Cost Accounting – II

(As Per the Revised Syllabus of S.Y. BAF 2014-15, Sem. III., University of Mumbai)

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Syllabus

Cost Accounting – Paper II
Methods of Costing Modules at a Glance

Sr. No.	Modules	No. of Lectures
1.	Classification of Costs And Cost Sheets	20
2.	Reconciliation of Cost and Financial Accounts	10
3.	Contract Costing	15
4.	Process Costing	15
Total		**60**

Sr. No **Modules/ Units**

1. Classification of Costs and Cost Sheet:

Classification of costs, Cost of Sales, Cost Centre, Cost Unit, Profit Centre and Investment Centre Cost Sheet, Total Costs and Unit Costs, Different Costs for different purpose Simple practical problems on preparation of cost sheet

2. Reconciliation of cost and financial accounts:

Practical problems based on reconciliation of cost and Financial accounts.

3. Contract Costing:

Progress payments, Retention money, Contract accounts, Accounting for material, Accounting for Tax deducted at source by the contractee, Accounting for plant used in a contract, treatment of profit on incomplete contracts, Contract profit and Balance sheet entries. Excluding Escalation clause Note- Simple practical problems

4. Process Costing:

Process loss, Abnormal gains and losses, Joint products and by products. Excluding Equivalent units, Inter-process profit Note – Simple Practical problems Process Costing and joint and by products

Paper Pattern

Credit Based Evaluation System Scheme of Examination

(a) Internal of Assessment – 25% **25 Marks**

Sr. No.	Particulars	Marks
1.	One periodical class test*	20 Marks
2.	Active participation in routing class instructional deliveries and overall conduct as a responsible learner, mannerism and articulation and exhibit of leadership qualities in organizing related academic activities	05 Marks

(b) Semester end Examinations – 75% **75 Marks**

1. Question Paper Pattern for Periodical Class Test for Courses at UG Programmes written Class Test **20 Marks**

Sr. No.	Particulars	Marks
1.	Match the Column/Fill in the Blanks/Multiple Choice Questions ($^1/_2$ Marks each)	05 Marks
2.	Answer in one or two lines (Concept based Questions) (1 Mark each)	05 Marks
3.	Answer in Brief (Attempt any two of the three) (5 Marks each)	10 Marks

Question Paper Pattern

Maximum Marks: 75

Questions to be Set: 05

Duration: 2 $^{1}/_{2}$ Hrs.

All Question are Compulsory Carrying 15 marks each.

Sr. No.	Particulars	Marks
Q.1	Objective Questions	
	(a) Sub Questions to be asked 10 and to be answered any 08	15 Marks
	(b) Sub Questions to be asked 10 and to be answered any 07	
	(*Multiple choice/True or False/Match the column, Fill in the blanks)	
Q.2	Full Length Practical Question	15 Marks
	OR	
Q.2	Full Length Practical Question	15 Marks
Q.3	Full Length Practical Question	15 Marks
	OR	
Q.3	Full Length Practical Question	15 Marks
Q.4	Full Length Practical Question	15 Marks
	OR	
Q.4	Full Length Practical Question	15 Marks
Q.5	(a) Theory Questions	08 Marks
	(b) Theory Questions	07 Marks
	OR	
Q.5	Short Notes	15 Marks
	To be asked 05	
	To be answered 03	

Note: Full length question of 15 marks may be divided into two sub questions of 08 and 07 marks.

Contents

1
Chapter

Cost Sheet

Cost Classification

The bases of classifying costs are the nature of cost, function, direct/indirect variability, controllability, normality, capital/revenue, time planning and control, managerial decisions, etc. The classification of cost is done based on these factors. The concept of cost center refers to the smallest segment of activity or area of responsibility for which costs are accumulated. A cost unit is nothing but a unit of output in the production of which the costs are incurred. The techniques of costing can be classified as historical costing, absorption costing, marginal costing, direct costing, standard costing and uniform costing.

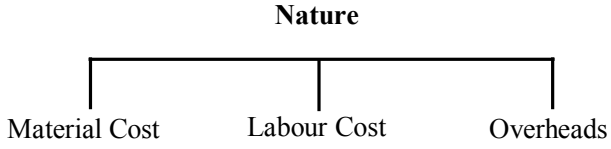
Different Basis for Classification of Cost

Cost classification is the process of grouping costs according to their common characteristics. A suitable classification of costs is very helpful in identifying a given cost with cost centers or cost units. Cost may be classified according to their nature, i.e., material, labour and expenses and a number of other characteristics. Depending upon the purpose to be achieved and requirements of a particular concern, the same cost figures may be classified into different categories. The classification of costs can be done in the following ways:

1. By Nature or Element
2. By Functions
3. As Direct and Indirect
4. By Variability
5. By Controllability
6. By Normality
7. By Capital and Revenue
8. By Time
9. According to Planning and Control
10. For Managerial Decisions
11. Others

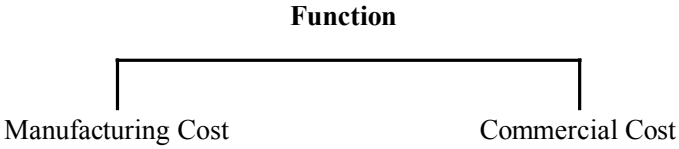
1. By Nature or Element or Analytical Classification

The cost are divided into three categories, i.e., materials, labour and expenses. Further subclassification of each element can be done, for example, material into raw material components, and spare parts, consumable stores, packing material, etc.



2. By Functions

It leads to grouping of costs according to the broad divisions of functions of a business undertaking or basic managerial activities, i.e., production, administration, selling and distribution. According to this classification, cost are divided as follows:



Manufacturing and Production Cost: This category includes the total costs incurred in manufacture, construction and fabrication of units of production.

Commercial Costs: This category includes the total cost incurred in the operation of a business undertaking other than the costs of manufacturing and production. Commercial cost may further be subdivided into:

(a) administrative cost and

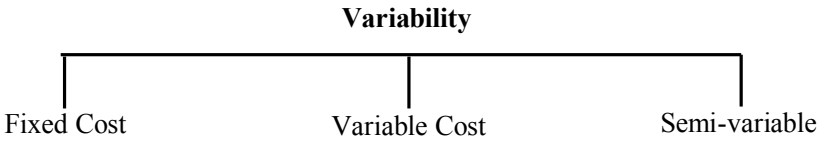
(b) selling and distribution cost.

3. As Direct and Indirect

According to this classification, total cost is divided into direct costs and indirect costs. Direct costs are those costs which are incurred for and may be conveniently identified with a particular cost center or cost unit. The common example of direct costs are materials used and labour employed in manufacturing an article or in a particular process of production. Indirect costs are those costs which are incurred for the benefit of a number of cost centers or cost units and cannot be conveniently identified with a particular cost center or cost units. Examples of indirect costs include rent of building, management salaries, machinery depreciation, etc. The nature of the business and the cost unit chosen will determine the costs as direct and indirect. For example, the hire charges of a mobile crane used on site by a contractor would be regarded as a direct cost since it is identifiable with the project/site on which it is employed, but if the crane is used as a part of the services of a factory, the hire charges would be regarded as indirect cost because it will probably benefit more than one cost center or department. The distinction between direct and indirect cost is essential because the direct cost of product or activity can be accurately identified with the cost object while the indirect costs have to be apportioned on the basis of certain assumptions about their incidence.

4. By Variability

The basis for this classification is the behaviour of costs in relation to changes in the level of activity or volume of production. On this basis, costs are classified into three groups, viz., fixed variable and semi-variable.



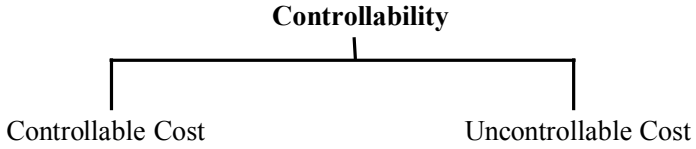
Fixed (or Period) Costs: Fixed costs are those which remain fixed in total with increase or decrease in the volume of output or activity for a given period of time or for a given range of output fixed costs per unit vary inversely with the volume of production, that is. Fixed cost per unit decreases as production increases and increases as production decreases. Examples of fixed costs are rent, insurance of factory building, factory manager's salary, etc. These costs are constant in total amount but fluctuate per unit as production changes. These costs are known as period costs because these are mostly dependent on time rather than on output. These costs are also termed as capacity costs.

Variable or Product Costs: Variable costs are those which vary in total directly in proportion to the volume of output. These costs per unit remain selectively constant with changes in volume of production on activity. Thus, variable costs fluctuate in total amount but tend to remain constant per unit as production activity changes. Examples are direct material costs, direct labour costs, power, repairs etc. Such costs are known as product costs because they depend on the quantity of output rather on time.

Semi-variable Costs: Semi-variable costs are those which are partly variable. For example, telephone expenses include a fixed portion of monthly charge plus variable charge according to the number of calls made. Thus, total telephone expenses are semi-variable. Other examples of such costs are depreciation, repairs and maintenance of building and plant etc.

5. By Controllability

On this basis, costs are classified into two categories:



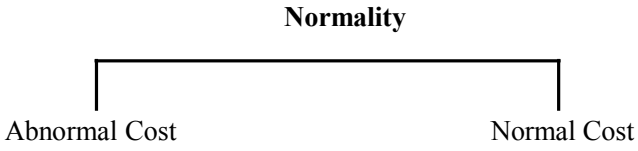
Controllable Costs: If the costs are influenced by the action of a specified member of an undertaking, that is to say, costs which are at least partly within the control of management, they are called controllable costs. An organisation is divided into a number of responsibility centers and controllable costs incurred in a particular cost center can be influenced by the action of the manager responsible for the center. Generally speaking, all direct costs including direct material, direct labour and some of the overhead expenses are controllable by lower level of management.

Uncontrollable Costs: If the costs are influenced by the action of a specified member of an undertaking, that is to say, which are not within the control of management, they are called uncontrollable costs. Most of the fixed costs are uncontrollable. For example, rent of the building is not controllable and so is managerial salaries. Overhead cost which is incurred by one service section or department and is apportioned to another which receives the service is also not controllable by the latter.

Controllability of costs depends on the level of management (top, middle or lower) and the period of time (long-term or short-term).

6. By Normality

On this basis, the costs are classified into two categories:



Abnormal Cost: It is the cost which is not normally incurred at a given level of output in the conditions in which that level of output is normally attained. It is not a part of cost of production and charged to Costing Profit and Loss Account.

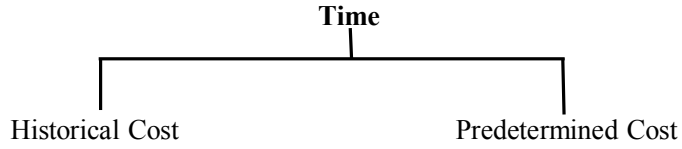
Normal Cost: It is the cost which is normally incurred at a given level of output in the conditions in which that level of output is normally attained. It is not a part of cost of production.

7. By Capital and Revenue or Financial Accounting Classification

If the cost is incurred in purchasing assets either to earn income or increase the earning capacity of the business is called capital cost, for example, the cost of a rolling machine in case of steel plant. Through the cost incurred at one point of time, the benefit accruing from it are spread over a number of accounting years. Revenue expenditure is any expenditure done in order to maintain the earning capacity of the concern such as cost of maintaining an asset or running a business. Example, cost of material used in production, labour charges paid to convert the material into production, salaries, depreciation, repairs and maintenance charges, selling and distribution charges, etc. While calculating cost, revenue items are considered whereas capital items are completely ignored.

8. By Time

Costs can be classified as: (i) Historical costs and (ii) Predetermined costs.

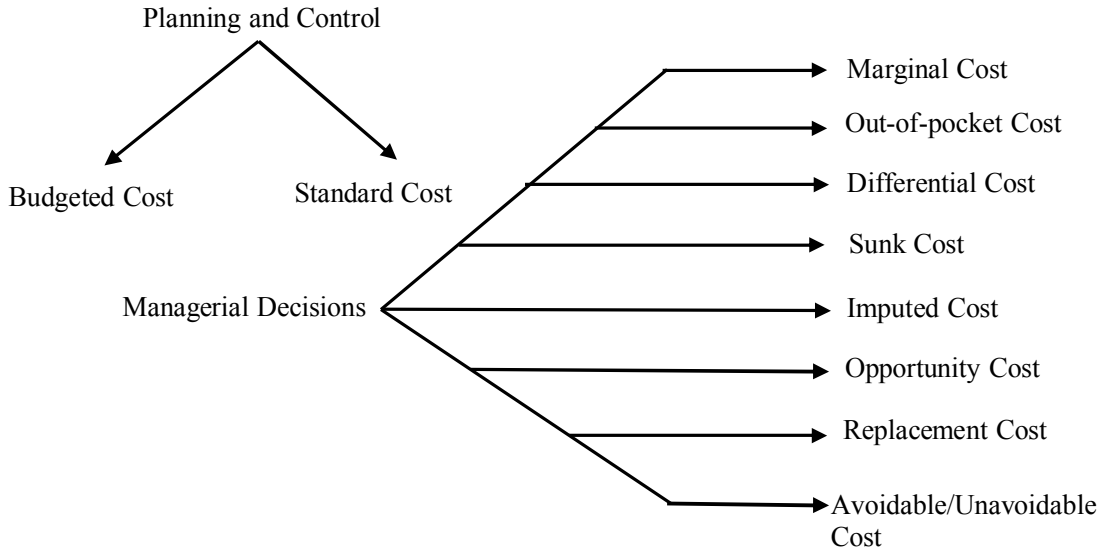


Historical Costs: The costs ascertained after being incurred are called historical costs. Such costs are available only when the production of a particular thing has already been done. Such costs are only of historical value and not at all helpful for cost control purposes.

Predetermined Costs: Such costs are estimated costs, i.e., computed in advance of production taking into consideration the previous periods, costs and the factors affecting such costs. If they are determined on scientific basis, they become standard cost. Such costs when compared with actual costs will give the variances and reasons of variance and will help the management to fix the responsibility and take remedial action to avoid its recurrence in future.

9. According to Planning and Control

Cost Accounting furnishes information to the management which is helpful in discharging the two important functions of management, i.e., planning and control. For the purpose of planning and control, costs are classified as budgeted costs and standard costs.



Budgeted Cost: Budgeted costs represent an estimate of expenditure for different phases or segments of business operations, such as manufacturing, administration, sales research and development, for a period of time in future which subsequently becomes the written expression of managerial targets to be achieved. Various budgets are prepared for different phases/segments of business, such as sales budget, raw material cost budget, labour cost budget, cost of production budget, manufacturing overhead budget, office and administration overhead budget. Continuous comparison of actual performance (i.e., actual cost) with that of the budgeted cost is made so as to report the variations from the budgeted cost of the management for corrective action.

Standard Costs: The Institute of Cost and Management Accountants, London defines standard cost as "the predetermined cost based on a technical estimate for materials, labour and overhead for a selected period of time and for a prescribed set of working conditions." Thus, standard cost is a determination, in advance of production, of what should be its cost under a set of condition.

Budgeted costs and standard costs are similar to each other to the extent that both of them represent estimates of cost for a period of time in future. In spite of this, they differ in the following respects:

- Standard costs are scientifically predetermined costs of every aspect of business activity whereas budgeted costs are mere estimates made on the basis of past actual financial accounting data adjusted to future trends. Thus, budgeted costs are projection of financial accounts whereas standard costs are projection of cost accounts.
- The primary emphasis of budgeted costs is on the planning function of management whereas the main thrust of standard costs is on control.
- Budgeted costs are extensive whereas standard costs are intensive in their application. Budgeted costs represent a macro approach of business operations because they are estimated in respect of the operations of a department. Contrary to this, standard costs are concerned with each and every aspect of business operation carried in department. Budgeted costs are calculated for different functions of the business, i.e., production, sales, purchase, etc., whereas standard costs are compiled for various elements of costs, i.e., materials, labour and overhead.

