RAHUL SHIKHA ACADEMY
RSA
Quest For Excellence

## CA INTER

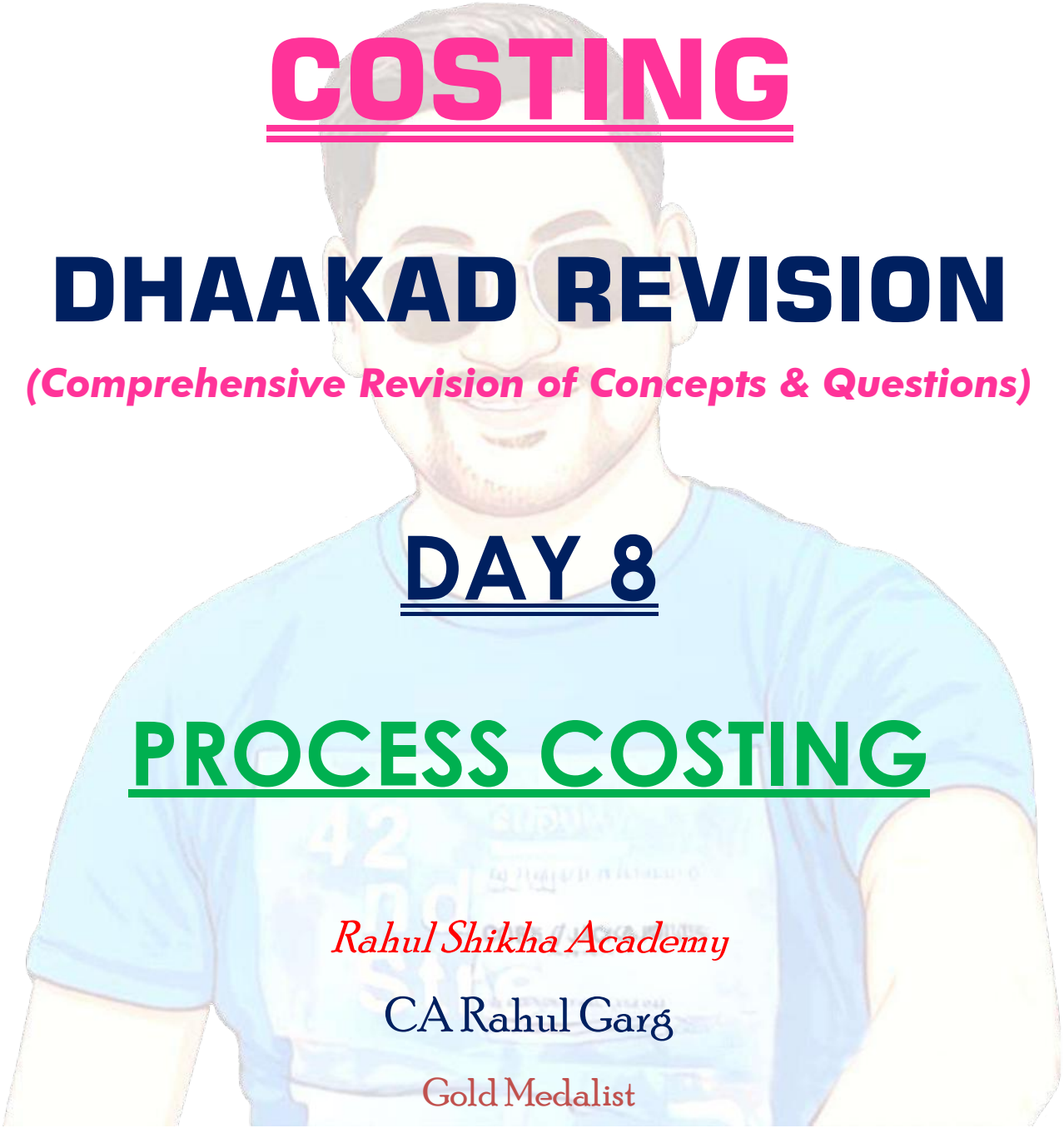
# COSTING

# DHAAKAD REVISION

***(Comprehensive Revision of Concepts & Questions)***

## DAY 8

# PROCESS COSTING

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# PROCESS COSTING

It's a method of costing used in the industries where the material has to pass through 2 or more processes for being converted into the final product.
A separate Process A/c is opened for each process.

## CONCEPT — SIMPLE PROCESS ACCOUNT

| Process I A/c | | | | | |
|---|---|---|---|---|---|
| *Particulars* | *Units* | *Amount* | *Particulars* | *Units* | *Amount* |
| To Material | | | By Process II A/c | | |
| To Labour | | | | | |
| To Overheads | | | | | |
| | | | | | |

| Process II A/c | | | | | |
|---|---|---|---|---|---|
| *Particulars* | *Units* | *Amount* | *Particulars* | *Units* | *Amount* |
| To Process I | | | By Finished Stock A/c | | |
| To Material | | | | | |
| To Labour | | | | | |
| To Overheads | | | | | |
| | | | | | |

## CONCEPT — PROCESS ACCOUNT WITH GAINS & LOSSES

| Process I A/c | | | | | |
|---|---|---|---|---|---|
| *Particulars* | *Units* | *Amount* | *Particulars* | *Units* | *Amount* |
| To Material | | | Bu Normal Loss | | |
| To Labour | | | By Abnormal Loss | | |
| To Overheads | | | By Process II A/c or Finished Stock A/c | | |
| To Other Expense | | | | | |
| To Abnormal Gain | | | | | |
| | | | | | |

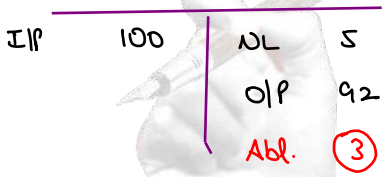
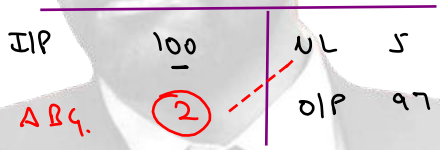
Cost per unit of Output / ABL / ABG = $\frac{\text{Total Cost of Process – Normal Loss Scrap}}{\text{Total Units Input in Process – Normal Loss Units}}$

## CONCEPT VALUATION OF PROCESS LOSSES & GAINS

| Normal Loss | Abnormal Loss | Abnormal Gain |
|---|---|---|
| It is unavoidable loss. | It is avoidable loss. | It is unanticipated gain. |
| It is valued at scrap. | It is charged to Costing P/L. | It is credited to Costing P/L. |

Example

Input = 100 units, normal loss = 5%

| Actual output = 92 units | Actual output = 97 units |
|---|---|
|  |  |





**Normal Loss A/c**

| Particulars | Units | Amount | Particulars | Units | Amount |
|---|---|---|---|---|---|
| To Process A/c | 150 ✓ | ✓ | By Bank A/c | 100 | 200 |
| | | | By Abnormal Gain A/c | 50 | 100 |
| | | | | | |

