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**VIRTUAL COACHING CLASSES
ORGANISED BY BOS, ICAI**

**INTERMEDIATE LEVEL
PAPER 3: COST & MANAGEMENT ACCOUNTING
TOPIC COVERED: PROCESS COSTING**

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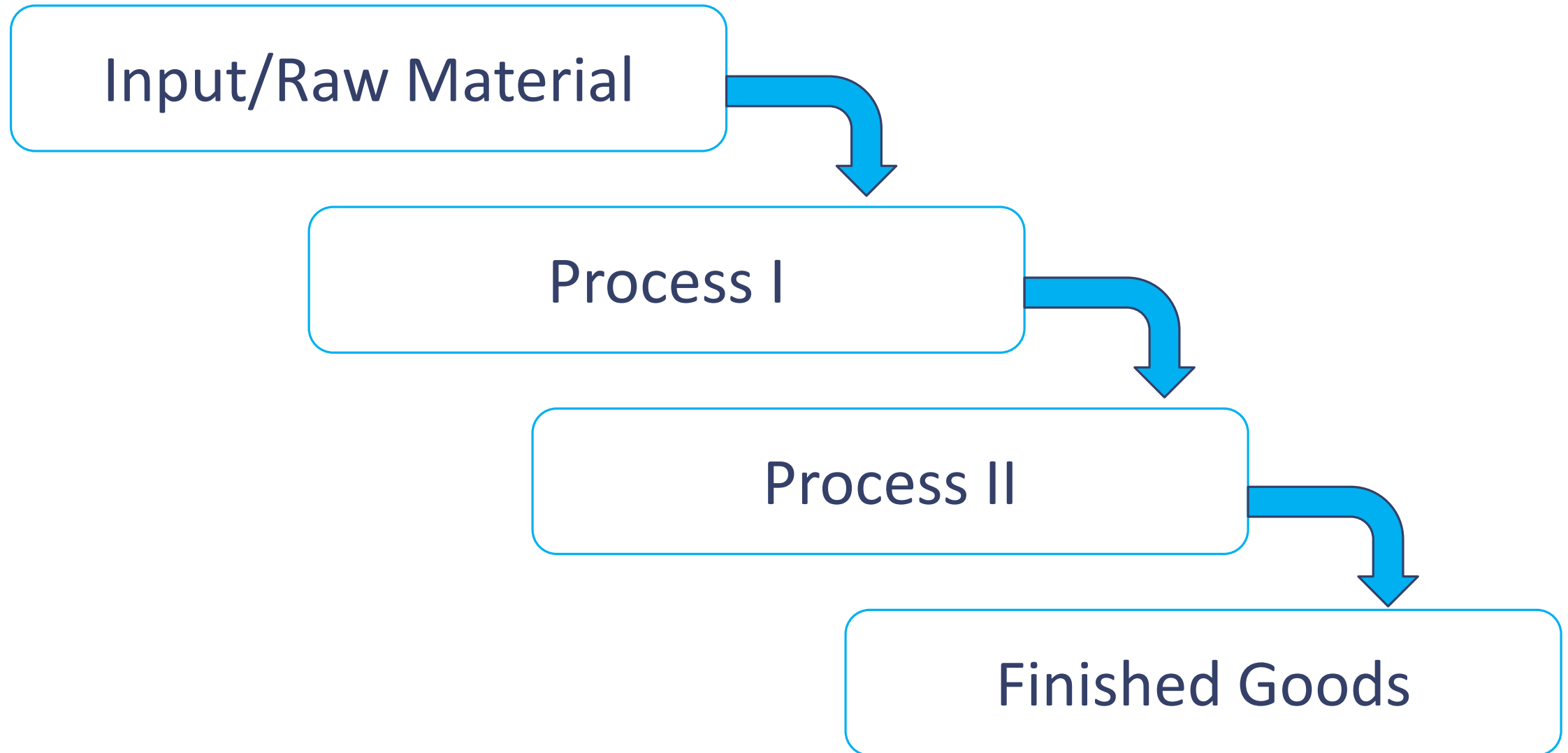
Points covered:

- Meaning of process costing
- Process loss and Gain :
Normal Loss
Abnormal Loss/Abnormal gain
- Valuation of Work in Progress and Equivalent production
- Inter process profit



MEANING OF PROCESS COSTING

- Process Costing is a method of costing used in industries where the material has to pass through two or more processes for being converted into a final product.
- A separate process account for each process is opened and all expenditure pertaining to a process is charged to that process account.