10. For Managerial Decisions

On this basis, costs may be classified into the following categories:

Marginal Cost: Marginal cost is the additional cost incurred if an additional unit is produced. In other words, marginal cost is the total of variable costs, i.e., prime cost plus variable overheads. It is based on the distinction between fixed and variable costs.

Out-of-pocket Costs: This is that portion of the cost which involves payment, i.e., gives rise to cash expenditure as opposed to such costs as depreciation, which do not involve any cash expenditure. Such costs are relevant for price fixation during recession or when make or buy decision is to be made.

Differential Costs: If there is a change in costs due to change in the level of activity or pattern or methods of production, they are known as differential costs. If the change increases the cost, it will be called incremental cost and if the change results in the decrease in cost, it is known as decremental cost.

Sunk Costs: Sunk cost is another name for historical cost. It is a cost that has already been incurred and is irrelevant to the decision making process. A good example is depreciation on a fixed asset. Depreciation on a given asset is a sunk cost because the cost (of purchasing the asset) has already been incurred (when it was purchased) and it cannot be affected by any future action. Though we allocate the depreciation cost to future period, the original cost of the asset is unavoidable. What is relevant in this context is the salvage value of the asset not the depreciation. Thus, sunk costs are not relevant for decision making and are not affected by increase or decrease in volume.

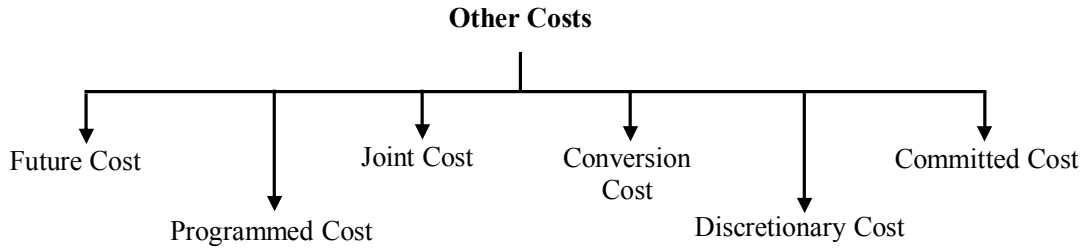
Imputed (or Notional) Costs: These costs appear in cost accounts only. For example, notional rent charged on business premises owned by the proprietor, interest on capital for which no interest has been paid. When alternative capital investment projects are being evaluated, it is necessary to consider the imputed interest on capital before a decision is arrived as to which is the most profitable project.

Opportunity Cost: It is the maximum possible alternative earning that will be foregone if the productive capacity or services are put to some alternative use. For example, if an owned building is proposed to be used for a project, the likely rent of the building is the opportunity cost which should be taken into consideration while evaluating the profitability of the project.

Replacement Cost: It is the cost at which there could be purchase of an asset or material identical to that which is being replaced or revalued. It is the cost of replacement at current market price.

Avoidable and Unavoidable Cost: Avoidable costs are those which can be eliminated if a particular product or department with which they are directly related to, is discontinued. For example, salary of the clerks employed in a particular department can be eliminated, if the department is discontinued. Unavoidable cost is that cost which will not be eliminated with the discontinuation of a product or department. For example, salary of factory manager or factory rent cannot be eliminated even if a product is eliminated.

11. Other Types of Costs



Future Costs: Future costs are those costs that are expected to be incurred at a later date.

Programmed Cost: Certain decisions reflect the policies of the top management which results in periodic appropriations and these costs are referred to as programmed cost. For example, the expenditure incurred by the company under the Jawahar Rojgar Yojana programme initiated by the prime minister is a programmed cost which reflects the policy of the top management.

Joint Cost: Joint cost is the cost of manufacturing joint products up to or prior to the split-off point. Cost incurred after the split-off point is called separable cost. Joint cost is common to the processing of joint products and by-products till the point of separation and cannot be traced to a particular product before the point of split-off.

Conversion Cost: Conversion cost is the cost incurred in converting the raw material into finished product. It can be calculated by deducting the cost of direct materials from the production cost.

Discretionary Costs: Discretionary costs are those costs which do not have obvious relationship to levels of capacity or output activity and are determined as part of the periodic planning process. In each planning period, the management decides on how much to spend on certain discretionary items such as advertising, research and development, employee training. These costs are amenable for alteration by the management.

Committed Cost: Committed cost is fixed cost which results from the decision of the management in the prior period and is not subject to the management control in the present on a short-run basis. They arise from the possession of production facilities, equipment, an organisation set-up, etc. Some examples of committed costs are plant and equipment depreciation, taxes, insurance premium and rent charges.

Cost Unit

Managers are often interested in knowing the cost of something. The 'something' for which the cost has to be ascertained is known as cost objective or cost object or cost unit. Examples of cost units include products, activities, department, number of patients treated, sales regions, etc.

For example, if a factory produces motor cars, then the cost unit would be motor car because the costs are all incurred in producing motor cars.

Let us take up a more complex situation. Consider a bus operator providing bus services to the public between most of the major cities of the country. Suppose the bus operator wants to fix a cost unit, what is it?

Note that here there is no production, what is provided is a service.

Each trip between two cities may be taken as a cost unit. Alternatively, cost per kilometre of travel may be taken as a cost unit. However, neither of the above cost units relates to the passenger who buys the service.

If the operator wants to fix a price to be charged to each passenger, the above cost units would have to be adjusted further.

Assume that a bus cover a distance of 700 km per day carrying 30 passengers on an average, the output is 700 × 30 = 21,000 passenger kilometres per day. On an average, the passenger kilometres covered by each bus per week is 1,00,000. The total cost of operation per bus per week is ₹ 80,000, the cost per passenger kilometre is = ₹ 0.80.

$$\text{Cost per passenger kilometre} = \frac{80,000}{1,00,000} = ₹0.80$$

The implication is that the bus operator must charge, on an average, over ₹ 0.80 per kilometre to each passenger in order to make a profit.

Preparation of Cost Sheet

Cost sheet is a statement designed to show the output of a particular accounting period along with break up of costs. It is often considered good to prepare cost sheet with cost data of previous periods. This facilitates comparison and promotes cost control.

Cost Sheet

(I) Proforma of Cost Sheet

Particulars	Total Cost ₹	Cost Per Unit ₹
Opening Stock of Raw Materials	xxx	xxx
Add: Purchases	xxx	xxx
Add: Carriage Inward	xxx	xxx
Add: Octroi and Customs Duty	xxx	xxx
Less: Closing Stock of Raw Materials		
Cost of Direct Materials Consumed	xxx	xxx
Direct Wages	xxx	xxx
Direct or Chargeable Expenses	xxx	xxx
Prime Cost	**xxx**	**xxx**
Add: Works or Factory Overheads:		
Indirect Materials	xxx	xxx
Indirect Wages	xxx	xxx
Leave Wages	xxx	xxx
Bonus to Workers	xxx	xxx
Overtime Wages	xxx	
Fuel and Power	xxx	
Rent and Taxes	xxx	
Insurance	xxx	

Factory Lightings	xxx	
Supervision	xxx	
Works Stationery	xxx	
Canteen and Welfare Expenses	xxx	
Repairs	xxx	
Works Salaries	xxx	
Depreciation of Plant and Machinery	xxx	
Works Expenses	xxx	
Gas and Water	xxx	
Technical Director's Fees	xxx	
Laboratory Expenses	xxx	
Works Transport Expenses	xxx	
Works Telephone Expenses	xxx	
Add: Opening Stock of Work-in-progress	xxx	xxx
Less: Closing Stock of Work-in-progress	xxx	xxx
Less: Sale of Waste Scrap	xxx	xxx
Works Costs	**xxx**	**xxx**
Add: Office and Administration Overheads:		
Office Salaries	xxx	
Director's Fees	xxx	
Office Rent and Rates	xxx	
Office Stationery and Printing	xxx	
Sundry Office Expenses	xxx	
Depreciation on Office Furniture	xxx	
Subscription to Trade Journals	xxx	
Office Lightings	xxx	
Establishment Charges	xxx	
Director's Travelling Expenses	xxx	
Consultants' Fees		xxx
Contribution to Provident Fund	xxx	
Postage		xxx
Legal Charges		xxx
Audit Charges		xxx
Bank Charges		xxx
Depreciation and Repairs of Office Equipment	xxx	
Bonus to Staff		xxx
Cost of Production	xxx	xxx
Add: Opening Stock of Finished Goods	xxx	xxx
Less: Closing Stock of Finished Goods	xxx	xxx
Cost of Goods Sold	**xxx**	**xxx**
Add: Selling and Distribution Overheads:		

Advertising	xxx	
Showroom Expenses	xxx	
Salesmen's Salaries and Expenses	xxx	
Packing Expenses	xxx	
Carriage Outward	xxx	
Commission of Sales Agents	xxx	
Cost of Catalogues	xxx	
Expenses of Delivery Vans	xxx	
Collection Charges	xxx	
Travelling Expenses	xxx	
Cost Tenders	xxx	
Warehouse Expenses	xxx	
Cost of Mailing Literature	xxx	
Sales Managers' Salaries	xxx	
Insurance of Showroom	xxx	
Sales Directors' Fees	xxx	
Sales Office Expenses	xxx	
Rent of Sales Office	xxx	
Depreciation of Delivery Vans	xxx	
Expenses of Sales Branch	xxx	
Establishments	xxx	
Branch Office Expenses	xxx	
Total Cost/Total of Sales	xxx	xxx
Profit or Loss	xxx	xxx
Sales	xxx	xxx

The following items are to to be ignored in the cost sheet:

(a) Advance tax paid
(b) Cash discount allowed on sales
(c) Dividend paid
(d) Dividend received
(e) Debenture interest
(f) Donation paid
(g) Interest received
(h) Interest paid on loan
(i) Income tax paid
(j) Interest paid on bank overdraft
(k) Income tax refund
(l) Interest on capital
(m) Bad debts

(n) Loss on sale of machinery
(o) Purchase of computer for office
(p) Purchase delivery van
(q) Profit on sale of investment
(r) Sale of machinery

The following expenses are excluded from cost sheet:

1. Finance Overheads:
   (a) Interest on Capital
   (b) Bad Debts.
   (c) Discount allowed on Sales.
2. Income Tax, Advance Tax and Income Tax Provision.

The following incomes are excluded from cost sheet:

1. Non-operating income such as discount received.

Note:

The following four items are independent variables and they remain constant unless any change is given in them:

1. Units produced and sold.
2. Selling price per unit.
3. Variable cost per unit.
4. Total Fixed Cost.

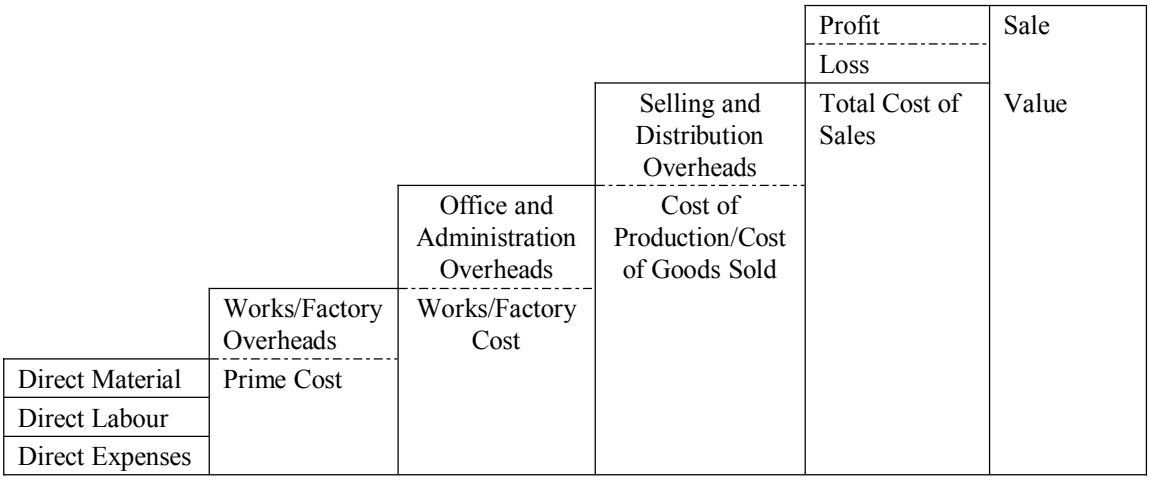


Fig. 1.1: Composition of Selling Price

Table 1.1: Profit Table

Percentage on Cost Price	Percentage on Sale Price
1. 100% $\left(\frac{1}{1}\right)$	50% $\left(\frac{1}{2}\right)$
2. 50% $\left(\frac{1}{2}\right)$	$33\frac{1}{3}\%$ $\left(\frac{1}{3}\right)$
3. $33\frac{1}{3}\%$ $\left(\frac{1}{3}\right)$	25% $\left(\frac{1}{4}\right)$
4. 25% $\left(\frac{1}{4}\right)$	20% $\left(\frac{1}{5}\right)$
5. 20% $\left(\frac{1}{5}\right)$	$16\frac{2}{3}\%$ $\left(\frac{1}{6}\right)$
6. 11.11% $\left(\frac{1}{9}\right)$	10% $\left(\frac{1}{10}\right)$

Steps in Preparation of Cost Sheet

1. All the costs are classified into Direct Costs or Indirect Costs.
2. Items of costs are arranged in the order of first, Material then Labour and in the last expenses.
3. All Direct Costs are also termed as Prime Costs. In a Cost Sheet, all the items of Prime Cost are recorded first strictly in the order of Material, Labour and Expenses.
4. Then all indirect costs also termed as overheads are recorded.
5. In case of indirect costs, the items are broadly categorised into three main groups:
   (a) Works/Factory Cost: In this case, all factory overheads are recorded such as indirect works material, indirect factory labour and indirect factory expenses. All indirect costs related to factory is recorded here.
   (b) Office and Administration Cost: In this case, all administration overheads are recorded such as indirect administration material, indirect administration labour and indirect administration expenses. All indirect costs related to administration is recorded here.
   (c) Selling and Distribution Cost: In this case, all selling and distribution overheads are recorded such as indirect selling and distribution material, indirect selling and distribution labour and indirect selling and distribution expenses. Both selling expenses as well as distribution expenses are considered together in this case.
6. Finance expenses are not to be considered in the costs sheet, e.g., Interest paid, Bad debts, etc.
7. Non-operating incomes and non-operating expenses are not to be considered in the cost sheet, e.g., Profit or Loss on Sale of Fixed Assets, Fictitious Assets written off, etc.

Method of Preparing Cost Sheet

In case of a cost sheet, all the costs are classified into three main elements, i.e.,

(a) Materials

(b) Labour

(c) Expenses

Further, each of the above items are classified into direct and indirect costs.

1. **Direct Materials:** It includes the cost of direct (main) raw material plus all expenses relating to purchases of such direct material such as carriage inward, octroi duty, custom duty on imported materials, etc.
2. **Direct Labour/Wages:** It is also known as productive wages. It is the wages paid for the staff (employees) who are engaged directly in productive activities. Employees who take in the raw materials and introduce it in the machine for production purpose is termed as direct labour, e.g., Wages paid to carpenter who converts wood into a fine piece of furniture.
3. **Direct (or Chargeable) Expenses:** Direct expenses are such expenses which are incurred directly with the production activities. According to CIMA, United Kingdom, "Direct expenses are those expenses which can be identified with and allocated to cost centres or units", e.g., Carriage Inwards incurred for purchase of raw materials, Hire charges of special equipment required for a job, etc.
4. **Overheads:** Overheads is an aggregate of all indirect expenses. It comprises of:
   (a) Factory overheads.
   (b) Office overheads.
   (c) Selling and Distribution overheads.

