0 6 , 8 4 , 0 0 0}$ |  | $\mathbf{2 , 1 4 , 3 4 , 8 0 0}$ |

## Question 3

(a) HCP Ltd. is a manufacturing company having two production departments, $P$ and $Q$ and two service departments, $R$ and $S$. The budgeted cost information for the month of October 2023 is furnished below:

|  |  |  | roduction partments |  | Service artments |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | ( $)^{\text {) }}$ | P (\%) | Q (\%) | $R$ (\%) | S (\%) |
| Indirect material | 1,77,500 | 94,750 | 49,750 | 18,270 | 14,730 |
| Indirect Labour | 1,55,000 | 35,000 | 75,000 |  |  |
| Factory Rent | 75,000 |  |  |  |  |
| Depreciation on machinery | 37,500 |  |  |  |  |
| Power | 96,000 |  |  |  |  |
| Security Expenses for Factory Premises | 24,000 |  |  |  |  |
| Insurance- machinery | 12,000 |  |  |  |  |
| Supervisor Expenses | 48,000 |  |  |  |  |
| Additional information |  |  |  |  |  |
| Floor Area (Sq. meters) |  | 1250 | 750 | 200 | 300 |
| Net book value of machinery ( ${ }^{\text {( ) }}$ |  | 21,00,000 | 5,00,000 | 1,00,000 | 3,00,000 |
| H.P. of machines |  | 800 | 200 | 80 | 120 |

## Downloaded From www.castudynotes.com

| Machine hours | 4,000 | 1,000 | 600 | 800 |
| :--- | ---: | ---: | ---: | ---: |
| Number of employees | 10 | 30 | 6 | 4 |
| Labour hours | 2,000 | 6,000 | 1,200 | 600 |

The overhead costs of the two service department are distributed using step method in the same order viz. $R$ and $S$ respectively on the following basis:
Department $R \quad$ Number of employees
Department $S$ Machine hours

## Required:

(i) Prepare a statement showing distribution of overheads to various departments, clearly showing the basis of distribution.
(ii) Calculate the total budgeted overheads for both production departments after the service departments have been re-apportioned to them.
(iii) Calculate the most appropriate overhead absorption rate for each of the production department.
(10 Marks)
(b) Royal Hotel offers three types of rooms to its guests - Deluxe Room, Executive Room and Suite Room. Other information is as follows:-

|  | Deluxe Room | Executive Room | Suite Room |
| :--- | ---: | ---: | ---: |
| Room Tariff per day | $₹ 1,500$ | $₹ 2,400$ | $₹ 3,800$ |
| No. of rooms | 20 | 10 | 4 |
| Average occupancy during the <br> year | $80 \%$ | $60 \%$ | $75 \%$ |
| Housekeeping expenses per <br> day | ₹280 | ₹320 | ₹425 |

The hotel provides complimentary breakfast facility to its executive room and suite room guests while swimming pool facility is provided free of cost only to suite room guests.

The restaurant and swimming pool is run by a contractor. The contractor recovers charges of ₹ 150 per person for breakfast and ₹ 200 per person for using swimming pool facility from Royal Hotel.
Besides the above-mentioned charges, annual fixed expenses are as follows:

| Salaries to staff | $₹ 57,60,000$ |
| :--- | :--- |
| Electricity Expenses | $₹ 24,00,000$ |

Salaries to staff are apportioned to Deluxe Room. Executive Room and Suite Room in the ratio of 25:35:40 and electricity expenses are to be apportioned in proportion to occupancy.

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

You are required to calculate the total profit of each room type on annual basis. Note: Assume 360 days in a year and double occupancy in each category of room.
(10 Marks)
Answer
(a) (i)

Overhead Distribution Statement

| Particular | Basis | Total Amount (₹) | Production Departments |  | Service Departments |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | P (₹) | Q (₹) | R (₹) | S (₹) |
| Indirect material | Direct | 1,77,500 | 94,750 | 49,750 | 18,270 | 14,730 |
| Indirect labour | Direct | 1,55,000 | 35,000 | 75,000 | 15,000 | 30,000 |
| $\begin{aligned} & \text { Factory } \\ & (125: 75: 20: 30) \end{aligned} \text { rent }$ | Floor Area | 75,000 | 37,500 | 22,500 | 6,000 | 9,000 |
| Depreciation of machinery (21:5:1:3) | Book value of machinery | 37,500 | 26,250 | 6,250 | 1,250 | 3,750 |
| Power (80:20:8:12) | H.P. of machines | 96,000 | 64,000 | 16,000 | 6,400 | 9,600 |
| Security expenses for factory premises (125:75:20:30) | Floor Area | 24,000 | 12,000 | 7,200 | 1,920 | 2,880 |
| Insurancemachinery (21:5:1:3) | Book value of machinery | 12,000 | 8,400 | 2,000 | 400 | 1,200 |
| Supervisor expenses (10:30:6:4) | Number of employees | 48,000 | 9,600 | 28,800 | 5,760 | 3,840 |
| Total |  | 6,25,000 | 2,87,500 | 2,07,500 | 55,000 | 75,000 |

