

## PROCESS COSTING (I)

- Process costing is a method of costing used to ascertain the cost of production of each process, operation or stage of manufacture where processes are carried in having one or more of the following features
  - The output of one process becomes the input to the next process
  - The continuous nature of Homogeneous production
  - There is often a loss in process due to spoilage, shrinkage, wastage so on
  - Output from production may be a single product, but there may also be a by-product (or byproducts) and/or joint products
- Process costing is a costing method used where it is not possible to identify separate units of production, or jobs, usually because of the continuous nature of the production processes
- It is common to identify process costing with continuous production such as the following
  - ⊗ Oil refining
  - ⊗ Foods and drinks
  - ⊗ Paper
  - ⊗ Chemicals
- However, there are some important differences between job order and processing costing as described below

Job Order Costing	Process Costing
Each job is different	All products are identical
Costs are accumulated by job	Costs are accumulated by department
Costs are captured on a Job Cost Sheet	Costs are accumulated on a Cost of Production Report
Unit costs are computed by job	Unit costs are computed by department

### 14.1 Cost of Production Report

- In process costing Cost of Production Report also called Process Cost Sheet is the key document
- At the end of costing period, generally a month, a Cost of Production Report is prepared
- It summarizes the data of quantity produced and cost incurred by each producing department
- It also serves as a source document for passing accounting entries at the end of costing period
- A cost of production report shows:
  - ♣ Total unit costs transferred to it from a preceding department
  - ♣ Materials, labor, and factory overhead added by the department
  - ♣ Unit cost added by the department
  - ♣ Total and unit costs accumulated to the end of operations in the department.
  - ♣ The cost of the beginning and ending work in process inventories
  - ♣ Cost transferred to a succeeding department or to a finished goods storeroom
- Cost of production report is divided into five sections. Each section is meant to provide specific information. A brief description of these sections is presented below:

1. Quantity Schedule
2. Cost Charged to the Department
3. Equivalent units produced
4. Cost Per Unit
5. Cost Accounted for as Follows

**Example # 14.1:** A manufacturing company makes a single production in one department; you are required to make a Cost of Production Report (CPR) from the following data:

<i>Cost Data</i>		<i>Production Data</i>	
Material Cost	Rs. 24,500	Unit started for production	50,000 Units
Labor Cost	29,450	Unit completed	45,000
Factory overhead Cost	28,500	Unit in process	5,000

At the end of month Raw material 100% completed and Labor and FOH 50%.

#### 14.1.1 Quantity Schedule

- The first section Quantity Schedule contains input and output data in terms of quantities. The information is presented in the following order.

##### Quantity Schedule:

Units started in process		50,000	=====
Units completed and transferred to next department	45,000		
Units still in process (All materials – 50% Labor and FOH)	5,000		
		50,000	=====

#### 14.1.2 Cost Charged to the Department

- ✚ This section contains direct materials, direct labor and factory overhead added by the department

##### Cost Charged to the Department:

Materials	Rs. 24,500
Labor	29,450
Factory Overhead (FOH)	28,500
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<b>Cost Charged to the Department</b>	<b>Rs. 82,450</b>
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#### 14.1.3 Equivalent Units Produced

- ❖ In order to arrive at cost per unit of output, total of each cost element is divided by the number of units produced
- ❖ For this purpose, where at the end of costing period, there are some partially completed units in process, these units must be stated in terms of equivalent completed units
- ❖ These equivalent units are added to units completed by the department to arrive at equivalent production. Then total cost is divided by this equivalent production figure to calculate unit cost

### Equivalent Units Produced:

Materials (45,000) + (5,000*100%)	50,000 Units
Labor (45,000) + (5,000*50%)	47,500 Units
Factory Overhead (45,000) + (5,000*50%)	47,500 Units
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#### 14.1.4 Cost per Unit

- The unit cost of the equivalent units for a given period is calculated as follows:

$$\text{Unit Cost} = \frac{\text{Cost of the period}}{\text{Equivalent units of the period}}$$

### Cost per Unit:

Materials (24,500 / 50,000)	0.49 per Units
Labor (29,450 / 47,500)	0.62 per Units
Factory Overhead (28,200 / 47,500)	0.60 per Unit
<i>Total per unit cost</i>	<u>1.71 per Unit</u>

#### 14.1.5 Cost Accounted for as Follows

- This section shows total cost for which the departments are accountable

### Cost Accounted for as Follows:

Transferred to next department (45,000 × Rs. 1.71)		Rs. 76,950
Work in process - ending inventory:		
Materials (5,000 × 100% × Rs. 0.49)	Rs. 2,450	
Labor (5,000 × 50% × Rs. 0.62)	1,550	
Factory Overhead (5,000 × 50% × Rs. 0.60)	1,500	5,500
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<i>Total cost accounted for</i>		<b><u>Rs. 82,450</u></b>
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#### 14.2 One Department Case