Further each of the above item is classified into:

(i) Material, i.e., Indirect Materials.

(ii) Labour, i.e., Indirect Labour.

(iii) Expenses, i.e., Indirect Expenses.

Classification of Costs

The term 'cost' is defined in a variety of ways. Its simple meaning is 'total expense'.

Cost can be classified in a number of ways:

(a) Direct Costs.

(b) Indirect Cost

(c) Fixed Cost

(d) Variable Cost.

(e) Semi-variable Cost.

Direct Cost

Direct costs are those costs which can be conveniently associated wholly with a particular unit of a final product. Direct costs can be directly identified with and allocated to cost centers or cost units.

Examples:

(i) Materials which form part of the finished product — cost of wood in a firm manufacturing furniture.

(ii) Wages payable to worker who is directly involved in production — carpenter's wages in a firm manufacturing furniture.

(iii) Carriage expenses on raw materials.

(iv) Workers' wages.

(v) Raw material charges

Indirect Cost

The Institute of Cost and Management Accountants (UK) defines indirect cost as the, "Cost which cannot be allocated but which can be apportioned to or absorbed by cost centers or cost units." They are incurred for the benefit of more than one product, activity or job and must be apportioned by some appropriate bases to the various functions. Costs which cannot be associated or connected with a particular unit of the final product is termed as indirect costs. Indirect costs cannot be identified and allocated with cost centers or cost units and therefore they are apportioned on some equitable basis to cost centers or cost units.

Examples:

(i) Advertisement expenses

(ii) Office rent

(iii) Packing expenses [**Note:** Primary Packing Materials — Direct Cost; Secondary Packing Materials — Indirect Cost]

(iv) Depreciation on Furniture

(v) Legal expenses

(vi) Cost of consumable stores

(vii) Salaries of foreman, supervisor, factory manager

(viii) Rent and rates

(ix) Printing and stationery

(x) Telephone expenses

(xi) Heat and light

(xii) Maintenance, etc.

Overheads

Overheads means indirect cost. Overheads are also termed as "On costs". Overheads is an aggregate of indirect materials, indirect labour and indirect expenses.

(a) Factory overheads,

(b) Administrative overheads, and

(c) Selling and Distribution overheads.

Illustration 1

The accounts of Z Ltd. for the year ended 31st December, 2014, shows the following:

Particulars	(₹)
Work Office Salaries	6,500
Administrative Office Salaries	12,600
Cash Discounts allowed	2,900
Carriage Outward	4,300
Carriage Inward	7,150
Bad debts written off	6,500
Repairs to Plant and Machinery	4,450
Rent, rates, taxes, Insurance etc.	
Factory	8,500
Office	2,000
Sales	4,61,000
Stock of Raw materials:	
1st Jan., 2014	48,000
31st Dec., 2014	62,800
Materials Purchased	1,85,000
Travelling Expenses	2,100
Traveller's Salaries and Commission	7,700
Productive Wages	1,26,000
Depreciation on Plant and Machinery	6,500
Depreciation on Office Furniture	300
Director's Fees	6,000
Gas and Water (Factory)	1,200
Gas and Water (Office)	400
Manager's Salary (1/4 Office and 3/4 Factory)	10,000
General Expenses	3,400

You are required to prepare a cost statement for the year ended 31st December, 2014.

[MU, T.Y.B.Com., Modified]

Solution:

Z Ltd.

Cost Statement for the year ended 31st December, 2014

Particulars	₹	₹
Raw Materials Consumed:		
Stock of Raw Materials as on 1st Jan., 2014	48,000	
Add: Materials Purchased	1,85,000	
Add: Carriage Inward	7,150	
Less: Stock of Raw Materials as on 31st Dec., 2014	(62,800)	

Raw Materials Consumed		1,77,350
Productive Wages		1,26,000
Prime Cost		3,03,350
Add: Works/Factory Overheads:		
Work Office Salaries	6,500	
Repairs to Plant and Machinery	4,450	
Rent, Rates, Taxes, Insurance etc. (Factory)	8,500	
Depreciation on Plant and Machinery	6,500	
Gas and Water (Factory)	1,200	
Manager's Salary (3/4)	7,500	
Works or Factory Overheads		34,650
Works/Factory Cost		3,38,000
Administrative Office Salaries	12,600	
Rent, Rates, Taxes, Insurance etc. – Office	2,000	
Depreciation on Office Furniture	300	
Director's Fees	6,000	
Gas and Water (Office)	400	
Manager's Salary (1/4)	2,500	
General Expenses	3,400	
Office and Administration Overheads		27,200
Cost of Production/Cost of Goods Sold		3,65,200
Add: Selling and Distribution Overheads:		
Carriage Outward	4,300	
Travelling Expenses	2,100	
Traveller's Salaries and Commission	7,700	
Selling and Distribution Overheads		14,100
Total Cost of Sales		3,79,300
Add: Profit (Balancing Figure)		81,700
Sales		4,61,000

Illustration 2

From the following data, prepare a Cost Sheet for the year 2014. Number of Units produced: 10,000 units.

Particulars	₹
Opening Stock of Raw Materials	3,00,000
Purchase of Raw Materials	8,00,000
Closing Stock of Raw Materials	1,00,000
Carriage Outward	8,000
Wages Indirect	20,000
Salary:	
Office	50,000

Sales Office	40,000
Other Factory Expenses	50,000
Trade Fair Expenses	20,000
Depreciation:	
Factory	30,000
Office	20,000
Selling	20,000
Direct Salary	50,000
Advance Interest Received	40,000
Custom Duty Paid for Purchase of Raw Material	5,00,000
Debenture Interest Paid	50,000
Freight Inward	20,000
Custom Duty Paid for Purchase of Plant	50,000
Direct Wages	2,00,000
Other Direct Charges	50,000
Goodwill written off	5,000

Number of units sold 8,000 units at cost plus 18% Profit.

Direct Salary is to be allocated to factory. Office and Selling in the ratio of 2 : 1 : 2.

[*MU, T.Y.B.Com., Modified*]

Solution:

Cost Statement for the year ended 2014

Particulars	Units	Total ₹	Total ₹	Cost Per Unit ₹
Raw Materials Consumed:				
Opening Stock of Raw Materials		3,00,000		30.0
Add: Purchase of Raw Materials		8,00,000		80.0
Add: Custom Duty Paid for Purchase of Raw Materials		5,00,000		50.0
Add: Freight Inward		20,000		2.0
Less: Closing Stock of Raw Materials		(1,00,000)		10.0
Raw Materials Consumed			15,20,000	152.0
Direct Wages			2,00,000	20.0
Other Direct Charges			50,000	5.0
Prime Cost	10,000		17,70,000	177.0
Add: Works/Factory Overheads:				
Wages Indirect		20,000		2.0
Other Factory Expenses		50,000		5.0
Depreciation – Factory		30,000		3.0
Direct Salary – Factory (2/5)		20,000		2.0

Works or Factory Overheads	10,000		1,20,000	12.0
Works/Factory Cost	10,000		18,90,000	189.0
Add: Office and Administration Overheads:				
Office Salary		50,000		5.0
Depreciation – Office		20,000		2.0
Direct Salary – Office (1/5)		10,000		1.0
Office and Administration Overheads	10,000		80,000	8.0
Cost of Production	10,000		19,70,000	197.0
Less: Closing Stock of Finished Goods (Valued as per AS-2)	(2,000)		3,78,000	189.0
Cost of Goods Sold	8,000		15,92,000	199.0
Add: Selling and Distribution Overheads:				
Carriage Outward		8,000		1.0
Salary – Sales Office		40,000		5.0
Trade Fair Expenses		20,000		2.5
Depreciation – Selling		20,000		2.5
Direct Salary – Sales (2/5)		20,000		2.5
Selling and Distribution Overheads	8,000		1,08,000	13.5
Total Cost of Sales	8,000		17,00,000	212.5
Add: Profit @ 18%			3,06,000	38.25
Sales Value	8,000		20,06,000	250.75

Illustration 3

From the following data, prepare a cost sheet for the year 2014.

Particulars	**₹**
Opening Stock of Raw Materials	3,00,000
Purchases	8,00,000
Closing Stock of Raw Materials	4,00,000
Carriage Outward	50,000
Wages: Direct	7,00,000
Indirect	1,00,000
Chargeable Expenses	2,00,000
Rent and Rates: Factory	40,000
Office	5,000
Indirect Materials	15,000
Drawing Office Salaries	10,000
Depreciation: Plant	5,000
Office Furniture	1,000
Salary: Office	25,000
Salesmen	20,000
W.I.P.: 1-1-2014	20,000
31-12-2014	10,000
Sale of by Product	10,000

Other Factory Expenses	57,000
Other Office Expenses	9,000
Managing Director's Remuneration	1,20,000
Other Selling Expenses	10,000
Art Work Charges	40,000
Stock of Finished goods: 1-1-2014	10,000
31-12-2014	50,000
Travelling Expenses of Salesmen	11,000
Carriage Inward	10,000
Sales	30,00,000
Advance Income Tax paid	1,50,000
Advertisement	20,000

M.D.'s remuneration to be allocated as ₹ 40,000 to factory, ₹ 20,000 to office and ₹ 60,000 to sales.

[*MU, T.Y.B.Com., Modified*]

Solution:

Cost Statement for the year ended 2014

Particulars	**₹**	**₹**
Rew Materials Consumed:		
Opening Stock of Raw Materials	3,00,000	
Add: Purchases	8,00,000	
Add: Carriage Inward	10,000	
Less: Closing Stock of Raw Materials	(4,00,000)	
Raw Materials Consumed		7,10,000
Wages Direct		7,00,000
Chargeable Expenses		2,00,000
Prime Cost		16,10,000
Add: Works/Factory Overheads:		
Wages – Indirect	1,00,000	
Rent and Rates – Factory	40,000	
Indirect Materials	15,000	
Drawing Office Salaries	10,000	
Depreciation – Plant	5,000	
Other Factory Expenses	57,000	
Managing Director's Remuneration	40,000	
Add: W.I.P. as on 1-9-2014	20,000	
Less: W.I.P. as on 31-12-2014	(10,000)	
Less: Sale of By-product	(10,000)	
Works or Factory Overheads		2,67,000
Works/Factory Cost		18,77,000
Add: Office and Administration Overheads:		
Rent and Rates – Office	5,000	

Depreciation – Office Furniture	1,000	
Salary – Office	25,000	
Other Office Expenses	9,000	
Managing Director's Remuneration	20,000	
Office and Administration Overheads		60,000
Cost of Production		19,37,000
Add: Stock of Finished Goods as on 1-1-2014		10,000
		19,47,000
Less: Stock of Finished Goods as on 31-12-2014		50,000
Cost of Goods Sold		18,97,000
Add: Selling and Distribution Overheads:		
Carriage Outward	50,000	
Salary – Salesmen	20,000	
Other Selling Expenses	10,000	
Art Work Charges	40,000	
Travelling Expenses of Salesmen	11,000	
Advertisement	20,000	
Managing Director's Remuneration	60,000	
Selling and Distribution Overheads		2,11,000
Total Cost of Sales		21,08,000
Add: Profit (Balancing figure)		8,92,000
Sales		30,00,000

Illustration 4

Hindustan Machine Tools Ltd. furnishes for March, 2014 the following information for a department:

Deluxe wristwatches manufactured 1,000 pieces.

Cost and other data	₹
Opening stock	
Raw materials	4,50,000
Finished goods (200 pieces)	3,30,000
Closing stock	
Raw materials	5,00,000
Finished goods (300 pieces)	?
Purchases of raw material	7,00,000
Direct labour	4,00,000
Indirect labour factory	1,00,000
Consumption of stores and spares	90,000
Sales	21,60,000

Other overheads	Factory ₹	Office ₹	Sales Depot ₹
Salary	1,00,000	2,00,000	1,50,000
Electricity	25,000	2,000	10,000
Stationery and Printing	10,000	25,000	20,000
Travelling expenses	3,000	10,000	50,000
Rent	5,000	5,000	5,000
Showroom and Exhibition expenses	—	—	10,000
Miscellaneous expenses	15,000	25,000	20,000

The stock of finished goods is valued at current month's cost of production.

(a) You are required to prepare a cost sheet for the month of March, 2014 and ascertain the amount of profit.

(b) What should be the selling price in order to earn additional profit on sales?

[*MU, T.Y.B.Com., Modified*]

Solution:

Cost Statement for the Month of March, 2014

Particulars	Units	Total ₹	Total ₹	Cost Per Unit ₹
Raw Materials Consumed:				
Opening Stock of Raw Materials		4,50,000		450.00
Add: Purchase of Raw Materials		7,00,000		700.00
Less: Closing Stock of Raw Materials		(5,00,000)		500.00
Raw Materials Consumed			6,50,000	650.00
Direct Labour			4,00,000	400.00
Prime Cost	1,000		10,50,000	1,050.00
Add: Works/Factory Overheads:				
Indirect Labour Factory		1,00,000		100.00
Consumption of Stores and Spares		90,000		90.00
Salary		1,00,000		100.00
Electricity		25,000		25.00
Stationery and Printing		10,000		10.00
Travelling Expenses		3,000		3.00
Rent		5,000		5.00
Miscellaneous expenses		15,000		15.00
Works or Factory Overheads	1,000		3,48,000	348.00
Works/Factory Cost	1,000		13,98,000	1,398.00
Add: Office and Administration Overheads:				
Salary		2,00,000		200.00
Electricity		2,000		2.00
Stationery and Printing		25,000		25.00

Travelling Expenses		10,000		10.00
Rent		5,000		5.00
Miscellaneous expenses		25,000		25.00
Office and Administration Overheads	1,000		2,67,000	267.00
Cost of Production	1,000		16,65,000	1,665.00
Add: Opening Stock of Finished Goods	200		3,30,000	1,650.00
	1,200		19,95,000	1,662.50
Less: Closing Stock of Finished Goods (Valued at Cost of Production)	(300)		(4,99,500)	1,665.00
Cost of Goods Sold	900		14,95,500	1661.66
Add: Selling and Distribution Overheads:				
Salary		1,50,000		166.66
Electricity		10,000		11.11
Stationery and Printing		20,000		22.22
Travelling Expenses		50,000		55.55
Rent		5,000		5.55
Showroom and Exhibition expenses		10,000		11.11
Miscellaneous expenses		20,000		22.22
Selling and Distribution Overheads	900		2,65,000	294.44
Total Cost of Sales	900		17,60,500	1,956.11
Add: Profit (Balancing figure)	900		3,99,500	443.89
Sales	900		21,60,000	2400.00

Illustration 5

Dunkel Ltd. started a factory in Navi Mumbai on 1st April, 2013. Following details are furnished about its activity during the year ended 31st March, 2014.

Raw Material consumed – 40,000 units @ ₹ 7 per unit.

Direct Wages:

(a) Skilled worker ₹ 9 per unit.

(b) Unskilled worker ₹ 6 per unit.

Royalty (On raw material consumed) @ ₹ 3 per unit.

Works overheads @ ₹ 8 per machine hour.

Machine Hours Worked 25,000.

Office Overheads at 1/3 of works cost

Sales Commission @ ₹ 4 per unit.