Process account - I

| Particulars | Units | Amount | Particulars | Units | Amount |
|------------------------------|-------|--------|------------------------------|-------|--------------|
| To Material input | xx | xx | By Normal loss | xx | xx |
| To Labour | | xx | By Abnormal loss (if any) | xx | xx (COGU) |
| To Other expenses | | xx | By Process II (transfer) | xx | xx |
| To Abnormal gain (if any) | xx | xx | | | |
| | xx | xxxx | | Xx | xxxx |

Process account - II

| Particulars | Units | Amount | Particulars | Units | Amount |
|------------------------------|-------|--------|------------------------------------|-------|--------------|
| To Process I | xx | Xx | By Normal loss | xx | Xx |
| To Material input | xx | xx | By Abnormal loss (if any) | xx | xx (COGU) |
| To Labour | | xx | By Finished stock (transferred) | xx | xx |
| To Other expenses | | xx | | | |
| To Abnormal gain (if any) | xx | xx | | | |
| | | xxxx | | | xxxx |



Example 1 (Basic)

From the following data, prepare process accounts indicating the cost of each process and the total cost. The total units that pass through each process were 240 for the period.

| Particulars | Process I | Process II | Process III |
|--------------------|------------------|-------------------|--------------------|
| Material | 1,50,000/- | 50,000/- | 20,000/- |
| Labour | 80,000/- | 2,00,000/- | 60,000/- |
| Other expenses | 26,000/- | 72,000/- | 25,000/- |

Indirect expenses amounting to ` 85,000 may be apportioned on the basis of wages. There was no opening or closing stock.



NORMAL LOSS

Meaning

- Loss of material which is inherent in nature of work.
- Can be estimated in advance.
- It's unavoidable in nature.

Treatment

- Cost of normal loss is absorbed by good units produced.
- Any scrap value if realised will be adjusted against the cost or in simple terms credited in process a/c.



Example 2: (Normal Loss)

| | |
|------------------------------|------------|
| Material(1,000 units @Rs100) | 1,00,000/- |
| Labour | 1,50,000/- |
| Other expenses | 50,000/- |
| Scrap value realised | 12,000/- |
| Normal Loss | 10% |

Prepare process a/c and calculate the cost of good units transferred.



ABNORMAL LOSS

Meaning

- Loss in excess of the pre-determined loss (Normal process loss).
- Cannot be estimated in advance.
- Occur due to the carelessness of workers, a bad plant design or operation, sabotage etc .
- Can be kept under control by taking suitable measures.

Treatment

- Cost of an abnormal process loss unit is equal to the cost of a good unit.
- The total cost of abnormal process loss is credited to the process account from which it arises and then transferred to costing P&I a/c



ABNORMAL GAIN

Meaning

- The actual production exceeds the expected figures.
- Arises due to over- estimation of process loss, improvements in work efficiency of workers, use of better technology in production etc.

Treatment

- The process account under which abnormal gain arises is debited with the abnormal gain and credited to abnormal gain account which will be closed by transferring to the Costing Profit and Loss account.
- The cost of abnormal gain is computed on the basis of normal production.



Example 3: (Abnormal loss and Abnormal Gain)

A product passes through two process Process-I and Process-II.

| | |
|---|---------|
| Material issued to process I (5000 units @8) | 40000/- |
| Wages | 30000/- |
| Manufacturing Overheads | 27000/- |

Normal loss anticipated was 5% of input.

4,550 units of output were produced and transferred-out from Process-I. Scrap has realisable value of 2/- per unit.

- i) You are required to PREPARE Process-I account, value of normal loss, abnormal loss/gain account and units transferred to Process-II.
- ii) Also answer if the output is 4850 units



Example 4 (Practice)

RST Limited processes Product Z through two distinct processes – Process- I and Process-II . On completion, it is transferred to finished stock. From the following information for the year 2020-21, PREPARE Process- I, Process- II and Finished Stock A/c:

| Particulars | Process-I | Process-II |
|---|---------------------|---------------------|
| Raw material used @60/- | 7500 units | - |
| Transfer to next process/finished stock | 7050 units | 6525 units |
| Normal loss (on inputs) | 5% | 10% |
| Direct wages | 1,35,750/- | 1,29,250/- |
| Direct expenses | 60% of direct wages | 65% of direct wages |
| Manufacturing overheads | 20% of direct wages | 15% of direct wages |
| Scrap value per unit | 12.50/- | 37.50/- |

6,000 units of finished goods were sold at a profit of 15% on cost. Assume that there was no opening or closing stock of work-in-process.



Valuation of work in progress

Industries where manufacturing is a continuous activity cost incurred in such industries represents the cost of work carried on opening work-in-process, closing work-in-process and completed units.