**Abnormal Loss A/c**

| Particulars | Units | Amount | Particulars | Units | Amount |
|---|---|---|---|---|---|
| To Process A/c | 100 | 1000 | By Bank A/c | 100 | 200 |
| | | | By Costing P/L A/c | | 800 |
| | | | | | |

**Abnormal Gain A/c**

| Particulars | Units | Amount | Particulars | Units | Amount |
|---|---|---|---|---|---|
| To Normal Loss A/c | 50 | 100 | By Process A/c | 50 | 500 |
| To Costing P/L A/c | | 400 | | | |
| | | | | | |

$P_1$ 1000U — 300U Sale; 700U ($I_2$)

## CONCEPT SALE OF OUTPUT OF PROCESS

| Process is not treated as Responsibility Centre | Process is treated as Responsibility Centre |
|---|---|
| Sale & Profit not to be shown in Process A/c but in Costing P/L A/c. | Sale & Profit is to be shown in Process A/c itself. |

| CONCEPT | INTER PROCESS PROFIT |
|---|---|

| Process I A/c | | | | | | | |
|---|---|---|---|---|---|---|---|
| Particulars | Cost | Profit | Total | Particulars | Cost | Profit | Total |
| To Opening Stock | | | | By Process II A/c | | | |
| To Direct Material | | | | | | | |
| To Direct Labour | | | | | | | |
| To Prime Cost of Goods Produced | | | | | | | |
| (-) Closing Stock | | | | | | | |
| To Prime Cost of Goods Transferred | | | | | | | |
| To Factory O/Hs | | | | | | | |
| To Factory Cost of Goods Transferred | | | | | | | |
| To Profit | | | | | | | |
| | | | | | | | |

Stock in process is valued at prime cost.

Finished stock is valued at the price at which it is received from process III.

| Actual Realised Profits | | | | |
|---|---|---|---|---|
| Particulars | Process Profits (a) | Unrealised Profit in Opening Stock (b) | Unrealised Profit in Closing Stock (c) | Actual Realised Profits (a) + (b) - (c) |
| Process A | | | | |
| Process B | | | | |
| Process C | | | | |
| Finished Stock | | | | |

| Value of Closing Stock | | | |
|---|---|---|---|
| Particulars | Closing Stock as Given in Question (a) | Unrealised Profit in Closing Stock (b) | Value of Closing Stock (a) - (b) |
| Process A | | | |
| Process B | | | |
| Process C | | | |
| Finished Stock | | | |

| CONCEPT | TREATMENT OF CLOSING WIP |
|---|---|

Op. WIP ×

| Process I A/c | | | | | |
|---|---|---|---|---|---|
| Particulars | Units | Amount | Particulars | Units | Amount |
| To Material | | | By Normal Loss | | |
| To Labour | | | By Abnormal Loss | | |
| To Overheads | | | By Process II A/c or Finished Stock A/c | | |
| To Abnormal Gain | | | By Closing WIP | | |
| | | | | | |

| Statement of Equivalent Production | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Input | Units | Output | Units | Material | | Labour | | Overheads | |
| | | | | DOC | ECU | DOC | ECU | DOC | ECU |
| Material | | Normal Loss | ✓ | – | – | – | – | – | – |
| | | Abnormal Loss | ✓ | 100% | | 100% | | 100% | |
| | | Units Completed | ✓ | 100% | | 100% | | 100% | |
| | | Closing WIP | ✓ 500 | 100% | 500 | 50% | | 50% | |
| | | Abnormal Gain | ✓ | 100% | | 100% | | 100% | |
| | | | | | | | | | |

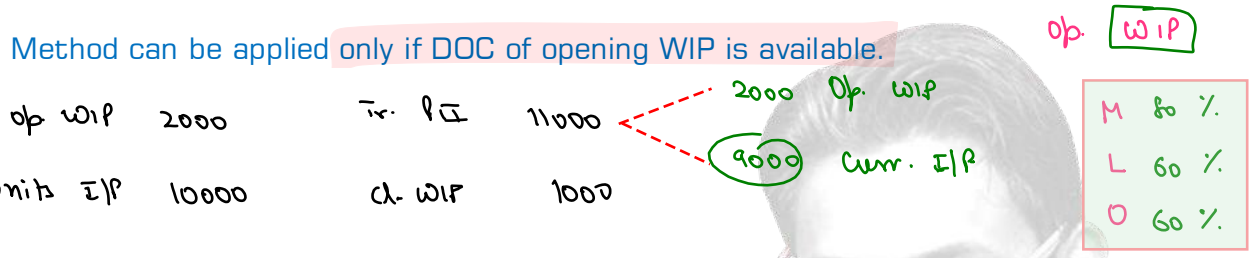
| Statement of Cost | | | | |
|---|---|---|---|---|
| S. No. | Particulars | Cost | ECU | Cost/ ECU |
| 1 | Material | | | |
| 2 | Labour | | | |
| 3 | Overheads | | | |
| | | | | |

| Statement of Valuation | | | | |
|---|---|---|---|---|
| 1 | Closing WIP | | ECU x Cost / ECU | |
| | | Material | 500 x 5 | |
| | | Labour | 250 x 4 | |
| | | Overhead | 250 x 1 | |
| | | | | |
| 2 | ABL / Units completed / ABQ | | ECU x Cost / ECU | |
| | | Material | 1000 x 5 | 5000 |
| | | Labour | 1000 x 4 | 4000 |
| | | Overhead | 1000 x 1 | 1000 |
| | | OR Units x Total Cost / ECU | | 10000 |

1000 x 10 = 10000

| CONCEPT | TREATMENT OF OPENING WIP (FIFO METHOD) |
|---|---|

FIFO Method can be applied only if DOC of opening WIP is available.




| Process I A/c | | | | | |
|---|---|---|---|---|---|
| Particulars | Units | Amount | Particulars | Units | Amount |
| To Opening WIP | ✓ | ✓ | | | |
| | | | | | |

| Statement of Equivalent Production (100 − Op. Doc) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Input | Units | Output | Units | Material | | Labour | | Overheads | |
| | | | | DOC | ECU | DOC | ECU | DOC | ECU |
| Op. WIP | | Units Completed | (11000) | | | | | | |
| | | : Opening WIP | 2000 | 20% | | 40% | | 40 % | |
| | | : Current I/P | 9000 | 100% | | 100% | | 100% | |
| | | | | | | | | | |

| Statement of Cost | | | | |
|---|---|---|---|---|
| S. No. | Particulars | Cost | ECU | Cost/ ECU |
| 1 | Material | | | |
| 2 | Labour | | | |
| 3 | Overheads | | | |
| | | | | |

| Statement of Valuation | | | |
|---|---|---|---|
| 1 | Units completed | | |
| a. | Opening WIP Units (2000 U) | | |
| i | Cost incurred in Previous Period | Given in Question | ✓ |
| ii | Cost incurred in Current Period | ECU x Cost / ECU | ✓ |
| | | Material | |
| | | Labour | |
| | | Overhead | |
| | | | |
| b. | Current I/P Units (9000 U) | Units x Total Cost / ECU | ✓ |
| | | | |

## CONCEPT TREATMENT OF OPENING WIP (WEIGHTED AVERAGE METHOD)

Weighted Average Method can be applied only if bifurcation of cost of opening WIP is available.