Units produced 40,000.

Stock of units at the end 4,000 units to be valued at cost of production per unit.

Sale price is ₹ 60 per unit.

Prepare Cost sheet showing the various elements of cost, both in total and per unit.

[*CA Modified*]

Solution:

Dunkel Ltd.
Cost Sheet for the year ended 31st March, 2014

Particulars	Units	Total		Cost Per Unit (₹)
		₹	₹	
Raw Materials Consumed	40,000		2,80,000	7
Direct Wages:				
Skilled Workers Wages		3,60,000		9
Unskilled Workers Wages		2,40,000		6
Total Direct Wages			6,00,000	15
Direct Expenses:				
Royalty on Raw Material Consumed			1,20,000	3
Prime Cost			10,00,000	25
Add: Works/Factory Overheads:				
Works Overheads (8 × 25,000)			2,00,000	5
Works/Factory Cost			12,00,000	30
Add: Office and Administration Overheads:				
Office Overheads			4,00,000	10
Cost of Production	40,000		16,00,000	40
Less: Closing Stock	4,000		1,60,000	40
Cost of Goods Sold	36,000		14,40,000	40
Add: Selling and Distribution Overheads				
Sales Commission	36,000		1,44,000	4
Total Cost of Sales	36,000		15,84,000	44
Add: Profit (Balancing figure)	36,000		5,76,000	16
Sales Value	36,000		21,60,000	60

Illustration 6

Prepare a cost sheet showing the total and per tonne cost of paper manufactured by Times Paper Mills Ltd. for the month of March, 2014. There were 26 working days in the month. Also find the profit earned by the company. The details are as under:

Direct raw materials:	
Paper pulp	6,000 tonnes @ ₹ 900 per tonne
Direct labour:	
280 Skilled workmen	₹ 250 per day
300 Semi-skilled workmen	₹ 150 per day
470 Unskilled workmen	₹ 100 per day
Direct expenses:	
Special equipment hire charges	₹ 12,000 per day
Special dyes	₹ 250 per tonne of total raw material input
Work overheads: Variable	@ 50% of direct wages

Fixed	₹ 2,70,000 p.m.
Administration overheads	@ 12% of works cost
Selling and distribution overheads	₹ 80 per tonne sold
Opening stock of paper	500 tonnes valued @ ₹ 2,501.60 per tonne
Closing stock of paper	300 tonnes valued at cost of production

The paper is sold @ ₹ 3,000 per tonne.

[*CS Modified*]

Solution:

Times Paper Mills Ltd.
[Working Days: 26]
Cost Sheet for the Month of March, 2014

Particulars	Tons	Total		Cost Per Unit (₹)
		₹	₹	
Direct Raw Materials:				
Paper Pulp	6,000		54,00,000	900.00
Direct Labour:				
Skilled Workmen (280 × 250 × 26)		18,20,000		303.33
Semi-skilled Workmen (300 × 150 × 26)		11,70,000		195.00
Unskilled Workmen (470 × 100 × 26)		12,22,000		203.66
Direct Labour			42,12,000	702.00
Direct Expenses:				
Special Equipments Hire Charges (12,000 × 26)		3,12,000		52.00
Special Dyes	6,000	15,00,000		250.00
Direct Expenses			18,12,000	302.00
Prime Cost	6,000		1,14,24,000	1,904.00
Add: Works/Factory Overheads:				
Variable		21,06,000		351.00
Fixed		2,70,000		45.00
Works/Factory Overheads			23,76,000	396.00
Works or Factory Cost	6,000		1,38,00,000	2,300.00
Add: Office and Administration Overheads:				
Administration Overheads			16,56,000	276.00
Cost of Production	6,000		1,54,56,000	2,576.00
Add: Opening Stock of Paper	500		12,50,800	2,501.60
	6,500		1,67,06,800	2,570.27
Less: Closing Stock of Paper	300		(7,72,800)	(2,576.00)
Cost of Goods Sold	6,200		1,59,34,000	2,655.66
Add: Selling and Distribution Overheads	6,200		4,96,000	80.00
Total Cost of Sales	6,200		1,64,30,000	2,650.00

Add: Profit (Balancing figure)	6,200		21,70,000	350.00
Sales Value	6,200		1,86,00,000	3,000.00

Illustration 7

The following particulars are extracted from the books of a company relating to commodity Alpha for the half year ending 30th June, 2014.

	₹
Purchase of raw materials	1,30,000
Direct wages	1,00,000
Rent, rates, insurance and works on cost	45,000
Carriage inward	1,500
Stock on 1-1-2014	
Raw materials	20,000
Finished products (1,600 tonnes)	17,600
Stock on 30-6-2014	
Raw materials	25,000
Finished products (3,200 tonnes)	37,600
Work-in-progress on 1-1-2014	4,500
Work-in-progress on 30-6-2014	16,000
Factory supervision	10,000
Sales – Finished product	3,00,000

Advertising discount allowed and selling cost at ₹ 0.50 per tonne sold. 25,000 tonnes of commodity was sold during the period.

You are required to ascertain:

1. Prime Cost
2. Factory Cost
3. Cost of Sales
4. Profit
5. No. of tonnes of the commodity sold.

Solution:

Cost Sheet of Commodity Alpha for the Period ending 30-6-2014

Particulars	₹	₹
Raw materials		
Opening stock	20,000	
Add: Purchases	1,30,000	
	1,50,000	
Less: Closing stock	25,000	
	1,25,000	
Add: Carriage Inwards	1,500	

Materials Consumed		1,26,500
Direct wages		1,00,000
Prime Cost		2,26,500
Rent, rates, insurance and works	45,000	
Cost of factory supervision	10,000	
		55,000
Add: Opening Work-in-progress		4,500
Less: Closing Work-in-progress		(16,000)
Factory Cost		2,70,000
Add: Opening stock of finished goods (1,600 tonnes)		17,600
Less: Closing stock of finished goods (3,200 tonnes)		(37,600)
Cost of goods sold		2,50,000
Add: Advertising and selling cost @ ₹ 0.50 per tonne on 25,000 tonnes		12,500
Cost of sales		2,62,500
Add: Profit (Balancing figure)		37,500
Sales		**3,00,000**

Illustration 8

From the following particulars of product X, compile Production Statement for the month of August, 2014.

Raw Materials	**₹**
Opening Stock	20,000
Purchases	1,50,000
Closing Stock	10,000
Direct Labour	60,000
Factory Overhead	22,500
Office and Administration Overhead	27,500
Finished Stock	
Opening Stock 500 units @ ₹ 11.20 per unit	
Closing Stock 1,500 units @ current cost price	
Profit on sales 20%	
Selling and Distributive Expenses ₹ 20,000	
Units Produced 25,000	

Solution:

Working Notes:

Calculation of No. of Units Sold:

Opening stock + Production – Closing stock = Sale

500 + 25,000 – 1,500 = Units sold

∴ Units sold = 24,000.

Cost Sheet for the Month of August, 2014

Particulars	Amount	Amount	CPU
Raw Materials:			
Opening Stock	20,000		
Purchases	1,50,000		
	1,70,000		
Less: Closing Stock	10,000		
Raw Material consumed		1,60,000	6.40
Direct Labour		60,000	2.40
Prime Cost		2,20,000	8.80
Add: Factory Overheads		22,500	0.90
Factory Cost		2,42,500	9.70
Add: Office Overheads		27,500	1.10
Cost of Production		2,70,000	10.80
Add: Opening stock of Finished Goods (500 units × 11.20)		5,600	
		2,75,600	
Less: Closing Stock of Finished Goods (1,500 units × 10.80)		16,200	
Cost of Goods Sold		2,59,400	10.81
Add: Selling Overheads		20,000	0.83
Total Cost		2,79,400	11.64
Profit (20% on sales)		69,850	2.91
Sales		3,49,250	14.55

Note: Closing stock of finished goods is valued at cost of production.

Illustration 9

ABC is manufacturing refrigerators and the following details are furnished in respect of its factory operations for the year ended 31st December, 2014.

Particulars	₹	₹
Work-in-progress in the beginning		
At prime cost	51,000	
Manufacturing expenses	15,000	66,000
Work-in-progress in the end		
At prime cost	45,000	
Manufacturing expenses	9,000	54,000
Stock of raw materials in the beginning		2,25,000
Purchase of raw materials		4,77,000
Direct Labour		1,71,000
Manufacturing expenses		84,000
Closing stock of raw materials		2,04,000

On the basis of above data, prepare a statement showing the cost of production. Also indicate separately the amount of manufacturing expenses which enter into the cost of production.

Solution:

Statement Showing cost of Production

	₹	₹
Raw Materials:		
Opening Stock	2,25,000	
Purchases	4,77,000	
	7,02,000	
Less: Closing stock	2,04,000	4,98,000
Raw Materials Consumed		1,71,000
Direct Labour		6,69,000
Add: W.I.P. at beginning (at prime cost)		51,000
		7,20,000
Less: W.I.P. at end (at prime cost)		45,000
Prime Cost		6,75,000
Add: Factory Overheads		
Manufacturing Expenses	84,000	
Add: W.I.P. (related to Opening W.I.P.)	15,000	
	99,000	
Less: W.I.P. (related to Closing W.I.P.)	9,000	90,000
Factory Cost/Cost of Production		7,65,000

Note: W.I.P. consist of two parts – prime cost and manufacturing expenses. Prime cost part will be added above Prime Cost and Manufacturing expenses will be shown below factory overheads.

Illustration 10

The following extracts of costing information relate to commodity A for the year ending 31.3.2014.

		₹
Purchase of Raw Material		48,000
Direct wages		40,000
Stock on 1.4.13:		
of Raw material		8,000
of Finished goods	1600 quintals	
Stock on 31.3.14:		
of Raw material		8,800
of Finished goods	3200 quintals	
Work on cost		16,800
Work-in-progress;		
1st April, 2013		1,920

31st March, 2014	6,400
Office and Administrative overheads	3,200
Sales (Finished Product)	1,20,000

Advertising, discount allowed and selling cost is ₹ 0.40 per quintal. During the year, 25,600 quintals of commodity were produced.

Calculate cost of production and extend the cost sheet to include profit also so that it may also be called Production Statement.

Solution:

Calculation of No. of Units Sold:

Opening Stock + Units produced – Closing Stock = Sale

1,600 + 25,600 – 3,200 = Units sold

∴ Units sold = 24,000.

Cost Sheet for the Year 31.3.2014

Particulars	**Amount**	**Amount**	**CPU**
Raw Materials:			
Opening Stock	8,000		
Purchases	48,000		
	56,000		
Less: Closing Stock	8,800		
Raw Material consumed		47,200	1.844
Direct Wages		40,000	1.562
Prime Cost		87,200	3.406
Add: Works Overheads		16,800	
		1,04,000	
Add: Opening Stock W.I.P.		1,920	
		1,05,920	
Less: Closing Stock W.I.P.		6,400	
Work Cost		99,520	3.888
Add: Office Overheads		3,200	
Cost of Production		1,02,720	4.013
Add: Opening stock of finished goods		6,400	
		1,09,120	
Less: Closing stock of finished goods (3200 × 4.0125)		12,840	
Cost of goods sold		96,280	4.01
Add: Selling overheads (24,000 × 0.4)		9,600	0.40
Total Cost		1,05,880	4.41
Profit		14,120	0.59
Sale		1,20,000	5.00

Note: Value of opening stock of finished goods is ₹ 6,400/- which is not printed in question.

Illustration 11

From the following data relating to the manufacture of a standard product during the month of Sept. 2014, prepare a statement showing cost and profit per unit.

	₹
Raw material used	40,000
Direct Wages	24,000
Man Hours worked	9,500 (hours)
Man Hours Rate	4 per hour
Office Overheads	20% on works cost
Selling Overheads	₹ 1 per unit
Units produced	20,000
Units sold	18,000 @ ₹ 10 per unit

Solution:

Cost Sheet for Sept., 2014

Production = 20,000 units
Sale = 18,000 units

Particulars	₹	CPU
Raw Material	40,000	2.00
Direct Wages	24,000	1.20
Prime Cost	64,000	3.20
Add: Factory Overheads (9,500 × 4) machine expenses	38,000	1.90
Factory Cost	1,02,000	5.10
Add: Office Overheads (20% of works cost)	20,400	1.02
Cost of Production	1,22,400	6.12
Less: Closing stock of finished goods (2000 units × 6.12)	12,240	
Cost of Goods Sold	1,28,160	6.12
Add: Selling overheads (18,000 × 1)	18,000	1.00
Total Cost	1,28,160	7.12
Profit	51,840	2.88
Sales (18,000 × 10)	1,80,000	10.00

Illustration 12

C, B and D carry on business as engineers in partnership, sharing profits and losses equally. C devotes to the business only so much time as he thinks fit. B acts as works manager and D as office manager. The following figure for the month of March 2014, were extracted as follows:

Particulars	₹
Purchase of stores	49,500
Works wages (Direct)	32,000
(Indirect)	4,000

Office Salaries			9,390
Carriage Inward			300
Carriage Outward			28,300
Sales			1,60,000
Opening Stock (Stores)			17,500
Finished goods (600 units)			4,500
Work-in-progress			6,500
Travelling Expenses			1,200
Interest on Capital –	C	1,500	
	B	800	
	D	700	3,000
Advertising			3,000
Power			1,050
Income Tax			9,500
Agent's Commission			4,500
Plant Maintenance			3,660
Rent and Lighting (9/10th for factory)			1,000
Discount Received			300
Bad Debts			500
Sundry Expenses (Factory)			1,400
(Office)			2,600
Building repairs			4,000
Partner's Salaries	B	1,200	
	D	1,200	2,200
Depreciation – Plant			1,900
Building			800
Sale of Scrap			400

On 31st March, 2014, stores on hand totalled ₹ 19,000 whereas the work-in-progress was estimated at ₹ 7,700. 15,000 units were produced out of which 700 remained unsold. The premises were owned by the firm and were assessed by municipal authorities as worth ₹ 14,400 p.a.

Prepare cost sheet and show the profit earned.

Solution:

Cost Sheet for the Month of March 2014

Particulars	**Amount**	**Amount**	**CPU**
Materials, i.e., store			
Opening Stock	17,500		
Purchases	49,500		
Carriage inward	300		
	67,300		
Less: Closing stock	19,000	48,300	

Direct Wages		32,000	
Prime Cost		80,300	5.35
Add: Factory Overheads			
(i) Indirect wages	4,000		
(ii) Power	1,050		
(iii) Plant Maintenance	3,660		
(iv) Rent (9/10)	900		
(v) Sundry Expenses	1,400		
(vi) Building Repairs (9/10)	3,600		
(vii) B's Salary	1,200		
(viii) Depreciation on Plant	1,900		
(ix) Depreciation on Building	720		
(x) Notional Rent (14,400 × 1/12 × 9/10)	1,080		
	19,510		
Less: Sale of scrap	400	19,110	1.27
		99,410	
Add: Opening stock of W.I.P.		6,500	
		1,05,910	
Less: Closing stock of W.I.P.		7,700	6.54
Factory Cost		98,210	
Add: Office Overheads			
(i) Salaries	9,390		
(ii) Rent (1/10)	100		
(iii) Sundry Expenses	2,600		
(iv) Building repairs (1/10)	400		
(v) D's Salary	1,000		
(vi) Depreciation on Building (1/10)	80		
(vii) Notional Rent (14,400 × 1/12 × 1/10)	120	13,690	
Cost Production		1,11,900	7.46

Working Notes:

(i) Calculation of No. of Units Sold:

Opening Stock + Production – Closing Stock = Sales

600 + 15,000 – 700 = Units sold

∴ Units sold = 14,900.