Mainly two methods for valuation of work in progress are followed :

- **FIFO (first in first out) method** : Under this method the units completed and transferred include completed units of opening work-in-progress and subsequently introduced units.
- **Weighted average method** : Under this method, the cost of opening work-in-progress and cost of the current period are aggregated and the aggregate cost is divided by output in terms of completed units.



Equivalent Production Unit:

This concept use in the industries where manufacturing is a continuous activity. Converting partly finished units into equivalent finished units.

$$\text{Equivalent completed units} = \text{Actual number of units in the process of manufacture} \times \text{Percentage of Work Completed}$$

Example:

If 40% of work has been done on the average of units still under process, then 1000 such units will be equal to 400 completed units and the cost of work-in-process will be equal to the cost of 400 finished units.



Example 5:(Equivalent Basic)

Following information is available regarding process A for the month of January, 2020:
Production records:

| | |
|--|-------|
| Units in process as on 01.01.2020 (material 100% , labour and overheads 25% complete) | 4000 |
| New units introduced | 16000 |
| Units completed | 14000 |
| Units in process as on 31.01.2020 (material 100% , labour and overheads 33-1/3% complete) | 6000 |

Cost Records:

| | |
|-----------------------------------|---------------|
| Work in progress as on 01.01.2020 | |
| Material | 6,000/- |
| Labour | 1,000/- |
| Overheads | 1,000/- |
| Total | 8000/- |



Cost during the month

| | |
|--------------|---------------|
| Material | 25,600/- |
| Labour | 15,000/- |
| Overheads | 15,000/- |
| Total | 55,600 |

Prepare:

1. Statement of Equivalent Production.
2. Statement showing Cost for each element.
3. Statement of Apportionment of cost.
4. Process Cost Account for Process A.

Using both FIFO and Weighted Average Method .



Example 6 : (Equivalent Advance)

Following details are related to the work done in Process 'A' of XYZ Company during the month of March, 2020:

| | |
|--|-------------|
| Opening work in progress (2000 units) | |
| Material | 80,000/- |
| Labour | 15,000/- |
| Overheads | 45,000/- |
| Material introduced in process A (38000 units) | 14,80,000/- |
| Direct labour | 3,59,000/- |
| Overheads | 10,77,000/- |
| Units scrapped (3000 units) | |
| Degree of completion: | |
| Material | 100% |
| Labour and overheads | 80% |



| | |
|---|------|
| Opening work in progress (2000 units) | |
| Degree of completion: | |
| Material | 100% |
| Labour and overheads | 60% |
| Closing work in progress (2000 units) | |
| Degree of completion: | |
| Material | 100% |
| Labour and overheads | 80% |
| Units finished and transferred to Process B: (35000 units) | |
| Normal loss: 5% of total inputs including opening WIP | |
| Scrap value : 20/- per piece | |

You are required to prepare:

1. Statement of equivalent production;
2. Statement of cost;
3. Statement of distribution cost; and
4. Process 'A' Account, Normal and Abnormal Loss Accounts.



Points to remember :

- Equivalent units for Opening W-I-P is calculated only under FIFO method. Under the Average method, it is not shown separately.
- For normal loss, no equivalent unit is calculated.
- Abnormal Gain/ Yield is treated as 100% complete in respect of all cost elements irrespective of percentage of completion.
- Equivalent units for Abnormal Loss shall be calculated as per the instructions given in question



INTER-PROCESS PROFITS

- In this type of organizational structure, the output of one process is transferred to the next process not at cost but at market value or cost plus a percentage of profit.
- The difference between cost and the transfer price is known as inter-process profits.



Example:7 (Inter Process Profit)

A Ltd. produces product 'AXE' which passes through two processes before it is completed and transferred to finished stock. The following data relate to Mar 2020:

| Particulars | Process-I | Process-II | Finished stock |
|--|-----------|------------|----------------|
| Opening stock | 7,500/- | 9,000/- | 22,500/- |
| Direct Material | 15,000/- | 15,750/- | - |
| Direct Wages | 11,200/- | 11,250/- | - |
| Factory overheads | 10,500/- | 4,500/- | - |
| Closing stock | 3,700/- | 4,500/- | 11,250/- |
| Inter process profit included in opening stock | | 1,500/- | 8,250/- |

Output of Process- I is transferred to Process- II at 25% profit on the transfer price. Output of Process- II is transferred to finished stock at 20% profit on the transfer price.

Stock in process is valued at prime cost. Finished stock is valued at price at which it is received from process II . Sales during the period are 1,40,000/-

Prepare process cost account and finished goods account showing the profit element at each stage



THANK YOU