(ii) Redistribution of Service Department's Expenses

| Particular | Production <br> Departments |  | Service <br> Departments |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  |  | $\mathbf{P}(₹)$ | $\mathbf{Q}(₹)$ | $\mathbf{R}(₹)$ | $\mathbf{S}(₹)$ |
| Overhead <br> distribution | as | per | primary | $2,87,500$ | $2,07,500$ |
| Expenses of service department <br> R is apportioned among other | 125,500 | 75,000 |  |  |  |

## Downloaded From www.castudynotes.com

| departments P, Q \& S in the ratio <br> of number of employees <br> $(10: 30: 4)$ |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Expenses of service department <br> S is apportioned among other <br> departments P \& Q in the ratio of <br> Machine hours (40:10) | 64,000 | 16,000 | - | $(80,000)$ |
| Total Budgeted overheads | 3,64,000 | $\mathbf{2 , 6 1 , 0 0 0}$ | $\mathbf{-}$ | $\boldsymbol{-}$ |

(iii) Calculation of overhead rates for each of the production department

| Particular | Production Departments |  |
| :--- | ---: | ---: |
|  | $\mathbf{P}(₹)$ | $\mathbf{Q}(₹)$ |
| Total Budgeted overheads | $3,64,000$ | $2,61,000$ |
| Actual machine hours | 4000 hours | - |
| Actual labour hours | - | 6000 hours |
| Actual machine/labour hour rate | $\mathbf{9 1}$ | $\mathbf{4 3 . 5}$ |

Note: Department P is assumed to be machine oriented and Department Q is assumed to be labour oriented as per information available in the question
The solution 3(a) can also be presented in following way for Distribution of Power expenses:

Overhead Distribution Statement

| Particular | Basis | Total <br> Amount <br> $(₹)$ |  | Production <br> Departments |  | Service <br> Departments |  |
| :--- | :--- | :---: | ---: | ---: | ---: | ---: | :---: |
|  |  |  | $\mathbf{Q}(₹)$ | $\mathbf{R}(₹)$ | $\mathbf{S}(₹)$ |  |  |
| Indirect material | Direct | $1,77,500$ | 94,750 | 49,750 | 18,270 | 14,730 |  |
| Indirect labour | Direct | $1,55,000$ | 35,000 | 75,000 | 15,000 | 30,000 |  |
| Factory rent <br> (125:75:20:30) | Floor Area | 75,000 | 37,500 | 22,500 | 6,000 | 9,000 |  |
| Depreciation of <br> machinery <br> $(21: 5: 1: 3)$ | Book value of <br> machinery | 37,500 | 26,250 | 6,250 | 1,250 | 3,750 |  |
| Power <br> $(3200: 200: 48: 96)$ | H.P. x machine <br> hours | 96,000 | 86,682 | 5,418 | 1,300 | 2,600 |  |
| Security <br> expenses for <br> factory premises <br> (125:75:20:30) | Floor Area | 24,000 | 12,000 | 7,200 | 1,920 | 2,880 |  |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

| Insurance- <br> machinery <br> $(21: 5: 1: 3)$ | Book value of <br> machinery | 12,000 | 8,400 | 2,000 | 400 | 1,200 |
| :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| Supervisor <br> expenses <br> $(10: 30: 6: 4)$ | Number of <br> employees | 48,000 | 9,600 | 28,800 | 5,760 | 3,840 |
| Total |  | $6,25,000$ | $3,10,182$ | $1,96,918$ | 49,900 | 68,000 |

Power can be distributed on the basis of HP of machines $x$ machine hours
$800 \times 4000=32,00,000,200 \times 1000=2,00,000,80 \times 600=48,000,120 \times 800$
$=96,000$
Ratio is 3200:200:48:96
(ii) Redistribution of Service Department's Expenses

| Particular | Production <br> Departments |  | Service Departments |  |
| :--- | ---: | ---: | ---: | ---: |
|  | $\mathbf{P ( ₹ )}$ | $\mathbf{Q}(₹)$ | $\mathbf{R}(₹)$ | $\mathbf{S}(₹)$ |
| Overhead as per primary <br> distribution | $\mathbf{3 , 1 0 , 1 8 2}$ | $\mathbf{1 , 9 6 , 9 1 8}$ | 49,900 | 68,000 |
| Expenses of service <br> department R is apportioned <br> among other departments P | $11,340.90$ | $34,022.73$ | $(49,900)$ | $4,536.37$ |
| Q \& S in the ratio of number <br> of employees (10:30:4) |  |  |  |  |
| Expenses of service <br> department S is apportioned <br> among other departments P <br> \& Q in the ratio of Machine <br> hours (40:10) | $58,029.10$ | $14,507.27$ |  | - |
| Total Budgeted overheads | $3,79,552$ | $\mathbf{2 , 4 5 , 4 4 8}$ |  |  |