(ii) We prepare cost sheet for one month whereas Notional Rent is given as ₹ 14,400 p.a. It is an item of cost sheet, calculated on monthly basis and included under proper heads.

(iii) Income tax and discount received are the items of Financial Account not to be taken in Cost sheet.

(iv) Interest on capital is not taken in above cost sheet assuming finance account item. Alternatively, it can be taken in cost sheet. Consider it as a notional item of cost sheet.

(v) Bad debts are considered as selling expenses included in cost sheet.

Statement of Profit/Loss

Particulars	Amount	Amount	CPU
Opening stock of finished goods		4,500	
Add: Cost of Production		1,11,900	
		1,16,400	
Less: Closing stock of Finished Goods (700 units × 7.46)		5,222	
Cost of Goods Sold		1,11,178	7,46
Add: Selling overheads			
(i) Carriage Outward	28,300		
(ii) Travelling Expenses	1,200		
(iii) Advertising	3,000		
(iv) Bad debts	500		
(v) Agent Commission	4,500	37,500	2.52
Total Cost		1,48,678	9.98
Profit		11,322	0.76
Sales		1,60,000	10.74

Illustration 13

Lovely Transistors Ltd. manufacture two kinds of transistors, viz., Shama and Parwana. From the following particulars, prepare a statement showing the cost and profit per transistor for each of the two brands:

Particulars	Shama	Parwana
Materials	₹ 1,40,000	₹ 96,000
Wages	₹ 1,80,000	₹ 1,20,000
Number of transistors manufactured and sold during the year ended 31st March, 2014	4,000	2,400
Sale price per transistor	₹ 175	₹ 200

Factory overheads are 100% on wages and the office overheads are 20% of works cost. Selling and distribution overheads are ₹ 10 per transistor. ***[CS Modified]***

Solution:

Lovely Transistors Ltd.
Cost Sheet for year ended 31.3.2014

Particulars	Shama 4000 units		Parwana 2400 units		Grand Total
	Amount	CPU	Amount	CPU	
Raw Material	1,40,000	35.0	96,000	40.0	2,36,000
Direct Wages	1,80,000	45.0	1,20,000	50.0	3,00,000
Prime Cost	3,20,000	80.0	2,16,000	90.0	5,36,000
Add: Factory overheads (100% of wages)	1,80,000	45.0	1,20,000	50.0	3,00,000
Factory Cost	5,00,000	125.0	3,36,000	140.0	8,36,000

Add: Office overheads (20% of Factory cost)	1,00,000	25.0	67,200	28.0	1,67,200
Cost of Production	6,00,000	150.0	4,03,200	168.0	10,03,200
Add: Selling overheads	40,000	10.0	24,000	10.0	64,000
Total Cost	6,40,000	160.0	4,27,200	178.0	10,67,200
Profit (Balance figure)	60,000	15.0	52,800	22.0	1,12,800
Sales	7,00,000	175.0	4,80,000	200.0	11,80,000

Illustration 14

A manufactures two kinds of electric pumps XA and XB. The following particulars relate to these pumps:

Particulars	XA	XB
Pumps manufactured (Quantity)	25,000	12,000
Direct Cost	₹	₹
Materials	3,140	2,650
Wages	9,400	5,700
Power etc.	2,100	1,410
Total	14,640	9,760
Other Costs:		
Factory Supervision etc.	3,600	
Packing wages and expenses	400	
Management and selling expenses	4,400	

You are required to prepare a statement showing the cost of each kind of pump when ready for dispatch, taking the following into consideration:

(i) Factory supervision to be charged in proportion to direct costs.

(ii) Packing expenses to be apportioned in the ratio that direct cost plus supervision costs of XA bear to similar cost XB.

(iii) Management and selling expenses to be charged in proportion to the pumps manufactured.

Solution:

Cost Sheet for ending...

Particulars	XA 25,000		XB 12,000		
	Amount	Units CPU	Amount	Units CPU	Total
Direct Material	3,140	0.1256	2,650	0.2208	5,790
Direct Wages	9,400	0.3760	5,700	0.4750	15,100
Direct Power	2,100	0.0840	1,410	0.1175	3,510
Prime Cost	14,640	0.5856	9,760	0.8133	24,400
Add: Other Expenses					
(i) Factory Supervision	2,160	0.0864	1,440	0.1200	3,600
(ii) Packing Expenses	240	0.0096	160	0.0133	400
(iii) Management Expenses	3,000	0.1200	1,440	0.1200	4,440
Total Cost	20,040	0.8016	12,800	1.0666	32,840

Note: Distribution of Packing Expenses

Packing expenses are distributed in the ratio of "Direct cost plus supervision expenses", i.e., 16,800 (XA) : 11,200 (XB)

Illustration 15

Swadeshi Electronics Ltd. furnishes you the following information for the year ended 31st March, 2014.

Production and Sales	Units	15,000
Sales	₹	12,75,000
Direct Wages	₹	2,70,000
Direct Materials	₹	3,30,000
Factory Overheads	₹	2,25,000
Administrative Overheads	₹	1,05,000
Sales Overheads	₹	90,000

On account of intense competition, following changes are estimated in the subsequent year:

(a) Production and sales activity will be increased by one-third.

(b) Material rate will be lower by 25%. However, there will be increase in consumption by 20% due to quality difference.

(c) Direct wages cost would be reduced by 20% due to automation.

(d) Out of the above factory overheads, ₹ 45,000 are of fixed nature. The remaining factory expenses are variable in proportion to the number of units produced.

(e) Total administrative overheads will be lower by 40%.

(f) Sales overheads per unit would remain the same.

(g) Sale price per unit would be lower by 20%.

Prepare a statement of cost for both the years ending 31st March, 2013 and 31st March, 2014 showing maximum possible details of cost.

[*MU, T.Y.B.Com., April 1996, Adapted*]

Solution:

Swadeshi Electronics Ltd.
Cost Sheet for the year ended 31st March, 2013

[Output: 15,000 Units]

Particulars	**Total**		**Cost Per Unit ₹**
	₹	**₹**	
Direct Materials		3,30,000	22
Direct Wages		2,70,000	18
Prime Cost		6,00,000	40
Add: Works/Factory Overheads:			
Fixed Overheads	45,000		3
Variable Overheads (2,25,000 – 45,000)	1,80,000		12

Factory Overheads		2,25,000	15
Works/Factory Cost		8,25,000	55
Add: Office and Administration Overheads:			
Administrative Overheads		1,05,000	7
Cost of Production/Cost of Goods Sold		9,30,000	62
Add: Selling and Distribution Overheads:			
Sales Overheads		90,000	6
Total Cost of Sales		10,20,000	68
Add: Profit (Balancing figure)		2,55,000	17
Sales Value		12,75,000	85

Estimated Cost Sheet for the year ending 31st March, 2014

[Output: 20,000 Units]

Particulars	**Total**		**Cost Per Unit ₹**
	₹	**₹**	
Direct Materials		3,96,000	19.80
Direct Wages		2,16,000	10.80
Prime Cost		6,12,000	30.60
Add: Works/Factory Overheads:			
Fixed Overheads	45,000		22.50
Variable Overheads	2,40,000		12.00
Factory Overheads		2,85,000	14.25
Works/Factory Cost		8,97,000	44.85
Add: Office and Administration Overheads:			
Administrative Overheads		63,000	3.15
Cost of Production/Cost of Goods Sold		9,60,000	48.00
Add: Selling and Distribution Overheads			
Sales Overheads		1,20,000	6.00
Total Cost of Sales		10,80,000	54.00
Add: Profit		2,80,000	14.00
Sales Value		13,60,000	68.00

Illustration 16

Following is the Profit and Loss Account for the year ended 31st March, 2014 of M/s Cool and Comforts Ltd., manufacturers of Table Fans. They manufactured and sold during the year 2000 fans.

Profit and Loss Account for the year ended 31st March, 2014

Dr. **Cr.**

Particulars	**₹**	**Particulars**	**₹**
To Materials Consumed	1,20,000	By Sales	6,00,000
To Wages	1,80,000		
To Manufacturing Expenses	75,000		
To Gross Profit c/d	2,25,000		
	₹ 6,00,000		**₹ 6,00,000**

To Rent, Rates and Taxes	15,000	By Gross Profit b/d	2,25,000
To General Expenses	30,000		
To Management Expenses	90,000		
To Sales and Distribution Expenses	45,000		
To Net Profit	45,000		
	₹ 2,25,000		**₹ 2,25,000**

Their estimates for the next year ending 31st March, 2015 are as under:

(a) The production and sales would increase to 3000 fans.

(b) The prices of materials per fan would increase by 20%.

(c) The labour cost per fan would go up by 10%.

(d) The manufacturing expenses would remain in the same proportion to materials consumed and wages as in the previous year.

(e) The selling and distribution expenses per fan would remain unchanged.

(f) The other expenses would remain unaffected on account of increase in the production.

Prepare a statement for the two years 2013-2014 and 2014-2015 showing cost and profit per fan and total cost and total profit, giving maximum possible break-up of cost.

[*MU, B.Com., October 1995, Modified*]

Solution:

M/s Cool and Comforts Ltd.
Cost Sheet for the year ended 31st March. 2014

[Output: 2,000 Fans]

Particulars	**Total**		**Cost Per Unit (₹)**
	₹	**₹**	
Materials Consumed	1,20,000		60.0
Wages	1,80,000		90.0
Prime Cost		3,00,000	150.0
Add: Works/Factory Overheads:			
Manufacturing Expenses		75,000	37.5
Works/Factory Cost		3,75,000	187.5
Add: Office and Administration Overheads:			
Rent, Rates and Taxes	15,000		7.5
General Expenses	30,000		15.0
Management Expenses	90,000		45.0
Total Office and Administration Overheads		1,35,000	67.5
Cost of Production/Cost of Goods Sold		5,10,000	255.0
Add: Selling and Distribution Overheads:			
Selling and Distribution Expenses		45,000	22.5

Total Cost of Sales		5,55,000	277.5
Add: Profit		45,000	22.5
Sales Value		6,00,000	300.0

Estimated Cost Sheet for the year ending 31st March, 2015

[Output: 3,000 Fans]

Particulars	Total		Cost Per Unit (₹)
	₹	₹	
Materials Consumed	2,16,000		72.00
Wages	2,97,000		99.00
Prime Cost		5,13,000	171.00
Add: Works/Factory Overheads:			
Manufacturing Expenses		1,28,250	42.75
Works/Factory Cost		6,41,250	213.75
Add: Office and Administration Overheads:			
Rent, Rates and Taxes	15,000		5.00
General Expenses	30,000		10.00
Management Expenses	90,000		30.00
Total Office and Administration Overheads		1,35,000	45.00
Cost of Production/Cost of Goods Sold		7,76,250	258.75
Add: Selling and Distribution Overheads			
Selling and Distribution Expenses		67,500	22.50
Total Cost of Sales		8,43,750	281.25
Add: Profit (Balancing figure)		56,250	18.75
Sales Value		9,00,000	300.00

Illustration 17 (a)

A company manufactures a mixer which is sold for ₹ 1,200. An increase of 15% in material cost and 10% in labour cost is expected.

If the only figures available are those given below, what must be the selling price to give the same percentage of gross profit as before?

(a) Materials constituted 45% of cost of sales.

(b) Labour constituted 40% cost of sales.

(c) Overhead expenses constituted 15% of cost of sales.

(d) The anticipated increase costs in relation to the present sales price would cause 35% decrease in the amount of the present gross profit.

[CA Modified]

Solution:

Working Note:

Cost Sheet

	Present	Estimated
Material	45x 15%	51.75x
Labour	40x 10%	44.0x
Overheads	15x Same	15x
Total Cost	100x	110.75x
Profit	(1200 – 100x)	0.65 (1200 – 100x
Sales	1200	1200

Let total cost at present be '100 x'.

In present cost sheet, profit is (1200 – 100x). Due to decrease in price, profit will reduce by 35%, i.e., it will remain at 65% of present profit

In estimated cost sheet,

Total cost + Profit = Sales

110,75 + 0.65 (1200 – 100x) = 1200

110.75x + 780 – 65x = 1200

45.75x = 420

x = 9.18 (approx.)

Present Cost Sheet		Estimated Cost Sheet to Revise Sale Price	
Particulars	**Amount**	**Particulars**	**Amount**
Material	413	Material	475
Labour	367	Labour	404
Overheads	138	Overheads	138
Total Cost	918	Total Cost	1,017
Profit	282	Profit (estimated)	312
Sales	1,200	Sales	1,329

Working Note:

	Cost	**Profit**
Last year	918	282
Next year	1,017	**(?)**
		312

Illustration 17 (b)

The following is a summary of the trading results of a company selling electrical appliances for the year ended 31st Dec., 2014 during which 80,000 units were sold:

Particulars		₹ (Lakhs)
Sales		96
Costs:		
Materials	36	
Direct labour	15	
Other cost	6	
Indirect	18	75
Profit		21

Taking into consideration the following matters, prepare a summary of the expected results for the following year:

(i) The selling price is to be reduced by ₹ 7.50.

(ii) Sales volume is expected to increase by 40%.

(iii) Suppliers have agreed to give a discount of 5% on all purchase of materials.

(iv) Direct worken are to be paid an incentive bonus of $2\frac{1}{2}\%$ in order to stimulate production. Indirect labour is not expected to increase during the following year.

(v) Other costs vary directly with production except to the extent of ₹ 3 lakhs which is considered 'fixed' and an additional expenses of ₹ 1 lakh will arise due to rent in respect of an extension to the building.

(vi) You are required to assume that there are no stock or work-in-progress as at 31st December. ***[CA Modified]***

Solution:

Cost Sheet for the Year 31.12.2014

Production = 80,000 units
Sale = 80,000 units

Particulars	Amount	CPU
Material	36,00,000	45.00
Direct Labour	15,00,000	18.75
Prime Cost	51,00,000	63.75
Add: Other Overheads		
(i) Other expenses (300 + 300)	6,00,000	7.50
(ii) Indirect labour	18,00,000	22.50
Total Cost	75,00,000	93.75
Profit	21,00,000	26.25
Sales	96,00,000	120.00

Estimated Cost Sheet for 31.12.15

Production = 1,12,000 units
Sale = 1,12,000 units

Particulars	**Amount**	**CPU**
Materials	47,88,000	42.75
Direct Labour	21,52,500	19.21
Prime Cost	69,40,500	61.96
Add: Other Overheads		
(i) Indirect labour	18,00,000	16.07
(ii) Other expenses: Fixed	3,00,000	2.68
Other expenses: Variable	4,20,000	3.75
(iii) Additional Rent	1,00,000	0.89
Total Cost	95,60,500	85.35
Profit	30,39,500	27.15
Sales	1,26,00,000	112.50

Illustration 18

On August 15, 2014, a manufacture desired to quote for a contract for the supply of 500 Radio sets. From the following details, prepare a statement showing the price to be quoted to give the same percentage of net profit on turnover as was realised during 6 months ending on 30th June, 2014.

	₹
Stock of material as on 1st Jan., 2014	20,000
Stock of material as on 30 th June, 2014	25,000
Purchase of material during 6 months	1,50,000
Factory wages during 6 months	1,20,000
Indirect charges during 6 months	25,000
Opening stock of completed sets	Nil
Closing stock of completed sets	100
Sales during 6 months	3,24,000

The number of radio sets manufactured during these six months was 1,450 sets including those sold and those stocked at the end of the period. The radios to be quoted are of uniform quality and size as were manufactured during the six months to 30th June, 2014. As from August, 1, the cost of factory labour has gone up by 10%.