- This case assume that company has a one department

**Example # 14.2:** Mini Soap Manufacturing units started to incurring cost in first department for 1,000 soaps. At the end of the week 600 soaps were completed and 400 incomplete. 100% of direct material had been incurred. But 75% conversion cost was yet incurred on the incomplete work. Detail of cost incurred by the department as follows:

Direct Material	Rs. 500
Direct Labor	Rs. 225
FOH	Rs.135

**Required:** Cost of Production Report at the end of March, 2012.

**Solution:**

**Mini Soap Manufacturing**  
**Cost of Production Report (Department I)**  
*For year ended, March 2012*

<b>1. Quantity Schedule:</b>	<b>Units</b>	<b>Units</b>
Units started in process		
Units completed and transferred store room		
Units still in process (All materials – 75% conversion costs)		
<b>2. Cost Charged To the Department:</b>	<b>Amount</b>	<b>Amount</b>
Material		
Direct Labor		
FOH		
<i>Cost Charged to the Department</i>		<b>Rs. 860</b>
<b>3. Equivalent Units Produced:</b>	<b>Units</b>	<b>Units</b>
Material (600) + (400 × 100%)		
Labor (600) + (400 × 75%)		
FOH (600) + (400 × 75%)		
<b>4. Cost per Unit:</b>	<b>Units</b>	<b>Units</b>
Material (500/1,000)		
Labor (225 / 900)		
FOH (135 / 900)		
<i>Cost per Unit</i>		<i>0.9 per unit</i>
<b>5. Cost Accounted for as Follows:</b>	<b>Amount</b>	<b>Amount</b>
Transferred to finished goods store (600 × Rs. 0.9)		
Work in process - ending inventory:		
Material (400 × 100% × 0.5)		
Labor (400 × 75% × 0.25)		
FOH (400 × 75% × 0.15)		
<i>Cost Accounted for</i>		<b>Rs. 860</b>

**Example # 14.3:** Heera Manufacturing Company manufactures a product. Production made and manufacturing costs incurred in the first department during the month of October, 2011 are given below:

10,000 units were started in process out of which 9,400 units were transferred to next department and remaining 600 units were 1/2 complete as to materials, labor and overhead. Direct materials Rs. 19,400, direct labor Rs. 24,250 and factory overhead Rs. 4,850 was charged to production.

**Required:** Cost of production report for the month.

**Solution:**

**Heera Manufacturing Company**  
**Cost of Production Report (Department I)**  
*For year ended, October 2011*

<b>1. Quantity Schedule:</b>	<b>Units</b>	<b>Units</b>
Units started in process		
Units completed and transferred to warehouse		
Units still in process		
<b>2. Cost Charged To the Department:</b>	<b>Amount</b>	<b>Amount</b>
Material		
Direct Labor		
FOH		
<i>Cost Charged to the Department</i>		<b>Rs. 48,500</b>
<b>3. Equivalent Units Produced:</b>	<b>Units</b>	<b>Units</b>
Material		
Labor		
FOH		
<b>4. Cost per Unit:</b>	<b>Units</b>	<b>Units</b>
Material		
Labor		
FOH		
<i>Cost per Unit</i>		<i>5.0 per unit</i>

5. Cost Accounted for as Follows:	Amount	Amount
Transferred to warehouse		
Work in process - ending inventory:		
Material		
Labor		
FOH		
<i>Cost Accounted for</i>		<b>Rs. 48,500</b>

**Example # 14.4:** Production and cost data of first production department of Excellent Manufacturing Company for the month of January, 2012 are as follow:

Units started in process were 5,000. Units completed and transferred to second department were 4,500. Remaining units were in process estimated to be 50%, 40%, 60% completed as to materials, labor and factory overhead respectively. Costs of materials, labor and overhead were Rs. 49,875, Rs. 59,925 and Rs. 40,032 respectively

**Required:** Cost of production report

**Solution:**

**Excellent Manufacturing Company**  
**Cost of Production Report (Department I)**  
*For year ended, January 2012*

1. Quantity Schedule:	Units	Units
2. Cost Charged To the Department:	Amount	Amount
3. Equivalent Units Produced:	Units	Units

<b>4. Cost per Unit:</b>	<b>Units</b>	<b>Units</b>
<b>5. Cost Accounted for as Follows:</b>	<b>Amount</b>	<b>Amount</b>

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## **Further Study and Practice of Process Costing**

**Video Lecture (Process Costing)**

<https://youtu.be/g0CYESYzoDk>

**Workbook Solution (Process Costing)**

<https://www.accountancyknowledge.com/process-costing/>

**Practice MCQs (Process Costing)**

<https://www.accountancyknowledge.com/process-costing-mcqs/>

**Problems and Solutions (Process Costing)**

<https://www.accountancyknowledge.com/process-costing-problems-and-solutions/>