Op. WIP : M — ₹
L — ₹
O — ₹

| Process I A/c | | | | | |
|---|---|---|---|---|---|
| Particulars | Units | Amount | Particulars | Units | Amount |
| To Opening WIP | ✓ | ✓ | | | |
| | | | | | |

| Statement of Equivalent Production | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Input | Units | Output | Units | Material | | Labour | | Overheads | | | |
| | | | | DOC | ECU | DOC | ECU | DOC | ECU | | |
| Op. WIP | | Units Comp | 11000 | 100% | | 100% | | 100% | | | |
| | | | | | | | | | | | |

| Statement of Cost | | | | | | |
|---|---|---|---|---|---|---|
| S. No. | Particulars | Cost of Previous Period (a) Op. WIP | Cost of Current Period (b) | Total Cost (a) + (b) | ECU | Cost/ ECU |
| 1 | Material | + | | | | |
| 2 | Labour | + | | | | |
| 3 | Overheads | + | | | | |
| | | | | | | |

| Statement of Valuation |
|---|

## CQ 1

JK Ltd. produces a product "A2E", which passes through 2 processes. The output of each process is treated as raw material of the next process to which it is transferred and output of the second process is transferred to finished stock. The following data related to December, 2007:

| | Process I | Process II |
|---|---|---|
| 25,000 units introduced at a cost of | ₹ 2,00,000 | - |
| Material consumed | ₹ 1,92,000 | ₹ 96,020 |
| Direct labour | ₹ 2,24,000 | ₹ 1,28,000 |
| Manufacturing expenses | ₹ 1,40,000 | ₹ 60,000 |
| Normal wastage of input | 10% | 10% |
| Scrap value of normal wastage (per unit) | ₹ 9.90 | ₹ 8.60 |
| Output in Units | 22,000 | 20,000 |

a. Prepare Process I and Process II account.

b. Prepare Abnormal effective/ wastage account as the case may be for each process.

## CQ 2

A Manufacturing unit manufactures a product 'XYZ' which passes through three distinct Processes - X, Y and Z. The following data is given:

| | Process X | Process Y | Process Z |
|---|---|---|---|
| Material consumed (in ₹) | 2,600 | 2,250 | 2,000 |
| Direct wages (in ₹) | 4,000 | 3,500 | 3,000 |

- The total Production Overhead of ₹ 15,750 was recovered @ 150% of Direct wages.
- 15,000 units at ₹ 2 each were introduced to Process 'X'.
- The output of each process passes to the next process and finally, 12,000 units were transferred to Finished Stock Account from Process 'Z'.
- No stock of materials or work in progress was left at the end.

The following additional information is given:

| Process | % of wastage to normal input | Value of Scrap per unit (₹) |
|---|---|---|
| X | 6% | 1.10 |
| Y | ? | 2.00 |
| Z | 5% | 1.00 |

(a) Find out the percentage of wastage in process 'Y', given that the output of Process 'Y' is transferred to Process 'Z' at ₹ 4 per unit.

(b) Prepare Process accounts for all the three processes X, Y and Z.

## CQ 3

A product passes through three processes before its completion. The output of each process is charged to the next process at a price calculated to give a profit of 20% on transfer price. The output of Process III is transferred to finished stock account on a similar basis. There was no work-in-progress. Stock in each process has been valued at prime cost of the process.

The following data is available at the end of 31st March, 2012.

| Particulars | Process A | Process B | Process C | Finished Stock |
|---|---|---|---|---|
| Direct Material | 4,000 | 6,000 | 2,000 | - |
| Direct Wages | 6,000 | 4,000 | 8,000 | - |
| Stock as on 31st March 2012 | 2,000 | 4,000 | 6,000 | 3,000 |
| Sales during the year | - | - | - | 36,000 |

From above information prepare:

a. Process Cost Account showing the profit at each stage

b. Actual realized profits and

c. Stock Valuation as would appear in the balance sheet

## CQ 4

'Healthy Sweets' is engaged in the manufacturing of jaggery. Its process involves sugarcane crushing for juice extraction, then filtration and boiling of juice along with some chemicals and then letting it cool to cut solidified jaggery blocks.

The main process of juice extraction (Process – I) is done in conventional crusher, which is then filtered and boiled (Process – II) in iron pots. The solidified jaggery blocks are then cut, packed and dispatched. For manufacturing 10 kg of jaggery, 100 kg of sugarcane is required, which extracts only 45 litres of juice.

Following information regarding Process – I has been obtained from the manufacturing department of Healthy Sweets for the month of January:

| | ₹ |
|---|---|
| Opening work-in-process (4,500 litre) | |

| | |
|---|---|
| : Sugarcane | 50,000 |
| : Labour | 15,000 |
| : Overheads | 45,000 |
| Sugarcane introduced for juice extraction (1,00,000 kg) | 5,00,000 |
| Direct Labour | 2,00,000 |
| Overheads | 6,00,000 |
| Abnormal Loss : 1,000 kg | |
| Degree of completion: | |
| : Sugarcane | 100% |
| : Labour and overheads | 80% |
| Closing work-in-process : 9,000 litre | |
| Degree of completion: | |
| : Sugarcane | 100% |
| : Labour and overheads | 80% |

Extracted juice transferred for filtering and boiling: 39,500 litre.

(Consider mass of 1 litre of juice equivalent to 1 kg)

You are required to prepare using average method:

1. Statement of equivalent production,
2. Statement of cost,
3. Statement of distribution cost, and
4. Process-I Account

## CQ 5

From the following information for the month of January, 2013, prepare Process-III cost account.

| | |
|---|---|
| Opening WIP in Process-III | 1,600 units at ₹ 24,000 |
| Transfer from Process-II | 55,400 units at ₹ 6,23,250 |
| Transferred to warehouse | 52,200 units |
| Closing WIP of Process-III | 4,200 units |
| Units Scrapped | 600 units |
| Direct material added in Process-III | ₹ 2,12,400 |
| Direct wages | ₹ 96,420 |
| Production overheads | ₹ 56,400 |

Degree of completion:

| | Opening Stock | Closing Stock | Scrap |
|---|---|---|---|
| Material | 80% | 70% | 100% |
| Labour | 60% | 50% | 70% |
| Overheads | 60% | 50% | 70% |

The normal loss in the process was 5% of the production and scrap was sold @ ₹ 5 per unit.