Solution:

Working Notes:

Calculation of No. of Units Sold:

Opening Stock + Units Production – Closing Stock = Units Sold

Nil + 1,450 – 100 = Units sold

∴ Units sold = 1,350

Cost Sheet for the Period Ended 30.6.14

Particulars	Amount	Amount	CPU
Raw Material			
Opening stock	20,000		
Purchases	1,50,000		
	1,70,000		
Less: Closing Stock	25,000		
Raw Material consumed		1,45,000	100.0
Direct Wages		1,20,000	82.7
Prime Cost		2,65,000	182.7
Add: Factory Overheads			
Indirect Charges		25,000	17.3
Factory Cost		2,90,000	200.0
Add: Opening Stock of finished goods		Nil	
Less: Closing Stock of finished goods (100 × 200)		20,000	
		2,70,000	
Profit		54,000	40.0
Sales		3,24,000	240.0

Tender Cost Sheet (For 500 sets)

Particulars	Amount	CPU
Raw materials	50,000	100.0
Direct Wages (10% rise)	45,500	91.0
Prime Cost	95,500	191.0
Add: Factory overheads	8,650	17.3
Total Cost	1,04,150	208.3
Profit (1/6 of sales)	20,830	41.7
Sales	1,24,980	250.0

∴ Price to be quoted ₹ 250 per Unit (approx.) to give same percentage of Profit on sales as in the last year.

Illustration 19

Prepare an estimated cost sheet based on the following data and consider the price that you would quote for an export order of 25,000 pieces.

Raw material – 10,000 kg. @ ₹ 6.95 per kg.

Direct labour – 15,000 hours normal at ₹ 2.00 per hour 25% overtime at double the normal rate

Factory overheads – normally recovered at 80% of direct wages

Selling and distribution cost – normally recovered at 60% of direct wages

Additional fixed capital investment to be made – ₹ 50,000

Additional Working capital required ₹ 50,000/-

Normal net return on capital employed expected – 25%.

Solution:

Cost Sheet for the Export Order

Particulars	Amount	Amount
Raw Material (10,000 × 6.95)		69,500
Direct Labour:		
Normal (15,000 hrs. × 2/-)	30,000	
Overtime (3,750 hrs. × 4/-)	15,000	45,000
Prime Cost		1,14,500
Add: Factory overheads (80% of wages)		36,000
Factory Cost		1,50,500
Add: Selling overheads (60% of wages)		27,000
Total Cost		1,77,500
Profit (expected)		25,000
Sales		2,02,500

$$\therefore \text{Selling price per unit} = \frac{2,02,500}{25,000} = 8.10$$

Illustration 20

From the following information, prepare a cost and production statement of a stove manufacturing company for the year 2014:

	₹
Stock of materials 1.1.2014	35,000
Stock of materials 31.12.2014	4,900
Purchase of materials	52,500
Factory expenses	17,500
Factory wages	95,000
Establishment expenses	10,000
No opening stock of finished goods	
Closing stock of finished goods	35,000
Sales	1,89,000

The number of stoves manufactured during the year 2014 was 4,000.

The company wants to quote for a contract for the supply of 1,000 electric stoves to be manufactured during the year 2015. The stoves to be manufactured are of uniform quality and are similar to those manufactured in the previous year, but cost of materials has increased by 15% and cost of factory labour by 10%.

Prepare a statement showing the price to be quoted to give the same percentage of net profit on sales as was realised during the year 2014 assuming the cost per unit of overhead charges will be the same as in the previous year.

Solution:

Cost Sheet for 2014

Production = 4,000 units
Sale = 3,317 units

Particulars	Amount	Amount	CPU
Raw Materials:			
Opening Stock	35,000		
Purchases	52,500		
	87,500		
Less: Closing stock	4,900		
Raw Material consumed		82,600	20.650
Wages		95,000	23.750
Prime Cost		1,77,600	44.400
Add: Factory overheads		17,500	4.375
Factory Cost		1,95,100	48.775
Add: Office overheads		10,000	2.500
Cost of Production		2,05,100	51.275
Less: Closing stock of finished goods		35,000	–
Cost of Goods Sold		1,70,100	51.275
Profit		18,900	5.704
Sales		1,89,000	56.979

Working Notes

$$\text{No. of units Closing Stock} = \frac{\text{Value of Closing Stock}}{\text{Cost of production per unit}}$$

$$= \frac{35,000}{51,275}$$

= 683 units (approx.), Profit on sales = 1/10, ∴ in Cost 1/9.

Cost sheet for Quotation of 1000 units

Particulars	Amount	Amount
Raw Material (10,000 × 6.95)	23,748	23.748
Direct Labour:	26,125	26.125
Prime Cost	49,873	49.873
Add: Factory overheads	4,375	4.375
Factory Cost	54,248	54.248
Add: Office overheads	2,500	2.500
Cost of Production	56,748	56.748
Profit (1/9 of cost)	6,305	6.305
Sales	63,053	63.053

Illustration 21

M/s. Delhi & Press Company produces a standard type of the product. The following particulars are given from which you are required to prepare cost sheet and statement of profit for the period ended 31st October, 2014.

Opening stock of materials	₹ 22,000
Purchase of raw materials	₹ 68,000
Closing stock of raw materials	₹ 10,000
Productive labour	14% of factory cost
Factory on cost	₹ 25,000
Office overheads	15% of works cost
Selling and Distribution Expenses	₹ 10,000

There was no opening or closing stock of work in progress. However the following details of finished products are available.

Production of finished items	10,000 units
Opening stock 1500 units	₹ 25,000
Closing stock	3,500 units

You are also required to find out what will be the profit which is uniformly earned at 20% on the selling price.

Solution:

Estimated sale price to earn same percentage of profit as before is ₹ 1329

1. No. of units sold:

   Opening stock + Units produced – Closing stock = Units sold

   1500 + 10,000 – 3,500 + (?)

   ∴ Units sold = 8,000

2. Valuation of Closing stock of Finished goods:

No. of units	3,500
× Cost of production per unit	12,4775
	43,671

Cost Sheet for Period ended 31/10/14

Production = 10,000 units
Sale = 8,000 units

Particulars	Amount	Amount	CPU
Raw Materials:			
Opening stock	22,000		
Purchases	68,000		
	90,000		
Less: Closing sock	10,000		

Raw Material consumed		80,000	8.00
Direct Labour (14% of Fixed Expenses)		3,500	0.35
Prime Cost		83,500	8.35
Add: Factory overheads		25,000	2.50
Factory Cost		1,08,500	10.85
Add: Office overheads (15% of Working Cost)		16,275	1.6275
Cost of Production		1,24,775	12.4775
Add: Opening stock Finished Goods		25,000	
		1,49,775	
Less: Closing stock of Finished Goods		43,671	
Cost of goods sold		1,06,104	13.263
Add: Selling overheads		10,000	1.25
Total Cost		1,16,104	14.513
Profit (1/4 of cost)		29,026	3.628
Sales		1,45,130	18.141

Sale price is ₹ 18.14 (approx.) to earn profit of 20% on sales.

Questions for Self-practice

(I) Theory Questions

1. What is a cost sheet? What are the purposes of a cost sheet?
2. Give composition of a selling price.
3. Write short notes on:
   (a) Works Cost
   (b) Elements of Cost
4. "Fixed costs are variable per unit while variable costs are fixed per unit." Comment.
5. Define the term cost. What are the different elements of cost?

(II) Practical Questions

1. The following is an extract of the costing information for the year ended 31st March, 2014:

Particulars	**₹**
Sales	1,96,000
Purchase – raw material	60,000
Direct wages	60,000
Rent, Rates, Insurance and other works on cost	21,000
Carriages inwards	1,000
Opening stock –	
Raw material	10,000
Finished goods (200 tonnes)	12,000
Closing stock: Raw materials	11,000
Supervision	3,000

Advertising	4,000
Office overheads	30,000
Selling expenses	8,000

3,000 tonnes of the commodities were produced. The closing stock of finished goods is 400 tonnes. The same has to be valued at work cost. Prepare a detailed cost statement showing:

(i) Cost of the output – total as well as per unit

(ii) Net profit for the year.

**[*Ans.: (i) Total Cost – ₹ 1,78,800; Cost per Unit – 63.86;*
(ii) Net profit – ₹ 17,200; Cost per Unit – 6.14]**

2. From the following data, relating to the manufacturing of a standard product during September 2014, prepare a statement showing cost and profit per unit:

	₹
Raw material used DM	1,20,000
Direct wages DI	72,000
Man hours worked DM	10,000 hours
Man hours rate for recovering works overheads	₹ 10 per hour
Office overheads OE/A	25% on work cost
Selling overheads selling	₹ 1.50 per unit

Unit produced 42,000; units sold 40,000 @ ₹ 25 per unit.

**[*Ans.: (i) Total Cost – ₹ 4,07660; Cost per Unit – 10.17,*
(ii) Net profit – ₹ 5,92,380; Cost per Unit – 14.83]**

3. In 2013, selling price was ₹ 10 per article and total sales were ₹ 1,00,000. In 2014, selling price was increased by 10%. Total sales realised ₹ 1,26,500.

In 2013, materials cost was 40% of sales value. In 2014, prices of raw material rose by 10%.

In 2013, wages were ₹ 30,000. In 2014, the wages cost was ₹ 33,000. In 2013, other expenses were 10% of sales value. These expenses rose in 2014 by ₹ 1,500.

Prepare cost statement for the years 2013 and 2014. Find out the net profit for 2013 and 2014.

[*Ans.: (i) Total Cost: 2013 – ₹ 80,000; Cost per Unit – 8.00 and 2014 – ₹ 95,100; Cost per Unit– 8.27; (ii) Net Profit: 2013 –₹ 20,000; Cost per Unit – 2.00 and 2014 – ₹ 31,400; Cost per Unit – 2.73*]

4. From the following information, prepare a cost statement showing maximum possible break up of cost and total profit:

		₹
Sales for January 2013		30,00,000
Cost of goods sold		24,80,000
Administration expenses		1,80,000
Selling expenses		40,000
	1.1.13	**31.1.13**
	₹	₹
Raw material stock	3,20,000	4,00,000

Work-in-progress	3,20,000	4,80,000
Finished goods	4,20,000	3,40,000

Direct wages were 30% of prime cost

Raw materials consumed were 50% of prime cost

Direct expenses were 20% of prime cost

Factory overheads were 20% of prime cost.

[*MU, T.Y.B.Com., Modified*]

[*Ans.: (i) Total Cost – ₹ 25,20,000 ; (ii) Net Profit – ₹ 4,80,000*]

5. The following particulars relating to the year 2014 are taken from the book and records of a chemical works manufacturing and selling a standardised mixture:

Particulars		**Kgs.**	**Kgs.**
Stock in 1-1-2014 (Opening)	Raw Materials	2,000	2,000
	Finished Mixtures	500	1,750
	Factory Stores		7,250
	Raw Materials	1,60,000	1,80,000
Purchase			
	Factory Stores		24,250
	Finished Mixtures	1,53,050	9,18,000
Sales	Factory Scrap		8,170
Factory wages			1,78,650
Mixtures			
Power			30,400
Machinery depreciation			18,200
Salaries	Factory		72,220
	Office		37,220
	Selling		41,500
Expenses	Direct		18,500
	Office		18,200
	Selling		18,000
Interest on capital			
Advertising			1,40,000
Cash discount on sales			14,500
Stock on 31-12-2014	Raw Materials	1,200	?
	Finished Mixtures	450	?
	Factory Stores		5,550

The wastage in raw material is normal. The purchase price of raw materials remained unchanged through 2014. The stock of finished mixture at the end of the year is to be valued at factory cost. Raw materials are consumed on FIFO basis. From the above information, you are required to prepare a cost statement showing the prime cost, works cost and total cost of the mixture produced during the year.

[*CA Modified*]

[*Ans: Prime Cost – ₹ 3,77,800; Works Cost – ₹ 5,16,200; Total Cost – ₹ 16,89,797*]

6. The accounts of a small manufacturer showed the following particulars for the year ending 31st March, 2014:

Particulars	₹
Materials used	75,000
Productivity wages	60,000
Factory overheads	13,500
Office overheads	7,425

For the quarter to end on 30th June, 2014, it is estimated that the materials would cost ₹ 25,000 and wages ₹ 7,500. The factory overheads will bear the same proportion to the prime cost and the office overheads will bear the same proportion to the prime cost as in the previous year. Prepare an estimated cost sheet. Also ascertain what cost as in the previous year. Prepare an estimated cost sheet. Also ascertain what price should be charged if the manufacturer wants to earn 25% profit on selling price.

[*Ans.: Total Cost: March 2010 – ₹ 1,55,925 and June 2010 – ₹ 37,538; Profit – ₹ 12,512*]

7. A company produced two kinds of electric pumps XA and XB details of which are:

	XA	XB
Pumps manufactured	25,000	12,000
Direct cost:	₹	₹
Materials	3,140	2,650
Wages	9,400	5,700
Power, etc.	2,100	1,410
Total	14,640	9,760
Other costs	₹	
Factory supervision, etc.	3,600	
Packing wages and expenses	400	
Management and selling expenses	4,400	

You are required to prepare a statement showing the cost of each kind of pump when ready for dispatch, taking the following into consideration:

(i) Factory supervision to be charged in proportion to direct costs.

(ii) Packing expenses to be apportioned in the ratio that direct costs plus factory supervision costs of XA bear to similar costs of XB.

(iii) Management and selling expenses to be charged in production to the pumps manufactured.

[*Ans.: Total Cost: XA – 20,013; XB – ₹ 12,788*]

8. A manufacturer commenced production on 1st January, 2013 of a standard article in two grades A and B. Both are produced form the same raw material and are sold to wholesalers at a uniform price — Grade A at ₹ 150 per dozen and Grade B at ₹ 240 per dozen. Sale price are based on the following estimated figures:

Particulars	Cost per Article	
	Grade A	Grade B
Direct material cost	1.50	3.00
Direct wages	5.00	7.00
Production overhead	2.50	3.50
Works cost	9.00	13.50
Selling and Distribution overhead	0.90	1.35
Total cost	9.90	14.85

On making up accounts for year ended 31st December 2012, the following facts were ascertained:

Cost of Material Used		Grade A	Grade B
Direct wages		15,000	20,000
Product wages		38,250	76,500
Product overheads (Total)	₹ 68,125		
Selling and Distribution overhead (Total)		₹ 32,700	

During the year, sales amounted to ₹ 1,05,000 in respect of Grades A articles and ₹ 1,80,000 in respect of Grade B articles, and stock on hand at 31st Dec., 2013, valued at work cost as per his costing were ₹ 5,400 of Grade A and ₹ 13,500 of Grade B.

From the information given above, you are required to prepare a statement of revised costing showing the cost per article sold during 2013.

[*CIMA, London, Modified*]

[*Ans.: Total Cost: A – 83,160; B – ₹ 1,33,650*]

9. The managing director of a small manufacturing concern consults you as to the minimum price at which he can sell the output of one of the departments of the company which is intended for mass production in future. The company's records show the following particulars for this department for the past year:

Production and Sales (100 units)		Works overheads	7,000
Materials	13,000	Office overheads	2,800
Direct labour	7,000	Selling overheads	3,200
Direct charges	1,000	Profit	5,000

You ascertain that 40% of the works overheads fluctuate directly with production and 70% of the selling overheads fluctuate with sales. It is anticipated that the department would produce 500 units per annum and that direct labour charges per unit will be reduced by 20%. While fixed selling overheads charges are expected to show an increase of 25% but otherwise no changes are anticipated.