(iii) Calculation of overhead rates for each of the production department

| Particular | Production Departments |  |
| :--- | ---: | ---: |
|  | $\mathbf{P}(₹)$ | $\mathbf{Q}(₹)$ |
| Total Budgeted overheads | $3,79,552$ | $2,45,448$ |
| Actual machine hours | 4000 hours | - |
| Actual labour hours | - | 6000 hours |
| Actual machine/labour hour rate | 94.89 | 40.91 |

## Downloaded From www.castudynotes.com

Note: Department $P$ is assumed to be machine oriented and Department $Q$ is assumed to be labour oriented as per information available in the question
(b) Calculation of room days:

| Nature of Room | Occupancy (Room-days) |
| :--- | ---: |
| Deluxe room | 5760 |
| Executive room | $(20 \times 80 \% \times 360)$ |
| Suite room | 2160 |
|  | $(10 \times 60 \% \times 360)$ |

Statement showing Total Profit for each room type

| Elements | Deluxe <br> room <br> $(₹)$ | Executive <br> room <br> $(₹)$ | Suite <br> room <br> $(₹)$ | Total <br> $(₹)$ |
| :--- | ---: | ---: | ---: | ---: |
| Room Days | 5760 | $\mathbf{2 1 6 0}$ | $\mathbf{1 0 8 0}$ |  |
| Revenue | $86,40,000$ | $51,84,000$ | $41,04,000$ | $1,79,28,000$ |
| Cost |  |  |  |  |
| Housekeeping @ ₹ 280 per <br> room day | $16,12,800$ | $6,91,200$ | $4,59,000$ | $27,63,000$ |
| Breakfast @ ₹ 150 per person | - | $6,48,000$ | $3,24,000$ | $9,72,000$ |
| Swimming pool @ ₹ 200 per <br> person | - | - | $4,32,000$ | $4,32,000$ |
| Salaries to staff (25:35:40) | $14,40,000$ | $20,16,000$ | $23,04,000$ | $57,60,000$ |
| Electricity <br> (occupancy) expenses | $15,36,000$ | $5,76,000$ | $2,88,000$ | $24,00,000$ |
| Total cost | $45,88,800$ | $39,31,200$ | $38,07,000$ | $1,23,27,000$ |
| Profit | $40,51,200$ | $\mathbf{1 2 , 5 2 , 8 0 0}$ | $2,97,000$ | $56,01,000$ |

The solution can also be presented in following way:
Calculation of room days

| Particulars | Occupancy during the year |  |  |  |
| :--- | :--- | ---: | ---: | ---: |
|  |  | Deluxe Room | Executive Room | Suite Room |
|  | No. of Rooms | 20 | 10 | 4 |
| (ii) | Occupancy in \% | $80 \%$ | $60 \%$ | $75 \%$ |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

| No. of rooms occupied per day | 16 | 6 | 3 |
| :--- | ---: | ---: | ---: |
| No. of rooms occupied per year | 5,760 | 2,160 | 1,080 |

Statement showing Total Profit for each room type

| Annual Room Rent | Deluxe Room | Executive Room | Suite Room |
| :--- | ---: | ---: | ---: |
| Room Rent per day per <br> room | $₹ 1,500$ | $₹ 2,400$ | $₹ 3,800$ |
| Annual Room Rent (A) | $₹ 86,40,000$ | $₹ 51,84,000$ | $₹ 41,04,000$ |
| Annual Fixed Expenses |  |  |  |
| Staff Salary (25:35:40) | $₹ 14,40,000$ | $₹ 20,16,000$ | $₹ 23,04,000$ |
| Electricity <br> (Occupancy) | Expenses | $₹ 15,36,000$ | $₹ 5,76,000$ |
| Total (B) | ₹ $2,88,000$ |  |  |
| Housekeeping Expenses | $₹ 16,12,800$ | ₹ $6,91,200$ | $₹ 4,59,000$ |
| Breakfast Charges |  | ₹ $6,48,000$ <br> $(2,160 \times 2 \times 150)$ | ₹ $3,24,000$ <br> $(1,080 \times 2 \times 150)$ |
| Swimming Pool Charges |  |  | $₹ 4,32,000$ |
| Total (C) | ₹ $16,12,800$ | $₹ 13,39,200$ | $₹ 12,15,000$ |
| Total Cost (B+C) | $₹ 45,88,800$ | $₹ 39,31,200$ | $₹ 38,07,000$ |
| Profit | $₹ 40,51,200$ | $₹ 12,52,800$ | $₹ 2,97,000$ |