## HQ 6

The product of a manufacturing concern passes through two processes, A and B and then to finished stock. It is ascertained that in each process, normally 5% of the total weight is lost and 10% is scrap from which processes A and B realize ₹ 80 per tonne and ₹ 200 per tonne respectively. The following are the figures relating to the processes:

| Particulars | Process A | Process B |
|---|---|---|
| Materials (tones) | 1,000 | 70 |
| Cost of Materials (₹/ tonne) | 125 | 200 |
| Wages (₹) | 28,000 | 10,000 |
| Manufacturing Expenses (₹) | 8,000 | 5,250 |
| Output (tonnes) | 830 | 780 |

There was no stock or WIP in any process.

Prepare the Process Cost A/c of Process B.

## HQ 7

M J Pvt. Ltd. produces a product "SKY" which passes through two processes, viz. Process-A and Process-B. The details for the year ending 31st March, 2014 are as follows :

| | Process A | Process B |
|---|---|---|
| 40,000 Units introduced at a cost of | ₹ 3,60,000 | - |
| Material Consumed | ₹ 2,42,000 | ₹ 2,25,000 |
| Direct Wages | ₹ 2,58,000 | ₹ 1,90,000 |
| Manufacturing Expenses | ₹ 1,96,000 | ₹ 1,23,720 |
| Output in units | 37,000 | 27,000 |
| Normal Wastage of Input | 5% | 10% |
| Scrap Value (per unit) | ₹ 15 | ₹ 20 |

| | | |
|---|---|---|
| Selling price (per unit) | ₹ 37 | ₹ 61 |

Additional Information :

1. 80% of the output of Process-A, was passed on to the next process and the balance was sold. The entire output of Process- B was sold.
2. Indirect expenses for the year was ₹ 4,48,080.
3. It is assumed that Process-A and Process-B are not responsibility centre.

Required :

a. Prepare Process-A and Process-B Account.

b. Prepare Profit & Loss Account showing the net profit or net loss for the year.

**HQ 8**

An English willow company who manufactures cricket bat buys wood as its direct material. The Forming department processes the cricket bats and the cricket bats are then transferred to the Finishing department where stickers are applied. The Forming department began manufacturing 10,000 initial bats during the month of December for the first time and their cost is as follows:

Direct material : ₹ 33,000

Conversion costs : ₹ 17,000

**Total : ₹ 50,000**

A total of 8,000 cricket bats were completed and transferred to the Finishing department, the rest 2,000 were still in the Forming process at the end of the month. All of the forming departments direct material were placed, but, on average, only 25% of the conversion costs was applied to the ending work in progress inventory. Calculate:

(a) Equivalent units of production for each cost.

(b) The Conversion cost per Equivalent units.

(c) Cost of closing work in process (WIP) and finished products.

**HQ 9**

The following information relates to Process A :

| | |
|---|---|
| Opening Work-in-Progress | 8,000 units at ₹ 75,000 |
| Degree of Completion: | |
| Material | 100% |
| Labour and Overhead | 60% |

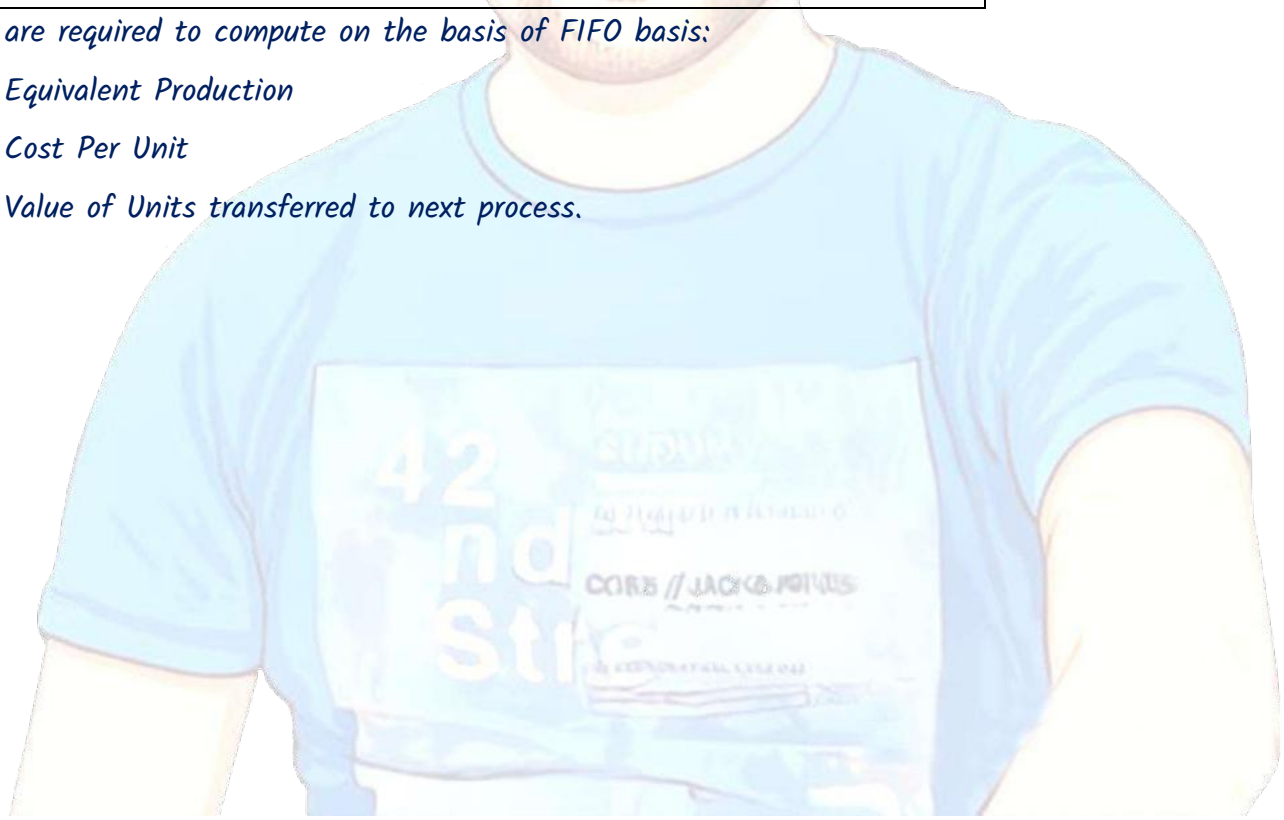
| | |
|---|---|
| Input 1,82,000 units at | ₹ 7,37,500 |
| Wages paid | ₹ 3,40,600 |
| Overheads paid | ₹ 1,70,300 |
| Units scrapped | ₹ 14,000 |
| Degree of Completion: | |
| Material | 100% |
| Labour and Overhead | 80% |
| Closing Work-in-Progress | 18,000 units |
| Degree of Completion: | |
| Material | 100% |
| Labour and Overhead | 70% |
| Units completed and transferred 1,58,000 to next process | |
| Normal loss 5% of total input including opening WIP | |
| Scrap value is ₹ 5 per unit to be adjusted out of direct material cost | |

You are required to compute on the basis of FIFO basis:

a. Equivalent Production

b. Cost Per Unit

c. Value of Units transferred to next process.