[*CIMA, London, Modified*]

[*Ans.: Actual Total Cost – ₹39,000; Cost per Unit – 390.00 and Estimated – ₹1,35,100; Cost per Unit – 262.80*]

10. The cost of manufacturing 5,000 units of a commodity comprises:

Materials	20,000	Fixed factory overhead	16,000
Direct labour	25,000	Variable factory overhead	4,000
Chargeable expenses	400		

For manufacturing every 1,000 extra units of the commodity, the cost of production increases as follows:

Materials: Proportionately. Fixed factory overheads: ₹ 200 extra. Wages: 10% less than proportionately. Variable factory overheads 25% less than proportionately.

Chargeable Expenses: No extra cost whatsoever.

Calculate the estimate cost of producing 8,000 units of the commodity and show by how it would differ if a flat rate of factory overhead based on wages were charged.

[*Ans.: Actual Works Cost – ₹ 65,400; Cost per Unit – 13.08 and Estimated – ₹ 89,800; Cost per Unit – 11.23*]

11. American Sprayers Ltd. manufactured and sold 1,000 sprayers during the year ended 31st March, 2014. The summarised accounts are set out below:

Manufacturing, Trading and Profit and Loss Account for the year ended 31-3-14

Particulars	₹	Particulars	₹
To Cost of materials	80,000	By Sales	4,00,000
To Direct wages	1,20,000		
To Manufacturing cost	50,000		
To Gross Profit	1,50,000		
	4,00,000		4,00,000
To Management and Staff Salaries	60,000	By Gross Profit	1,50,000
To Rent, rates and insurance	10,000		
To Selling expenses	30,000		
To General expenses	20,000		
To Net Profit	30,000		
	1,50,000		1,50,000

For the year ending 31st March 2015, it is estimated that:

(a) Output and sales will be 1,200 sprayers.
(b) Price of materials will rise by 20% on the previous year's level.
(c) Wages per unit will rise by 5%.
(d) Manufacturing cost will rise in proportion to the combined cost of materials and wages.
(e) Other expenses will remain unaffected by the rise in output.
(f) Selling expenses per unit will remain unchanged.

(i) Prepare a cost sheet for the year ending 31st March, 2014.

(ii) Prepare an estimated cost sheet showing the price at which the sprayer should be sold so as to show a profit of 10% on the selling price.

[*CS Modified*]

[Ans.: (i) Total Cost: 2010 – ₹ 3,70,000; Cost per Unit – 370.00 and 2011 – ₹ 4,59,400; Cost per Unit – 382.05

(ii) Net Profit: 2010 – ₹ 30,000; Cost per Unit – 30.00 and 2011 – ₹ 51,000; Cost per Unit – 30.00]

12. Tidy Home Limited manufactures domestic vacuum cleaners. For the year ending 30 th Sep. 2014, expenses incurred are as follows for an output of 1,000 units.

Raw material consumed	1,00,000
Direct wages	50,000
Factory overheads	80,000
Administrative overheads	23,000
Selling overheads (which are 10% of sales value)	35,000
Distribution overheads (for sale of 900 unit)	18,000

For the year 2014-15, following changes are expected:

(i) Raw material prices are expected to rise by 10% but per unit consumption is expected to fall by 5%.

(ii) Direct wages may rise by 15% but productivity of labour may bring down the cost of wages per unit by 10%.

(iii) Of the factory overheads, ₹ 30,000 are fixed cost and are expected to remain at the same level, but variable component thereof is likely to have the same relationship to wages, as it had for the year 2013-14.

(iv) Administration overheads may rise by 20%.

(v) Selling overheads as a percentage of sale value may remain at the same level, as for 2008-09.

(vi) Distribution overheads per unit may remain the same.

(vii) Output for the year 2014-15 is expected to be 1,500 units.

You are required to work out the total cost per vacuum cleaner for 2009-10 and the selling price at which it should be marketed in order to make of profit of 20% on sale value.

[*CA Modified*]

[Ans.: (i) Total Cost: 2009 – ₹ 2,80,700; Cost per Unit – 311.88 and 2010 – ₹ 4,56,686; Cost per Unit – 304.45

(ii) Net Profit: 2009 – ₹ 69,300; Cost per Unit – 77.00 and 2010 – ₹ 1,14,171; Cost per Unit – 76.11]

13. M/s Bata Shoe Co. manufacturers two types of shoes A and B. Production costs for the year ended 31st March, 2013 were:

Direct materials	₹ 15,00,000
Direct wages	8,40,000
Production overheads	3,60,000
	₹ 27,00,000

There was no work-in-progress at the beginning or at the end of the year. It is ascertained that:

(a) Direct Materials in type A shoes consists twice as much as that in type B shoes.

(b) The direct wages for type B shoes were 60% of those for type A shoes.

(c) Production overhead was the same per pair of A and B type.

(d) Administrative overheads for each type were 150% of direct wages.

(e) Production during the year were: Type A 40,000 pairs of which 36,000 were sold. Type B 1,20,000 pairs of which 1,00,000 were sold.

(f) Selling cost was ₹ 1.50 per pair.

(g) Selling price was ₹ 44 for type A and ₹ 28 per pair for type B.

[*MU, T.Y.B.Com., Modified*]

[*Ans.: Total Cost: A – 13,50,000 and B – ₹22,50,000; Profit: A – 2,34,000 and B – ₹5,50,000*]

14. X and Y Shoe Polish Company Ltd., manufactures black and brown polish in one standard size of tin retailing at ₹ 1.08 and ₹ 1.20 respectively. The following data is supplied to you:

Direct Materials:	Polish	7,38,000
	Tins	2,88,000
Direct Wages		2,44,800
Production overheads		3,67,200
Administrative and selling overheads		1,22,400

Sales for the year were: Black – 14,000,00 tins and Brown – 6,00,000 tins. The opening and closing stock were:

	Black	**Brown**
Opening stock (Tins)	48,000	1,60,000
Closing stock (Tins)	1,08,000	60,000

The opening stock of the black and brown polish was valued at its production cost of paise ₹ 304 per tin and paise 0.864 per tin respectively. The cost of raw material for brown polish is 10% higher than that for black. There is no difference in the cost of tins. Direct wages for brown are 8% higher than those for black polish and production overheads are considered to vary with direct wages. Administrative and selling overheads are absorbed at a uniform rate per tin of polish sold. Prepare a statement to show the cost and profit per tin of polish.

[*CA Modified*]

**[*Ans.: Total Cost: Black – 12,44,160; Brown – ₹5,54,400*
Profit: Black – 3,11,040; Brown – ₹1,65,600]**

15. A company manufactures a mixer which is sold for ₹ 1,200/-

(a) Materials constituted at 45% of cost sales.

(b) Labour constituted 40% of cost sales.

(c) Overhead expenses constituted 15% of cost of sales.

(d) An increase of 15% in material cost and 10% in labour cost is expected.

(e) The anticipated increased costs in relation to the present sales price would cause 35% decrease in the amount of the present gross profit.

If the only figure available are those given above, what must be the selling price to given the same percentage of gross profit as before? **[*ICWA Modified*]**

[*Ans.: Actual Total Cost – ₹900; Profit – ₹300 and Estimated – ₹996.75; Profit – ₹195.00*]

16. The cost structure of an article the selling price of which is ₹ 45,000 is as follows:

Direct Materials 50% Direct Labour 20% Overheads 30%

An increase of 15% in the cost of material and of 25% in the cost of labour is anticipated. These increased costs in relation to the present selling would cause a 25% decrease in the amount of present profit per article.

You are required:

(i) To prepare a statement of profit per article at present and

(ii) The revised selling price to produce the same percentage of profit to sales as before.

[*CA Modified*]

[*Ans.: Actual Total Cost – ₹33,750; Profit – ₹11,250 and Estimated – ₹37,968.75; Profit – ₹12,656.25*]

17. A factory produces uniform type of articles and has a capacity of 8,000 units per week. The following information shows the different elements of cost for 3 consecutive weeks when the output has changed from week to week.

Units Produced	Direct Materials ₹	Direct Labour	Factory Overheads (Partly Variable & Partly Fixed)
800	3,200	1,200	5,600
1,000	4,400	1,500	6,400
1,600	8,600	2,400	8,800

The factory has received an order for 2,400 units upon the selling price of which it wants a profit of 25%. Find out what price per unit it should quote.

[*CA Modified*]

[*Ans.: Total Cost: Week 1 – ₹39,600; 2 – ₹38,160 and 3 – ₹36,000 Profit: 1 – ₹9,900; 2 – ₹9,540; 3 – ₹9,000*]

18. A factory can manufacture 10,000 units every month. The following data is furnished to you for the quarter ended 31st December, 2014:

Materials cost ₹ 5 per unit

Labour cost ₹ 4 per unit

Variable factory expenses ₹ 2 per unit

Particulars	October	November	December
Production (unit)	6,000	8,000	7,000
Factory overheads (₹)	8,000	9,000	8,500

A commission agent introduced a prospective customer who wants to place an order for 10,000 units every month. You are asked to quote your price after considering the following:

(i) Administration overheads is 10% of works cost.

(ii) Sales and distribution overheads is 12.5% of cost of production.

(iii) The commission agent is to be paid ₹ 1 per unit.

(iii) The factory wants a profit of 20% on sales price.

[*CS Modified*]

19. A factory can produce 60,000 units p.a. at 100% capacity. The estimated cost of production is as follows:

Direct materials	₹ 3 per unit
Direct wages	₹ 2 per unit
Fixed cost p.a.	₹ 1,50,000
Variable expenses per unit	₹ 5

Semi-variable expenses per annum:

(a) Upto 50% of capacity ₹ 50,000

(b) ₹ 10,000 for every increase of 25% in capacity or part thereof.

The factory produces only against orders. If the production programme of the factory is as indicated below, what should be the selling price if it wants to earn a profit of ₹ 1,00,000 for the year? The production programme is:

(a) For the first 3 months at 50% capacity.

(b) For the next 9 months at 80% capacity.

[*CA Modified*]

[*Ans.: Total Cost – ₹ 7,97,000 and Profit – ₹ 1,00,000*]

20. In respect of factory, the following figure have been obtained for the year 2014.

Cost of materials	₹ 6,00,000
Wages of labour	5,00,000
Factory overheads	3,00,000
Administration charges	3,36,000
Selling charges	2,24,000
Distribution charges	1,40,000
Profit	4,20,000

A work has been executed in 2015 and the following expenses have been incurred:

Materials	8,000
Wages	5,000

At what price should the product be sold? Factory overheads is based on direct labour and administration, selling and distribution overhead on factory cost. The same rate of profit on the selling price as in 2009 is required.

[*Ans.: (i) Total Cost: 2009 – ₹ 21,00,000 and (ii) Net Profit: 2009 – ₹ 4,20,000*]

21. The present sales turnover of a factory is 1000 articles at ₹ 550 each. By reason of a price reduction of 9%, the size of order is expected to increase by 50%. The present cost structure of the factory is as follows:

Materials	40%
Variable wages and expenses	30%
Fixed overheads	15%
Profit	15%

Present the present and estimated cost sheet. Is it advisable for the company to go for a price reduction?

[*CIMA London Modified*]

[*Ans.: Actual Sales – ₹ 5,50,000; Profit – ₹ 82,500 and Estimated – ₹ 7,50,750; Profit – ₹ 1,12,612.50*]

22. The State Government granted license to Sweet Sugar Ltd. to manufacture and sell sugar with a stipulation that 40% of the output should be sold to the State Government at a controlled price of ₹ 3,000/- per tonne and the balance output can be sold in the open market at any price. Following are the details of Sweet Sugar Ltd. for the year ended 31st March, 2010. During the year, 3,600 tonnes of sugarcane was consumed @ 1000 per tonne. Direct labour @ 850 per tonne of output produce.

Particulars	**₹**
Direct Expenses	4,20,000
Telephone Charges	3,52,695
Office Computer Purchased	2,75,350
Factory Rent and Insurance	3,54,760
Machinery Purchased	4,25,560
Machinery Repairs	98,847
Commission on Sales	3,37,650
Factory Salaries	2,19,588
Carriage Outward	1,54,090
Packing Expenses	1,94,450
Bank Interest	1,65,895
Factory Electricity	2,61,880
Delivery Van Expenses	1,06,850
Coal Consumed	3,80,125
Depreciation on Machinery	2,49,600
Depreciation on Computer	2,04,180
Depreciation on Delivery Van	1,57,360
Office Salaries	1,89,325
Printing & Stationery	1,13,000

During the year, 2,400 tonnes of sugar was produced. The company's profit target for the year, for fixing the open market selling price on the basis of cost sheet, is 10% of its average paid-

up capital of ₹ 1,42,56,000. Prepare cost sheet and find various components of total cost and per unit cost and suggest the selling price for open market.

[*MU, T.Y.B.Com., Modified*]

[*Ans.: Total Cost – ₹ 50,54,400 and Profit – ₹ 14,25,600; Open Market Price – ₹ 2,500 per tonne*]

23. Vaijanth Polymers manufactures and sells a typical brand of tiffin boxes under its own brand name the installed capacity of the plant is 1,20,000 units per year, distribution evenly over each month of calendar year. The Cost Accountants of the company has informed you about the cost structure of the product, which is as follows:

Raw Materials	₹	20 per unit
Direct Labour	₹	12 per unit
Direct Expenses	₹	2 per unit
Variable Overheads	₹	16 per unit
Fixed Overheads for the year	₹	3,00,000

Semi-variable Overheads are as follows:

(a) ₹ 7,500 per month upto 50% capacity and

(b) Additional ₹ 2,500 per month for every additional 25% capacity utilisation or part thereof.

The plant was operating at 50% capacity during the first seven months of the calendar year 2014 and at 100% capacity in the remaining months of the year. The selling price for the period from 1st January, 2014 to 31st July, 2009 was fixed at ₹ 69/- per unit. The firm has been monitoring the profitability and revising the selling price to meet its annual profit target of ₹ 8 lakhs. You are required to suggest the selling price per unit for the cost and also profit for the period:

(a) From 1st January, 2014 to 31st July, 2014

(b) From 1st August, 2014 to 31st December, 2014.

[*ICWA Modified*]

24. A manufacturer produces 8,000 units per month, split up cost and sales value of which is given below:

	₹ (per Unit)
Direct Material	30
Direct Labour	20
Factory Expenses	
Fixed Overheads (₹ 2,00,000)	25
Variable Overheads	40
Selling & Distribution Expenses	115
Fixed (₹ 80,000)	10
Variable	15
	140
General Administration (Fixed ₹ 2,40,000)	30
Margin of Profit	5
Selling price	175

Due to increase in demand and consequent extension of delivery dates and dissatisfaction among customers, the management decided to provide for an output of 12,000 units per month in the next year. Prepare a comparative cost statement showing anticipated margin of profit for the present output (of 8,000 units) and the proposed output (of 12,000 units). Assume that in the coming year there will be an all-round increase of 5% in the different items of expenses expect fixed expense. Selling price can be increased by 2% in the coming year. Due to the proposed increase in output (if the proposal is adopted), there will be an increase of 25% in the Fixed Factory overheads 20% in Fixed Selling and Distribution expenses and 10% in General administration.

[*ICWA London Modified*]

[*Ans.: Actual Sales – ₹14,00,000; Profit – ₹40,000 and Estimated – ₹21,42,000; Profit – ₹63,000*]

25. The present sales turnover of a factory is 2000 articles at ₹ 500 each. By reason of a price reduction of 10%, the size of order is expected to increase by 50%. The present cost structure of the factory is as follows:

Materials	40%
Variable wages and expenses	30%
Fixed overheads	15%
Profit	15%
	100%

Present the present and estimated cost sheet. Is it advisable for the company to go for a price reduction?