## Question 4

(a) JH Plastics Limited manufactures three products S, M and L. To date, simple traditional absorption costing system has been used to allocate overheads to products. Total production overheads are allocated on the basis of machine hours. The machine hour rate for allocating production overheads is ₹ 240 per machine hour under the traditional absorption costing system. Selling prices are calculated by adding mark up of $40 \%$ of the product cost. Information related to products for the most recent year is as under:

|  | Products |  |  |
| :--- | ---: | ---: | ---: |
|  | S | M | L |
| Units produced and sold | 7,500 | 12,500 | 9,000 |
| Direct material cost per unit ( ₹) | 158 | 179 | 250 |
| Direct labour cost per unit ( $)$ | 40 | 45 | 60 |
| Machine hours per unit | 0.30 | 0.45 | 0.50 |

## Downloaded From www.castudynotes.com

| Number of Machine setups | 120 | 120 | 160 |
| :--- | ---: | ---: | :--- |
| Number of purchase orders | 90 | 135 | 125 |
| Number of inspections | 100 | 160 | 140 |

The management wishes to introduce activity-based method (ABC) system of attributing production overheads to products and has identified major cost pools for production overheads and their associated cost drivers as follows:

| Cost pool | Amount | Cost driver |
| :--- | ---: | :--- |
| Purchasing Department Cost | $₹ 7,00,000$ | Number of Purchase orders |
| Machine setup Cost | $₹ 9,00,000$ | Number of Machine setups |
| Quality Control Cost | $₹ 6,56,000$ | Number of inspections |
| Machining Cost | $₹ 5,64,000$ | Machine hours |

## Required:

(i) Calculate the total cost per unit and selling price per unit for each of the three products using:
(a) The traditional costing approach currently used by JH Plastics Limited;
(b) Activity based costing (ABC) approach.
(ii) Calculate the difference in selling price per unit as per (a) and (b) above and show which product is under-priced or over-priced.
(10 Marks)
(b) R Ltd. produces and sells 60,000 units of product 'AN', at its Noida Plant. The selling price of the product is ₹ 15 per unit. The variable cost is $80 \%$ of selling price per unit. Fixed cost during this period is ₹ $4,20,000$. The company is continuously suffering losses, and management plans to shut down the Noida Plant.
The fixed cost is expected to be reduced by ₹ $2,50,000$.
Additional costs of plant shut down are expected at ₹ 25,000 .
You are required to comment on:
(i) Whether the Noida plant be shut down?
(ii) Find the shut-down point in units.
(c) A product passes through two processes; Process A and Process B.

The output of Process $A$ is treated as input of Process $B$.
The following information has been furnished:

|  | Process $\boldsymbol{A}$ | Process B |
| :--- | ---: | ---: |
| Input Material | $₹ 3,90,000$ | - |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

| 78,000 Kg.@ ₹5 |  |  |
| :--- | ---: | ---: |
| Indirect Material | - | $₹ 34,320$ |
| Wages | $₹ 2,85,000$ | $₹ 3,30,000$ |
| Overhead | $₹ 1,67,400$ | $₹ 1,11,600$ |
| Output transferred to Process B | $68,640 \mathrm{kgs}$ |  |
| Transfer to Finished Stock | - | $69,000 \mathrm{kgs}$ |
| Normal loss of input material (weight in kgs.) | $7,800 \mathrm{kgs}$ | 240 kgs |

There is no realisable value for normal loss. No stock of raw materials on work-in-process was left at the end.
You are required to prepare the Process account for each Process.

## Answer

(a) (i) (a) Statement showing 'Cost per unit \& Selling price per unit - Traditional Method'.

| Particular | Products |  |  |
| :--- | ---: | ---: | ---: |
|  | $\mathbf{S ~ ( ₹ )}$ | $\mathbf{M}(₹)$ | $\mathbf{L}(₹)$ |
| Direct material cost per unit | 158 | 179 | 250 |
| Direct labour cost per unit | 40 | 45 | 60 |
| Production overhead @ ₹ 240 | 72 | 96 | 120 |
| per machine hour | $(₹ 240 \times 0.3)$ | (₹ $240 \times 0.4)$ | (₹ $240 \times 0.5)$ |
| Cost per unit | $\mathbf{2 7 0}$ | 320 | $\mathbf{4 3 0}$ |
| Add: Profit @ 40\% | 108 | 128 | 172 |
| Selling price per unit | $\mathbf{3 7 8}$ | $\mathbf{4 4 8}$ | $\mathbf{6 0 2}$ |

(b) Statement showing 'Cost per unit \& Selling price per unit - Activity Based Costing'.