CQ - 1

**Process I A/c**

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Basic I/P | 25,000 | 2,00,000 | By Normal Loss | 2,500 | 24,750 |
| To Materials Consumed | - | 1,92,000 | By Abnormal Loss | 500 | 16,250 |
| To Direct Labour | - | 2,24,000 | By Process II A/c | 22,000 | 7,15,000 |
| To Mfg. Expenses | - | 1,40,000 | | | |
| | 25,000 | 7,56,000 | | 25,000 | 7,56,000 |

$$\text{Cost / Unit} = \frac{7,56,000 - 24,750}{25,000 - 2,500} = 32.50/-$$

**Process II A/c**

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process I A/c | 22,000 | 7,15,000 | By Normal Loss | 2,200 | 18,920 |
| To Materials Consumed | - | 96,020 | By Finished O/P A/c | 20,000 | 9,90,000 |
| To Direct Labour | - | 1,28,000 | | | |
| To Mfg. Expenses | - | 60,000 | | | |
| To Abnormal Gain | 200 | 9,900 | | | |
| | 22,200 | 10,08,920 | | 22,200 | 10,08,920 |

$$\text{Cost / Unit} = \frac{9,99,020 - 18,920}{22,000 - 2,200} = 49.50/-$$

## Abnormal Loss A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process I A/c | 500 | 16,250 | By Bank A/c | 500 | 4,950 |
| | | | By Costing P/L A/c | - | 11,300 |
| | 500 | 16,250 | | 500 | 16,250 |

## Abnormal Gain A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Normal Loss | 200 | 1,720 | By Process II A/c | 200 | 9,900 |
| To Costing P/L A/c | - | 8,180 | | | |
| | 200 | 9,900 | | 200 | 9,900 |

## CQ – 2

### Process X A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Basic Input | 15,000 | 30,000 | By Normal loss | 900 (15000 x 6%) | 990 (900 x 1.10) |
| To Material consumed | – | 2600 | | | |
| To Direct Wages | – | 4000 | By Process Y A/c | 14100 | 41610 |
| To Production overheads (4000 x 150%) | – | 6000 | | | |
| | 15,000 | 42,600 | | 15,000 | 42,600 |

$$\text{Cost/Unit} = \frac{42600 - 990}{15000 - 900} = \frac{41610}{14100} = 2.95/-$$

### Process Y A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process X A/c | 14100 | 41610 | By Normal loss | 1895 | 3790 (1895 x 2) |
| To Material consumed | – | 2250 | | | |
| To Direct Wages | – | 3500 | By Process Z A/c | 12205 | 48820 |
| To Production overheads (3500 x 150%) | – | 5250 | | | |
| | 14,100 | 52,610 | | 14,100 | 52,610 |

Let Units of normal loss be $x$

So, scrap of normal loss is $2x$ ₹

★ $$\text{Cost/Unit} = \frac{52610 - 2x}{14100 - x} = 4$$

$$52610 - 2x = 56400 - 4x$$

$$-2x + 4x = 56400 - 52610$$

$$2x = 3790$$

$$x = 1895$$

(b) normal loss units are 1895

and Percentage of wastage = $\frac{1895}{14100} \times 100$ ⇒ 13.44 %.

Process Z A/c

| Particulars | Units | Amt | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process Y A/c | 12205 | 48820 | By Normal loss | 610 | 610 |
| | | | | (12205 × 5%) | (610 × 1) |
| To Material consumed | – | 2000 | | | |
| To Direct Wages | – | 3000 | By finished stock A/c | 12000 | 59726 |
| To Production overhead (3000 × 150%) | – | 4,500 | | | |
| To Abnormal Gain | 405 | 2016 | | | |
| | 12610 | 60336 | | 12610 | 60336 |

Cost/Unit = $\frac{58320 - 610}{12205 - 610} = \frac{57710}{11595}$ = 4.98/-

# CQ-3

(a.)

## Process A A/c

| Particulars | Cost | Profit | Total | Particulars | Cost | Profit | Total |
|---|---|---|---|---|---|---|---|
| To Direct Materials | 4000 | – | 4000 | By Process B A/c | 8000 | 2000 | 10000 |
| To Direct Wages | 6000 | – | 6000 | | | | |
| To Prime cost of Goods Produced | 10,000 | – | 10,000 | | | | |
| (–) closing stock | (2,000) | – | (2,000) | | | | |
| To Prime cost of Goods Transferred | 8,000 | – | 8,000 | | | | |
| To Profit | – | 2000 | 2000 | | | | |
| | 8,000 | 2,000 | 10,000 | | 8,000 | 2,000 | 10,000 |

Note for Profit :

Let Transfer Price = 100

Profit = 20

do, Cost Price = 80

do, Profit on CP = $\frac{20}{80}$ i.e $\frac{1}{4}$ or 25%.

do, Profit = 8,000 x $\frac{1}{4}$ = 2,000

Cost to Org. → Process B A/c ← Cost to Process

| Particulars | Cost | Profit | Total | Particulars | Cost | Profit | Total |
|---|---|---|---|---|---|---|---|
| To Process A A/c | 8,000 | 2,000 | 10,000 | By Process C A/c | 14,400 | 5,600 | 20,000 |
| To Direct Material | 6,000 | – | 6,000 | | | | |
| To Direct Wages | 4,000 | – | 4,000 | | | | |
| To Prime cost of Goods Produced | 18,000 | 2,000 | 20,000 | | | | |
| (–) closing stock | (3600) | (400) | (4,000) | | | | |
| To Prime cost of Goods Transferred | 14,400 | 1600 | 16,000 | | | | |
| To Profit | – | 4000 | 4000 | | | | |
| | 14,400 | 5,600 | 20,000 | | 14,400 | 5,600 | 20,000 |

Note for Profit

$$\text{Profit} = 16000 \times \frac{1}{4} = 4000$$

Wholesaler → Retailer → Customer

Cost 100

Profit 20% on cost

C 100 } SP 120
P 20 }

Profit 20% on cost

C 120 } SP 144
P 24 }

C 144

SP of WS is 120
CP of Ret is 120

SP of Ret. is 144
CP of Cus. is 144

## Process C A/c

| Particulars | Cost | Profit | Total | Particulars | Cost | Profit | Total |
|---|---|---|---|---|---|---|---|
| To Process B A/c | 14400 | 5600 | 20000 | By finished stock A/c | 19,520 | 10,480 | 30,000 |
| To Direct Materials | 2000 | – | 2000 | | | | |
| To Direct Wages | 8000 | – | 8000 | | | | |
| To Prime cost of Goods Produced | 24400 | 5600 | 30000 | | | | |
| (–) closing stock | (4880) | (1120) | (6000) | | | | |
| To Prime Cost of Goods Transferred | 19,520 | 4,480 | 24,000 | | | | |
| To Profit | – | 6000 | 6000 ⇐ | | | | |
| | 19,520 | 10,480 | 30,000 | | 19,520 | 10,480 | 30,000 |

Note for Profit

$24000 \times \frac{1}{4} = 6000$

## Finished Stock A/c

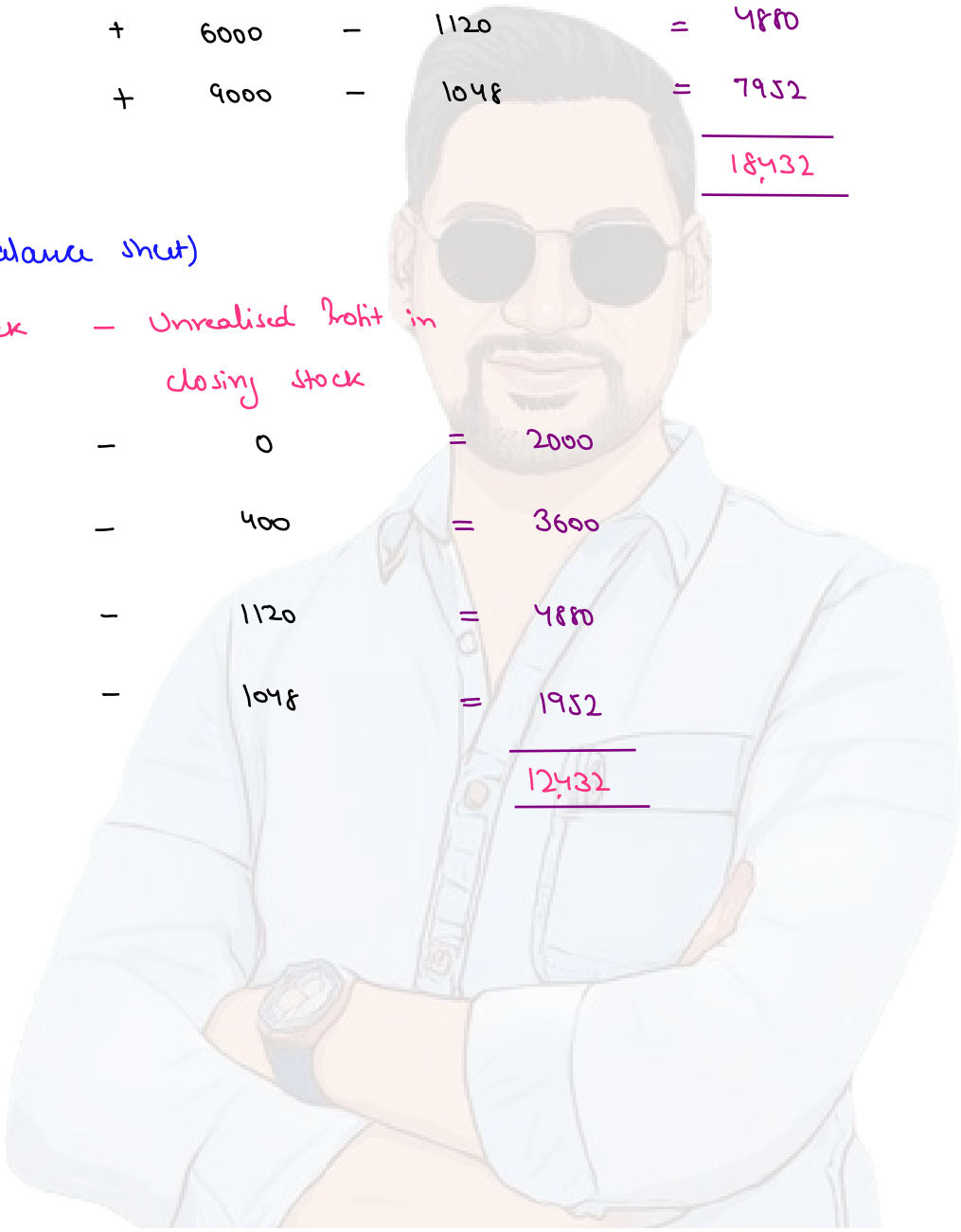
| Particulars | Cost | Profit | Total | Particulars | Cost | Profit | Total |
|---|---|---|---|---|---|---|---|
| To Process C A/c | 19,520 | 10,480 | 30,000 | By Bank | 17568 | 18432 | 36000 |
| (–) closing stock | (1952) | (1048) | (3,000) | | | | |
| To Cost of Goods sold | 17568 | 9432 | 27000 | | | | |
| To Profit | – | 9000 | 9000 | | | | |
| | 17568 | 18432 | 36,000 | | 17568 | 18432 | 36000 |

(b) Actual Realised Profits

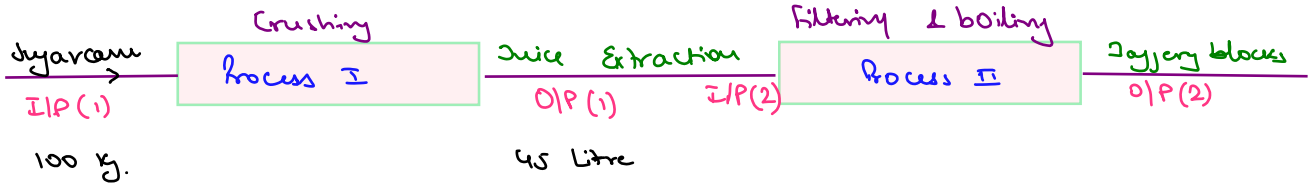
| Process | Unrealised profits in opening stock | + | Process Profits | − | Unrealised profits in closing stock | = | |
|---|---|---|---|---|---|---|---|
| A | 0 | + | 2000 | − | 0 | = | 2000 |
| B | 0 | + | 4000 | − | 400 | = | 3600 |
| C | 0 | + | 6000 | − | 1120 | = | 4880 |
| Finished stock | 0 | + | 9000 | − | 1048 | = | 7952 |
| | | | | | | | 18,432 |

(c) Stock valuation (for Balance sheet)

| Process | closing stock | − | Unrealised profit in closing stock | = | |
|---|---|---|---|---|---|
| A | 2000 | − | 0 | = | 2000 |
| B | 4000 | − | 400 | = | 3600 |
| C | 6000 | − | 1120 | = | 4880 |
| Finished stock | 3000 | − | 1048 | = | 1952 |
| | | | | | 12,432 |



# CQ - 4




for Process I :

Input of sugarcane = 100 kg.

Output of Juice = 45 Litre/kg.