| Particular | Activity Drivers | Total Amount (₹) | Products |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | S | M | L |
| Production (units) | - | - | 7500 | 12500 | 9000 |
| Machine hours | - | - | $\begin{array}{r} 2250 \\ (7500 \times 0.3) \end{array}$ | $\begin{array}{r} 5000 \\ (12500 \times 0.4) \end{array}$ | $\begin{array}{r} 4500 \\ (9000 \times 0.5) \end{array}$ |
|  |  |  | (₹) | (₹) | (₹) |
| Direct material cost per unit (i) |  |  | 158 | 179 | 250 |

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

| Direct labour cost <br> per unit (ii) |  |  | 40 | 45 | 60 |
| :--- | :--- | :--- | ---: | ---: | ---: |
| Overheads |  |  |  |  |  |
| Purchasing <br> department cost <br> (90:135:125) | Number of <br> purchase <br> orders | $7,00,000$ | $1,80,000$ | $2,70,000$ | $2,50,000$ |
| Machine setup cost <br> (120:120:160) | Number of <br> machine <br> setups | $9,00,000$ | $2,70,000$ | $2,70,000$ | $3,60,000$ |
| Quality control cost <br> (100:160:140) | Number of <br> inspections | $6,56,000$ | $1,64,000$ | $2,62,400$ | $2,29,600$ |
| Machining cost <br> (225:500:450) | Machine <br> hours | $5,64,000$ | $1,08,000$ | $2,40,000$ | $2,16,000$ |
| Total Overhead |  |  | $7,22,000$ | $10,42,400$ | $10,55,600$ |
| Overhead Cost per <br> unit (iii) |  | 966.27 | 83.39 | 117.29 |  |
| Total Cost per <br> unit (i+ii+iii) |  | 294.27 | 307.39 | 427.29 |  |
| Add: Profit @ 40\% |  | 117.71 | 122.96 | 170.92 |  |
| Selling price per <br> unit |  | 411.98 | 430.35 | 598.21 |  |

Note: The question may also be solved by calculating cost driver rate \& allocating various cost based on cost driver rate. However, there will be no change in any of the answer.
(ii)

| Particular | Products |  |  |
| :--- | ---: | ---: | ---: |
|  | S (₹) | M (₹) | L (₹) |
| Selling price per unit as per Traditional Costing | 378 | 448 | 602 |
| Selling price per unit as per Activity Based Costing | 411.98 | 430.35 | 598.21 |
| Difference | $\mathbf{( 3 3 . 9 8 )}$ | $\mathbf{1 7 . 6 5}$ | 3.79 |

Product S is underpriced while product M and L is overpriced using Traditional costing approach.
(b)

## Statement of profit

| Particulars | ₹ |
| :--- | ---: |
| Selling Price | 15 per unit |
| Less : Variable cost | 12 per unit |

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

| Contribution | 3 per unit |
| :--- | ---: |
| Capacity | 60,000 units |
| Total contribution $(60,000$ units $\times$ ₹ 3$)$ | $1,80,000$ |
| Less: Fixed Cost | $4,20,000$ |
| Loss | $\mathbf{( 2 , 4 0 , 0 0 0 )}$ |

Shut down cost

| Particular | ₹ |
| :--- | ---: | ---: |
| Fixed cost | $1,70,000$ |
| Additional cost | 25,000 |
| Shut down cost | $\mathbf{1 , 9 5 , 0 0 0}$ |

(i) Since the loss of Noida plant exceeds shut down cost it is better to shut down the plant.
(ii) Shut down point: $\frac{\text { Total fixed cost - Shut down cost }}{\text { Contribution per unit }}$

$$
\frac{4,20,000-1,95,000}{3}=75,000 \text { units }
$$

The solution can also be presented in following way
Statement of profit

| Particulars | If plant is continued | If plant is shut down |
| :---: | :---: | :---: |
| Selling Price | 15 per unit | - |
| Less : Variable cost | 12 per unit | - |
| Contribution | 3 per unit | - |
| Capacity | 60,000 units | - |
| Total contribution ( 60,000 units $\times$ ₹ 3 ) | 1,80,000 |  |
| Less : Fixed Cost | 4,20,000 | 1,70,000 |
| Additional Fixed Cost | - | 25,000 |
| Loss | 2,40,000 | 1,95,000 |

(i) Since the loss of Noida plant exceeds shut down cost it is better to shut down the plant.