Qo. loss in processing = 55 kg. (Normal loss)

Normal loss (%) = $\frac{55}{100} \times 100 = 55\%$

## Process - I A/c

| Particulars | Units | Amt | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To opening WIP | 4500 | 110000 | By Normal loss (100000 × 55%) | 55000 | – |
| To Sugarcane | 100000 | 500000 | | | |
| To Direct labour | – | 200000 | By Abnormal loss | 1000 | 25,395 |
| To Overheads | – | 600000 | By Process II A/c | 39500 | 11,54,048 |
| | | | By closing WIP | 9000 | 2,30,357 |
| | 104500 | 1410000 | | 104500 | 14,10,000 |

## Statement of Equivalent Production

| Input | Units | Output | Units | Sugarcane | | Labour | | Overheads | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Qoc | ECU | Qoc | ECU | Qoc | ECU |
| • opening WIP | 4500 | • Normal loss | 55000 | – | – | – | – | – | – |
| | | • Abnormal loss | 1000 | 100% | 1000 | 80% | 800 | 80% | 800 |
| • Sugarcane from I/P | 100000 | • Transfer to Process II | 39500 | 100% | 39500 | 100% | 39500 | 100% | 39500 |
| | | • closing WIP | 9000 | 100% | 9000 | 80% | 7200 | 80% | 7200 |
| | 104500 | | 104500 | | 49500 | | 47500 | | 47500 |

## Statement of cost

| Sno. | Particulars | Cost incurred in Previous Period | + | Cost incurred in Current Period | = | Total Cost | ECU | Cost/ECU |
|---|---|---|---|---|---|---|---|---|
| 1. | Syarcane | 50000 | + | 500000 | = | 550000 | 49500 | 11.1111 |
| 2. | Labour | 15000 | + | 200000 | = | 215000 | 47500 | 4.5263 |
| 3. | Overheads | 45000 | + | 600000 | = | 645000 | 47500 | 13.5789 |
| | | | | | | | | 29.2164 |

## Statement of Valuation

1. Transfer to next process

= 39500 × 29.2164 = 11,54,048

2. Abnormal loss

| | ECU | × | Cost/ECU | | |
|---|---|---|---|---|---|
| Syar. | 1000 | × | 11.1111 | = | 11,111 |
| Lab | 800 | × | 4.5263 | = | 3621 |
| OH | 800 | × | 13.5789 | = | 10863 |
| | | | | | 25595 |

3. Closing WIP

| | ECU | × | Cost/ECU | | |
|---|---|---|---|---|---|
| Syar. | 9000 | × | 11.1111 | = | 1,00,000 |
| Lab. | 7200 | × | 4.5263 | = | 32,589 |
| OH. | 7200 | × | 13.5789 | = | 97,768 |
| | | | | | 2,30,357 |

# CQ - 5

## Process III A/c

| Particulars | Units | Amt | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To opening WIP | 1600 | 24000 | By Normal loss (Note) | 2640 | 13200 |
| To Process II ($M_1$) | 55400 | 623250 | By finished O/P | 52200 | 970427 |
| To Direct Material ($M_2$) | - | 212400 | By closing WIP | 4200 | 66870 |
| To Direct Wages | - | 96420 | | | |
| To Production overheads | - | 56400 | | | |
| To Abnormal Gain | 2040 | 38027 | | | |
| | 59040 | 1050497 | | 59040 | 1050497 |

Normal loss : Production × 5%

: (1600 + 55400 − 4200) × 5%

: 52800 × 5% = 2640 Units (Scrap : 2640 × 5 = 13200)

## Statement of Equivalent Production

| Input | Units | Output | Units | Mat. $M_1$ | | Mat $M_2$ | | Labour | | OHs | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | % | EQU | % | EQU | % | EQU | % | EQU |
| · opening WIP | 1600 | · Normal loss | 2640 | — | — | — | — | — | — | — | — |
| · Received from Process II | 55400 | · Finished O/P | | | | | | | | | |
| | | : opening WIP | 1600 | 0% | — | 20% | 320 | 40% | 640 | 40% | 640 |
| | | : others (52200 − 1600) | 50600 | 100% | 50600 | 100% | 50600 | 100% | 50600 | 100% | 50600 |
| | | · closing WIP | 4200 | 100% | 4200 | 70% | 2940 | 50% | 2100 | 50% | 2100 |
| | | · Abnormal Gain | (2040) | 100% | (2040) | 100% | (2040) | 100% | (2040) | 100% | (2040) |
| | 57000 | | 57000 | | 52760 | | 51820 | | 51300 | | 51300 |

## Statement of Cost

| S.NO. | Particulars | Cost (₹) | ECU | Cost/ ECU |
|---|---|---|---|---|
| 1. | Material $M_1$ | 623250 - 13200 = 610050 | 52760 | 11.5627 |
| 2. | Material $M_2$ | 212400 | 51820 | 4.0988 |
| 3. | Labour | 96420 | 51300 | 1.8795 |
| 4. | Overheads | 56400 | 51300 | 1.0994 |
| | | | | 18.6405 |

## Statement of Valuation

1. Abnormal Gain : 2040 × 18.6405 = 38027

2. Closing WIP

| | ECU | × | Cost/ ECU | | |
|---|---|---|---|---|---|
| Mat $M_1$ | 4200 | × | 11.5627 | = | 48563 |
| Mat $M_2$ | 2940 | × | 4.0988 | = | 12050 |
| Labour | 2100 | × | 1.8795 | = | 3947 |
| Ohs | 2100 | × | 1.0994 | = | 2309 |
| | | | | | 66870 |

3. Finished output

(a) Opening WIP (1600 Units) : Cost of Previous Period = 24000

: Cost of Current Period

| | ECU | × | Cost/ ECU | | |
|---|---|---|---|---|---|
| $M_1$ | – | × | – | = | 0 |
| $M_2$ | 320 | × | 4.0988 | = | 1312 |
| Lab | 640 | × | 1.8795 | = | 1203 |
| On | 640 | × | 1.0994 | = | 704 |
| | | | | | 3218 |
| | | | | | 27218 |

(b) Others (50600 Units) : 50600 × 18.6405 = 943209

9,70,427

# HQ - 6

## Process A A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Materials | 1,000 | 1,25,000 | By Normal loss | | |
| To Wages | – | 28,000 | : Weight loss (1000 × 5%) | 50 | – |
| To Manufacturing Expenses | – | 8,000 | : Scrap (1000 × 10%) | 100 | 8000 (100 × 80) |
| | | | By Abnormal loss | 20 | 3600 |
| | | | By Process B A/c | 830 | 149400 |
| | 1000 | 1,61,000 | | 1000 | 1,61,000 |

$$\text{Cost/Unit} = \frac{161000 - 8000}{1000 - 50 - 100} = \frac{153000}{850} = 180/-$$

## Process B A/c

| Particulars | Units | Amt | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process A A/c (Total) | 830 | 149,400 | By Normal loss | | |
| To Materials | 70 | 14,000 | : Weight loss (900 × 5%) | 45 | – |
| To Wages | – | 10,000 | : Scrap (900 × 10%) | 90 | 18000 (90 × 200) |
| To Manufacturing Expenses | – | 5,250 | | | |
| To Abnormal Gain | 15 | 3,150 | By finished stock A/c | 780 | 1,63,800 |
| | 915 | 1,81,800 | | 915 | 1,81,800 |

$$\text{Cost/Unit} = \frac{178650 - 18000}{900 - 45 - 90} = \frac{160650}{765} = 210/-$$

HQ - 7



## Process A A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Basic I/P | 40,000 | 3,60,000 | By Normal Loss A/c | 2,000 | 30,000 |
| To Materials Consumed | - | 2,42,000 | By Abnormal Loss | 1,000 | 27,000 |
| To Direct Wages | - | 2,58,000 | By Process B A/c | 29,600 | 7,99,200 |
| To Mfg. Expenses | - | 1,96,000 | By Costing P/L A/c | 7,400 | 1,99,800 |
| | 40,000 | 10,56,000 | | 40,000 | 10,56,000 |

Cost / Unit = $\frac{10,56,000 - 30,000}{40,000 - 2,000}$ = 27/-

O/P Transferred to next process = 37,000 x 80% = 29,600

O/P Sold = 37,000 x 20% = 7,400

## Process B A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process A A/c | 29,600 | 7,99,200 | By Normal Loss | 2,960 | 59,200 |
| To Materials Consumed | - | 2,25,000 | By Costing P/L A/c | 27,000 | 12,96,000 |
| To Direct Wages | - | 1,90,000 | | | |
| To Mfg. Expenses | - | 1,23,720 | | | |
| To Abnormal Gain | 360 | 17,280 | | | |
| | 29,960 | 13,55,200 | | 29,960 | 13,55,200 |

Cost / Unit = $\frac{13,37,920 - 59,200}{29,600 - 2,960}$ = 48/-

## Costing Profit & Loss A/c

| Particulars | Amt. | Particulars | Amt. |
|---|---|---|---|
| To Process A A/c | 1,99,800 | By Sales | |
| To Process B A/c | 1,29,600 | : Process A (7,400 x 37) | 2,73,800 |
| To Indirect Expenses | 4,48,080 | : Process B (27,000 x 61) | 16,47,000 |
| To Abnormal Loss | 12,000 | By Abnormal Gain | 10,080 |
| | | By Net Loss | 25,000 |
| | 19,55,880 | | 19,55,880 |

## Abnormal Loss A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Process A A/c | 1,000 | 27,000 | By Bank A/c | 1,000 | 15,000 |
| | | | By Costing P/L A/c | - | 12,000 |
| | 1,000 | 27,000 | | 1,000 | 27,000 |

## Abnormal Gain A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Normal Loss A/c | 360 | 7,200 | By Process B A/c | 360 | 17,280 |
| To Costing P/L A/c | - | 10,080 | | | |
| | 360 | 17,280 | | 360 | 17,280 |

# MQ - 8

## Forming Process A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To Direct Material | 10000 | 33000 | By Finishing Process | 8000 | 42400 |
| To Conversion costs | – | 17000 | By closing WIP | 2000 | 7600 |
| | 10000 | 50000 | | 10000 | 50000 |

(a) Statement of Equivalent Production

| Input | Units | Output | Units | Direct Material | | Conversion Cost | |
|---|---|---|---|---|---|---|---|
| | | | | Doc | Ecu | Doc | Ecu |
| Units Introduced | 10000 | . Transfer to Finishing Process | 8000 | 100% | 8000 | 100% | 8000 |
| | | . closing WIP | 2000 | 100% | 2000 | 25% | 500 |
| | 10000 | | 10000 | | 10000 | | 8500 |

(b) Statement of Cost

| S.No. | Particulars | Cost | Ecu | Cost/ Ecu |
|---|---|---|---|---|
| 1. | Direct Material | 33000 | 10000 | 3.30 |
| 2. | Conversion cost | 17000 | 8500 | 2 |
| | | | | 5.30 |

(C) Statement of valuation

(1.) Transfer to Finishing Process

: 8000 x 5.30 = 42,400

(2.) Closing WIP

| | Ecu | × | Cost/ Ecu | | |
|---|---|---|---|---|---|
| Direct Mat | 2000 | × | 3.30 | = | 6600 |
| Conv. Cost | 500 | × | 2 | = | 1000 |
| | | | | | 7600 |

# HW – 9

## Process A A/c

| Particulars | Units | Amt. | Particulars | Units | Amt. |
|---|---|---|---|---|---|
| To opening WIP | 8000 | 75000 | By Normal loss [(8000 + 182000) × 5%] | 9500 | 47500 (9500 × 5) |
| To Material | 182000 | 737500 | | | |
| To Wages | — | 340600 | By Process B | 158000 | 1137036 |
| To Overheads | — | 170300 | By closing WIP | 18000 | 110001 |
| | | | By Abnormal loss | 4500 | 28857 |
| | 190000 | 1323400 | | 190000 | 1323400 |

## Statement of Equivalent Production

| I/P Units | O/P | Units | Material DOC | Material ECU | Labour DOC | Labour ECU | Overheads DOC | Overheads ECU |
|---|---|---|---|---|---|---|---|---|
| | • Normal loss | 9500 | — | — | — | — | — | — |
| • Opening WIP Units 8000 | • Abnormal loss | 4500 | 100% | 4500 | 80% | 3600 | 80% | 3600 |
| • Fresh Units 182000 | • Closing WIP | 18000 | 100% | 18000 | 70% | 12600 | 70% | 12600 |
| | • Transfer to Process B | | (100 – 100) | | (100 – 60) | | (100 – 60) | |
| | : Opening WIP | 8000 | 0% | 0 | 40% | 3200 | 40% | 3200 |
| | : Current Input | 150000 | 100% | 150000 | 100% | 150000 | 100% | 150000 |
| 190000 | | 190000 | | 172500 | | 169400 | | 169400 |

## Statement of Cost

| S.No. | Particulars | Cost | ECU | Cost/ ECU |
|---|---|---|---|---|
| 1. | Material | 737500 – 47500 = 690000 | 172500 | 4 |
| 2. | Labour | 340600 | 169400 | 2.0106 |
| 3. | Overheads | 170300 | 169400 | 1.0053 |
| | | | | 7.0159 |

# Statement of Valuation

1. Abnormal loss

| | ECU | × | Cost/ ECU | | |
|---|---|---|---|---|---|
| Mat. | 4500 | × | 4 | = | 18000 |
| Lab. | 3600 | × | 2.0106 | = | 7238 |
| OH | 3600 | × | 1.0053 | = | 3619 |
| | | | | | 28,857 |

2. Closing WIP

| | ECU | × | Cost/ ECU | | |
|---|---|---|---|---|---|
| Mat. | 18000 | × | 4 | = | 72000 |
| Lab. | 12600 | × | 2.0106 | = | 25334 |
| OH | 12600 | × | 1.0053 | = | 12667 |
| | | | | | 110001 |

3. Transfer to Next Process

(a) Opening WIP Units (8000)

: Cost incurred in previous period : 75000

: Cost incurred in current period

| | ECU | × | Cost/ECU | | | |
|---|---|---|---|---|---|---|
| Mat | 0 | × | 4 | = | 0 | |
| Lab | 3200 | × | 2.0106 | = | 6434 | |
| OH | 3200 | × | 1.0053 | = | 3217 | 9651 |
| | | | | | | 84651 |

(b) Current Input (150000)

150000 × 7.0159 = 10,52,385

11,37,036