## Downloaded From www.castudynotes.com

24
INTERMEDIATE EXAMINATION: NOVEMBER, 2023
(ii) Shut down point: $\frac{\text { Total fixed cost - Shut down cost }}{\text { Contribution per unit }}$

$$
\frac{4,20,000-1,95,000}{3}=75,000 \text { units }
$$

(c)

Process A Account

| Particulars | Units | $\boldsymbol{₹}$ | Particulars | Units | $\mathbf{₹}$ |
| :--- | ---: | ---: | :--- | ---: | ---: |
| To Material | 78,000 | $3,90,000$ | By Normal Loss | 7,800 | - |
| To Wages |  | $2,85,000$ | By Abnormal Loss | 1,560 | 18,720 |
| To Overheads |  | $1,67,400$ | By Process B A/c | 68,640 | $8,23,680$ |
| Total | $\mathbf{7 8 , 0 0 0}$ | $\mathbf{8 , 4 2 , 4 0 0}$ | Total | $\mathbf{7 8 , 0 0 0}$ | $\mathbf{8 , 4 2 , 4 0 0}$ |

Cost per unit of completed units and abnormal loss $=\frac{8,42,400}{78,000 \text { units }-7,800 \text { units }}=₹ 12$ unit

## Process B Account

| Particulars | Units | ₹ | Particulars | Units | $₹$ |
| :--- | ---: | ---: | :--- | ---: | ---: |
| To Process A A/c | 68,640 | $8,23,680$ | By Normal loss | 240 | - |
| To Indirect Material |  | 34,320 | By Finished stock | 69,000 | $13,11,000$ |
| To Wages |  | $3,30,000$ |  |  |  |
| To Overheads |  | $1,11,600$ |  |  |  |
| To Abnormal gain | 600 | 11,400 |  |  |  |
| Total | $\mathbf{6 9 , 2 4 0}$ | $\mathbf{1 3 , 1 1 , 0 0 0}$ | Total | $\mathbf{6 9 , 2 4 0}$ | $\mathbf{1 3 , 1 1 , 0 0 0}$ |

Cost per unit of completed units and abnormal gains:
$\frac{\text { Total cost }}{\text { Inputs }- \text { Normal loss }}=\frac{₹ 12,99,600}{68,640 \text { units }-240 \text { units }}=₹ 19$

## Question 5

(a) PQR Alloys Ltd. uses a standard costing system.

Budgeted information for the year:

Budgeted output
Variable Factory Overhead per unit
Standard time for one unit of output
Fixed factory overheads

84,000 units
₹ 16
0.80 machine hour
₹ $6,72,000$

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

Actual results for the year:

| Actual output | 87,600 units |
| :--- | :--- |
| Variable Overhead efficiency variance | $₹ 67,200$ (A) |
| Actual Fixed factory overheads | $₹ 7,05,000$ |
| Actual variable factory overheads | $₹ 14,37,000$ |

## Required:

Calculate the following variances clearly indicating Adverse(A) or Favourable (F):
(i) Variable factory overhead expenditure variance.
(ii) Fixed factory overhead expenditure variance.
(iii) Fixed factory overhead efficiency variance.
(iv) Fixed factory overhead capacity variance.
(10 Marks)
(b) The following data relate to the manufacture of a product 'VD-100* during the month of October 2023:

Good units produced $\quad 12,600$
Units Sold 11,800
Direct wages ₹8,82,000
Administrative Overheads ₹4,72,000
Selling price per unit ₹416
Each unit produced requires 2 kg . of material 'Z'. Cost of material 'Z' is ₹ 72 per $\mathrm{kg} .10 \%$ of the production has been scrapped as bad and fetches ₹ 45 per unit. Factory overheads are $80 \%$ of wages. Selling and distribution overheads are ₹ 54 per unit sold. There is no opening or closing stock of material and work in progress.
You are required to find out total cost of sales and profit for the month of October 2023.
(6 Marks)
(c) Construct journal entries in the following situations assuming that cost and financial transactions are integrated:
(i) Purchase of raw material ₹ $4,40,000$
(ii) Direct Material issued to production ₹ $3,60,000$
(iii) Wages charged to production ₹ 80,000
(iv) Manufacturing overheads charged to production ₹ $1,32,000$
(4 Marks)

## Downloaded From www.castudynotes.com

## Answer

(a) Calculation of actual hours

Standard rate per hour $=\frac{\text { Variable factory overhead per unit }}{\text { Standard time for one unit of output }}=\frac{₹ 16}{0.8}=₹ 20$
Variable Overhead Efficiency Variance:
(Standard hours for actual production - Actual hours) $\times$ Standard rate per hour Let actual hours be $x$
$[(87,600 \times 0.8)-x] \times 20=-67,200$
$(70,080-x) \times 20=-67,200$
$x=73,440$
(i) Variable Factory Overhead Expenditure Variance:
(Variable overhead at actual hours - Actual variable overheads)
$\left[\left(\frac{13,44,000}{67,200} \times 73,440\right)-14,37,000\right]$
$=31,800 \mathrm{~F}$
(ii) Fixed Factory Overhead Expenditure Variance:

Budgeted fixed overhead - Actual fixed overhead.
(6,72,000-7,05,000)
$=33,000 \mathrm{~A}$
(iii) Fixed Factory Overhead Efficiency Variance:
(Standard hours for actual production - Actual hours) $\times$ Standard rate per hour $(70,080-73,440) \times 10=33,600 \mathrm{~A}$
(iv) Fixed Overhead Capacity Variance:
(Actual hours - Budgeted hours) $\times$ Standard rate per hour
$(73,440-67,200) \times 10=62,400 \mathrm{~F}$
The solution can also be presented in following way based on Quantity (units)
Calculation of standard quantity for actual hours:
Variable standard rate per unit (SR) = ₹ 16
Variable Overhead Efficiency Variance:

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING
(SR x AQ) - (SR x standard quantity for Actual hours worked)
$-67,200=(16 \times 87,600)-16 x$
$-67200=14,01,600-16 x$
$x=14,68,800 / 16=91,800$ (SQ for actual hours worked)
(i) Variable Factory Overhead Expenditure Variance:
(SR x SQ for actual hour worked - Actual variable overheads)
$16 \times 91,800-14,37,000$ or 14,68,800-14,37,000
$=31,800 \mathrm{~F}$
(ii) Fixed Factory Overhead Expenditure Variance:

Budgeted fixed overhead - Actual fixed overhead.
(6,72,000-7,05,000)
$=33,000 \mathrm{~A}$
(iii) Fixed Factory Overhead Efficiency Variance:

Standard rate per unit $(S R)=6,72,000 / 84,000=₹ 8$ per unit
(SR $\times \mathrm{AQ}$ ) - (SR $\times$ standard quantity for Actual hours)
$(8 \times 87,600)-(8 \times 91,800)$
$(7,00,800-7,34,400)=33,600 \mathrm{~A}$
(iv) Fixed Overhead Capacity Variance:
(SR x standard quantity for Actual hours - Budgeted fixed overheads)
$(8 \times 91800)-(6,72,000)$
$(7,34,400-6,72,000)=62,400 \mathrm{~F}$
(b) Since $10 \%$ units are scrapped.

Units produced (total) is 14,000 (12,600/90\%)
Calculation of cost of sales and profit

| Particulars | $₹$ |
| :--- | ---: |
| Raw Material (28,000 $\times$ ₹ 72) | $20,16,000$ |
| Wages | $8,82,000$ |
| Prime Cost | $\mathbf{2 8 , 9 8 , 0 0 0}$ |
| Factory overheads | $7,05,600$ |
| Factory Cost | $\mathbf{3 6 , 0 3 , 6 0 0}$ |

## Downloaded From www.castudynotes.com

| Sale of Scrap $(1,400 \times ₹ 45)$ | $(63,000)$ |
| :--- | ---: |
| Cost of Production | $35,40,600$ |
| Less: Closing Stock of finished goods | $2,24,800$ |
| $\left(\frac{₹ 35,40,600}{12,600} \times 800\right)$ |  |
| Cost of goods sold | $33,15,800$ |
| Add: Administration overheads | $4,72,000$ |
| Add: Selling \& Distribution overheads (₹ $54 \times 11,800)$ | $\underline{6,37,200}$ |
| Cost of Sales | $44,25,000$ |
| Sales $(11,800 \times ₹ 416)$ | $49,08,800$ |
| Profit | $\mathbf{4 , 8 3 , 8 0 0}$ |

(c)

Journal entries are as follows

|  |  | DR. (₹) | Cr. (₹) |
| :--- | ---: | ---: | ---: |
| Stores Ledger Control A/c <br> To Payables (Creditors)/ Bank A/c <br> (Materials purchased) | Dr. | $4,40,000$ | $4,40,000$ |
| Work-in-Process Control A/c <br> To Stores Ledger Control A/c <br> (Materials issued to production) | Dr. | $3,60,000$ | $3,60,000$ |
| Work-in-Process Control A/c <br> To Wages Control A/c <br> (Direct wages charged to production) | Dr. | 80,000 | 80,000 |
| Work-in-Process Control A/c <br> To Factory Overhead Control A/c <br> (Manufacturing overhead charged to production) | Dr. | $1,32,000$ | $1,32,000$ |

## Question 6

Answer any four of the following:
(a) Explain very briefly the following terms used in Cost and Management Accounting:
(i) Pre-determined Cost
(ii) Estimated Cost
(iii) Imputed Cost
(iv) Discretionary Cost

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING
(b) State with reasons whether the following independent statements are true or false:
(i) Under LIFO method, in the period of falling prices, lower income is reported and income-tax liability is reduced.
(ii) Under VED analysis, inventories are classified on the basis of cost of individual items.
(iii) Material requisition note is prepared by the store keeper.
(iv) Simple average pricing method is suitable when quantity purchased under each lot is different and prices fluctuate considerably.
(v) Bin card and stores ledger are maintained by the purchasing department. (5 Marks)
(c) What do you mean by employee productivity? Point out the factors which must be taken into consideration for increasing employee productivity.
(5 Marks)
(d) Explain very briefly the following terms:
(i) Retention Money
(ii) Escalation Clause
(iii) Co-Products
(iv) Job Costing
(v) Process Costing
(e) What is meant by cost driver? Give its different categories. Suggest suitable cost drivers (at least two) in the following business functions:
(i) Distribution
(ii) Research and Development
(iii) Customer services
(5 Marks)

## Answer

(a) (i) Pre-Determined Cost

A cost which is computed in advance before production or operations start, on the basis of specification of all the factors affecting cost, is known as a pre-determined cost.
(ii) Estimated Cost

Estimated cost is "the expected cost of manufacture, or acquisition, often in terms of a unit of product computed on the basis of information available in advance of actual production or purchase". Estimated costs are prospective costs since they refer to prediction of costs.

## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

## (iii) Imputed Cost

Imputed costs do not involve any immediate cash payment. Implicit costs are not recorded in the books of account but yet, they are important for certain types of managerial decisions such as equipment replacement and relative profitability of two alternative courses of action. They are also known as economic costs. These cost are similar to opportunity cost.
(iv) Discretionary Cost

Discretionary costs are not tied to a clear cause and effect relationship between inputs and outputs. They arise from periodic decisions regarding the maximum outlay to be incurred. Examples are -advertising, public relations, training etc.
(b)

| Statement <br> No. | True/False | Reason |
| :---: | :--- | :--- |
| (i) | False | Under LIFO method, in case of falling prices profit tends to <br> rise due to lower material cost, thus income tax liability is <br> increased. |
| (ii) | False | Under VED Analysis, inventories are classified on the basis <br> of its criticality for the production function and final product. |
| (iii) | False | Material Requisition Note is prepared by the production or <br> other consuming department. It is a voucher used to get <br> material issued from store. |
| (iv) | False | Simple average pricing method is suitable when the <br> materials are received in uniform lots of similar quantity, <br> and prices do not fluctuate considerably. |
| (v) | False | Bin card is maintained by the storekeeper in the store. While <br> Stores ledger is maintained in cost accounting department. |

(c) Meaning of employee productivity

Productivity is generally determined by the input/output ratio.
In case of employees, it is calculated as: $\frac{\text { Standard time for doing actual work }}{\text { Actual timetaken }}$
Employee productivity is used for measuring the efficiency of individual workers. It is an index of efficiency in the utilisation of human resources, materials, capital, power and all kinds of services and facilities.
It is measured by the output in relation to input. Productivity can be improved by reducing the input for a certain quantity or value of output or by increasing the output from the same given quantity or value of input.

## Downloaded From www.castudynotes.com

PAPER - 3 : COST AND MANAGEMENT ACCOUNTING

Factors for increasing Employee productivity: The important factors which must be taken into consideration for increasing employee productivity are as follows:

1. Employing only those workers who possess the right type of skill.
2. Placing a right type of person to a right job.
3. Training young and old workers by providing them the right types of opportunities.
4. Taking appropriate measures to avoid the situation of excess or shortage of employees.
5. Carrying out work study for fixation of wages and for the simplification and standardisation of work.
(d) (i) Retention Money: Retention money is a part of the value of work certified which though certified but is not paid by the contractee. Retention amount is kept by the contractee as security amount against any damage.
(ii) Escalation Clause: Escalation clause is a clause written in the agreement (contract) between the contractor and contractee which states that in case of increase in the prices of materials, wages or other supplies beyond a certain level the contract price will be increased by an agreed amount.
(iii) Co-Products: Co-products may be defined as Two or more products which are contemporary but do not emerge necessarily from the same material in the same process.
(iv) Job Costing: Job costing is the method of costing required to be done for unique products manufactured done against specific orders. In this method of costing, cost of each job is ascertained separately.
(v) Process Costing: Process costing is a method of costing used in industries where the material has to pass through two or more process for being converted into a final product. Here the cost of completing each stage of work is ascertained, like cost of making pulp and cost of making paper from pulp.
(e) Meaning of Cost Driver: A Cost driver is a factor or variable which effect level of cost. Generally, it is an activity which is responsible for cost incurrence. Level of activity or volume of production is the example of a cost driver. An activity may be an event, task, or unit of work etc.

There are two categories of cost driver.

- Resource Cost Driver - It is a measure of the quantity of resources consumed by an activity. It is used to assign the cost of a resource to an activity or cost pool.


## Join Us on Telegram http://t.me/canotes_ipcc

## Downloaded From www.castudynotes.com

- Activity Cost Driver - It is a measure of the frequency and intensity of demand, placed on activities by cost objects. It is used to assign activity costs to cost objects.

| Business Function | Cost drivers |
| :--- | :--- |
| Distribution | Number of units distributed, Number of customers |
| Research and Development | Number of research projects, personnel hours on <br> a project, technical complexities of the projects. |
| Customer service | Number of service calls, number of products <br> serviced, hours spent in servicing of products. |