[*CIMA, London, Modified]*

***[Ans.: Actual Sales – ₹10,00,000; Profit – ₹1,50,000 and Estimated – ₹13,50,000; Profit – ₹2,02,500*]**

(III) Objective Questions

A. State whether the following statements are True or False.

1. Cost of a product is decided as per cost attach concept.
2. Interest on capital is a non-cost item.
3. Cost sheet shows total cost and cost per unit.
4. Prime cost includes factory overheads.
5. Cost of production includes selling overheads.
6. Carriage on material increases cost of materials.
7. Waste having realisable value is called as scrap.
8. Fixed cost remains constant irrespective of output.
9. Variable cost is also called as product cost.

[Ans. True: (1, 2, 3, 6, 7, 8, 9); False: (4, 5)]

B. Match the following.

Group A	Group B
1. Interest on loan	(i) Direct Cost
2. Prime Cost	(ii) Factory Cost plus Office Overheads
3. Cost of Production	(iii) Prime Cost plus Factory Overheads
4. Factory Cost	(iv) Sales less Total Cost
5. Profit	(v) Cost plus Profit
	(vi) Non-cost Item

[Ans.: 1. (vi), 2. (i), 3. (ii), 4. (iii), 5. (iv)]

C. Multiple choice questions. Select the right answer.

1. Total cost includes
   (i) Cost of production plus selling overheads
   (ii) Direct cost
   (iii) Indirect cost

2. Prime cost includes
   (i) Direct material plus direct labour plus direct expenses
   (ii) Direct material plus direct expenses
   (iii) Direct cost plus indirect cost
3. Factory overheads includes
   (i) Factory salary, depreciation of machine, fuel
   (ii) Factory salary, rent of office, selling commission
   (iii) Office overheads only
4. Stock is valued at
   (i) Cost of production
   (ii) Direct cost
   (iii) Indirect cost
5. Selling price is equal to
   (i) Total cost plus profit
   (ii) Direct cost plus profit
   (iii) Indirect cost plus profit

[Ans.: 1. (i), 2. (i), 3. (i), 4. (i), 5. (i)]

2
Chapter

Reconciliation

Cost account helps to ascertain the cost of products. Cost account also reveal the profit or loss in respect of the products. Such profit or loss as per cost accounts, is, however likely to be different from profit or loss shown by financial accounts of the concern for many reasons. They are:

1. Some items of income and expenses appearing only in financial accounts and not in cost accounts, e.g., Income from Dividend, Goodwill written off etc.
2. Some items of income and expenses appearing only in cost accounts, e.g., National Interest on Owner's Capital etc.
3. Different treatment given to some items in the two sets of Accounts, e.g., different methods of valuation of stock, different methods of charging depreciation, or the Overheads being taken on estimated basis in Cost Accounts etc.

All these factors lead to difference in the figures of profit as per Cost Accounts and profit as per Financial Accounts. It should be noted that some concerns maintain Integrated System of Accounts in which the Financial Accounts and Cost Accounts are integrated or kept in the same set of books. In such cases, the financial profits and costing profits will always tally and there will be no such need for reconciliation. However, in Non-integrated System of Accounting, since the financial records and costing records are distinct and separate, reconciliation of costing profits and financial profits becomes necessary. Reconciliation, in such cases, ensures accuracy of costing data furnished to the management on which many important decisions will be based. Reconciliation also acts as a cross check on both sets of accounts and makes them more reliable.

Reasons for Difference in Cost A/c and Financial A/c

The main reasons for difference in the profits (or losses) disclosed by the Cost Accounts and the Financial Accounts are as follows:

1. **Items Appearing in Financial Accounts Only**
   (a) Expenses/Losses/Appropriations Debited in Financial Accounts only.
   (b) Income Credited in Financial Accounts only.
2. **Items Appearing in Cost Accounts Only**
   (a) Expenses Debited in Cost Accounts only.
   (b) Income Credited in Cost Accounts only.
3. **Different Treatment in Two Accounts**
   (a) Valuation of Opening and Closing Stocks.
   (b) Methods of Charging Depreciation.
   (c) Methods of Recovery/Absorption of Prime Cost/Overheads in Cost Accounts.

These items giving rise to differences between the two accounts – Cost Accounts and Financial Accounts – are explained in detail below.

Items Appearing in Financial Accounts Only

Financial Accounts cover all the items of Income and Expenses pertaining to the organisation as a whole. Cost Accounts, on the other hand, are limited in scope. Cost Accounts take into consideration only the items of income and costs pertaining to the cost unit, i.e., product, process, contract etc. Cost Accounts therefore ignore items of income or expenses not specifically related to the product, process or contract. Such items appear only in Financial Accounts and are ignored and excluded in Cost Accounts. Theses are enumerated and elaborated below.

Financial Expenses/Losses/Appropriations

These items are debited only in the Financial Accounts and not in the Cost Accounts since these are not connected with any cost unit, i.e., product etc. Following are the instances of such items.

1. **Financial Expenses:**
   - Interest paid on Loans, Fixed Deposits, Debentures.
   - Expenses on Issue of Shares, Debentures etc.
   - Discount on Issue of Shares, Debentures etc.
   - Underwriting Commission on Issue of Shares.
2. **Financial Losses:**
   - Capital Losses such as Loss on sale of fixed assets, Loss on sale of investment, Loss of assets by fire or flood, Machinery scrapped etc.
   - Penalties and Fines.
   - Damages paid as ordered by Court.
3. **Appropriations Out of Profits:**
   - Donations.
   - Writing off Fictitious Assets, e.g., Goodwill, Preliminary Expenses, etc.
   - Income Tax.
   - Transfer to Sinking Funds.
   - Dividend – both Preference and Equity.
   - Transfer to Reserves.

Income Credited in Financial Accounts Only

These items are credited only in the Financial Accounts and not in the Cost Accounts, since these too are not directly related to the product etc. Following are the instances of such items:

- *Interest Received* on Loans/Fixed Deposits/Bank Deposits/Debentures etc.
- *Dividend Received* on Investments made in Shares.
- *Premium* on Issue of Share/Debentures credited to the Profit and Loss Account.
- *Rent Received.*
- *Transfer Fees Received* in respect of Share Transfers.
- *Capital Gains* such as Profit on sale of fixed assets, Profit on sale of Investments.

- *Penalties and Fines or Discounts Received* from customers etc.
- *Damages Received* as ordered by Court.

Items Appearing in Cost Accounts Only

Similarly, there are certain items of Income and Expenses which appear only in Cost Accounts and not in Financial Accounts. These are generally notional or fictional items and not actual ones. These items are included in Cost Accounts in cases where the Sale Price is fixed by the Government on the basis of Cost data submitted by the company (e.g. Fertilisers Industry), or in cases where the sale price is fixed on the basis of Cost plus contracts. Theses items are detailed below:

1. **Expenses Debited in Cost Accounts Only**
   - *Notional Interest* on Owner's Capital
   - *Notional Remuneration* to Owner for his Labour and Management.
   - *Notional Rent* to Owner for use of hs premises for business.
2. **Income Credited in Cost Accounts Only**
   - *Notional Interest* charged to owner for drawings (debit balance in Capital Account).
   - *Notional Rent* charged to owner for personal use of business premises.

Different Treatment in Two Accounts

There are several items of income and expenses which are treated differently in the two sets of accounts, viz., the Cost Accounts and the Financial Accounts. The amounts of such items in two sets of accounts are different due to the different treatment. The difference in the amounts has to be ascertained and adjusted in order to reconcile the respective profits as per the two accounts. These items are explained in detail below:

Methods of Valuation of Stocks

Different types of stock such as Raw Materials, Finished Goods, Work-in-progress etc. may be valued by one method in the Cost Accounts and another in the Financial Accounts. Thus,

1. **Raw Materials** may be valued on FIFO basis in Cost Accounts and LIFO basis in Financial Accounts.
2. **Finished Goods** may be valued at Cost of Production including Office Overheads in Cost Accounts, while in Financial Accounts, they may be valued at production cost excluding Office expenses. Further, Finished goods may be valued in the Financial Accounts at market price if it is lower than cost. However, in Cost Accounts, Finished Goods may be valued only at cost, irrespective of the market price
3. **Work-in-progress** may be valued at actual prime cost plus an estimated percentage of overheads in Cost Accounts, while in Financial Accounts, work-in-progress may be valued only at prime cost. The work-in-progress in respect of a long-term contract may be valued by different methods in the Cost Accounts and the Financial Accounts.

Methods of Charging Depreciation

The method adopted for charging depreciation in the two accounts – Cost Accounts and Financial Accounts – may be different. Thus, while the Cost Accounts may follow the Straight Line Method,

Financial Accounts may follow the Written Down Value Method. This obviously leads to either overcharging or undercharging of depreciation in the Financial Accounts.

Recovery of Prime Cost/Overheads

1. **Materials:** Sometimes in Cost Accounts, the cost of Materials, Labour or Overheads is taken at an estimated or predetermined value instead of the actual expenditure. Thus, Raw materials may be taken at a cost equal to **Actual Quantity Consumed × Fixed Rate**. The actual cost of raw materials debited in the Financial Accounts will be different from such cost of materials debited in the Cost Accounts. Some difference in the value of consumption of materials may also arise due to different treatment of Wastage and Loss of materials in the two sets of accounts.
2. **Wages:** Like materials, Wages too may be debited in the Cost Accounts at an estimated amount equal to **Actual Labour Hours × Fixed Wage Rate**. The actual amount of Wages debited in the Financial Accounts will be different from the Wages debited in the Cost Accounts. Further, the treatment of Idle Time and Overtime may be different in the two sets of accounts leading to difference between the Financial Profits and the Costing Profits.
3. **Overheads:** Overheads are frequently debited or charged to products, processes etc. on estimated basis in Cost Accounts. The amount of overheads thus recovered or absorbed in the Cost Accounts is bound to be different from the actual amount of overhead appearing in the Financial Accounts. The overheads are likely to be either over-recovered or under-recovered in the Cost Accounts leading to difference between the Financial Profit and Cost Profit.

Procedure for Reconciliation

1. Basic Rule

The basis rule for preparing the Reconciliation Statement is **Do As The Other Has Done**. Thus, when we start with the Financial Profit, we have to do as the Cost Accounts have done. Thus, we have to start with the Financial Profits, and

- exclude the items which were ignored by Cost Accounts,
- consider the items accounted only in Cost Accounts,
- adopt the same amounts in respect of stock, depreciation, overheads etc. as adopted by Cost Accounts, and
- finally adjust the Financial Profits accordingly.

This process of Doing What the Other has Done will finally reconcile the Financial Profits with the Costing Profits.

2. Items Causing Difference

Let us study in detail how the various items described above are reconciled, **with Financial Profits as the starting point.**

A. Items Appearing only in Financial Accounts

(i) Expenses etc. Debited Only in the Financial Accounts: These items are ignored and excluded in the Cost Accounts. As per our rule **Do As The Other Has Done**, we also must ignore and exclude these items. When expenses, losses, and appropriations are excluded, the financial profit increases. Hence the expenses, losses and appropriations

debited only in Financial Accounts are added to Financial Profits in the reconciliation statement.

(ii) Income Credited Only in the Financial Accounts: These items are ignored and excluded in the Cost Accounts. As per our rule **Do As The Other Has Done**, we must also ignore and exclude these items. When income is excluded, the financial profit decreases. Hence, the items of income credited only in Financial Accounts are deducted from Financial Profits in reconciliation statement.

(iii) Reconciliation: Thus,

Financial Profit as per Financial Accounts

Add: Expenses/Losses/Appropriations Debited in Financial Accounts Only

Less: Income Credited in Financial Accounts Only

= Costing Profit as per Cost Accounts

B. Items Appearing Only in Cost Account

(i) Income Credited only in Cost Accounts: These items are considered only in the Cost Accounts. As per our rule **Do As The Other Has Done**, we must also consider these items of Income. When these items of income are considered and included, the financial profit will go up. Hence, the items of income credited only in the Cost Accounts are added to the Financial Profits in the reconciliation statement.

(ii) Expenses Debited Only in Cost Accounts: These items have been considered only in the Cost Accounts. As per our rule **Do As The Other Has Done**, we must also consider these items of expenses. When these items of expenses are considered, the financial profit will go down. Hence, the items of expenses debited only in the Cost Accounts are deducted from the Financial Profit in the reconciliation statement.

(iii) Reconciliation: Thus,

Financial Profit as per Financial Accounts

Add: Income Credited Only in Cost Accounts

Less: Expenses Debited Only in Cost Accounts

= Costing Profit as per Cost Accounts

C. Different Treatment in Two Accounts

(i) Valuation of Closing and Opening Stock

(a) Closing Stock Undervalued in Financial Accounts: This item indicates that the value of closing stock is higher in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done**, we have to adopt the higher value of closing stock as per the Cost Accounts. Increase in the value of closing stock means increase in Financial Profits. Hence, the amount of undervaluation of closing stock in Financial Accounts is added to Financial Profits in the reconciliation statement.

(b) Opening Stock Overvalued in Financial Accounts: This item indicates that the value of opening stock is lower in Cost Accounts as compared to the Financial Accounts. As per our rule **Do As The Other Has Done**, we have to adopt the lower value of opening stock as per the Cost Accounts. Decrease in the value of opening stock means increase in Financial Profits. Hence, the amount of overvaluation of opening stock in Financial Accounts is added to Financial Profits in the reconciliation statement.

(c) Closing Stock Overvalued in Financial Accounts: This item indicates that the value of closing stock is lower in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done**, we have to adopt the lower value of closing stock as per the Cost Accounts. Decrease in the value of the closing stock means decrease in Financial Profit. Hence, the amount overvaluation of closing stock in Financial Accounts is deducted from Financial Profits in the reconciliation statement.

(d) Opening Stock Undervalued in Financial Accounts: This item indicates that the value of opening stock is higher in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done**, we have to adopt the higher value of opening stock as per the Cost Accounts. Increase in the value of opening stock means decrease in Financial Profits. Hence, the amount of undervaluation of opening stock in Financial Accounts is deducted from Financial Profits in the reconciliation statement.

(e) Reconciliation: Thus,

Financial Profit as per Financial Accounts

Add: Closing Stock Undervalued in Financial Accounts

Opening Stock Overvalued in Financial Accounts

Less: Closing Stock Overvalued in Financial Accounts

Opening Stock Undervalued in Financial Accounts

= Costing Profit as per Cost Accounts

(ii) Methods of Charging Depreciation

(a) Depreciation Overcharged in Financial Accounts: This item indicates that the amount of depreciation is lower in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done,** we have to adopt the lower amount of depreciation as per the Cost Accounts. Decrease in the amount of depreciation means addition to Financial Profits. Hence, the amount of depreciation overcharged in Financial Accounts is added to financial profit in the reconciliation statement.

(b) Depreciation Undercharged in Financial Accounts: This item indicates that the amount of depreciation is higher in Cost Accounts as compared to that in the Financial Account. As per our rule **Do As The Other Has Done,** we have to adopt the higher amount of depreciation as per the Cost Accounts. Increase in the amount of depreciation means decrease in Financial Profits. Hence, the amount of depreciation undercharged in Financial Accounts is deducted from financial profits in the reconciliation statement.

(c) Reconciliation: Thus,

Financial Profit as per Financial Accounts

Add: Depreciation Overcharged in Financial Accounts

Less: Depreciation Undercharged in Financial Accounts

= Costing Profit as per Cost Accounts

(iii) Recovery of Prime Cost/Overheads

(a) Cost/Overheads Under-recovered in Cost Accounts: This item indicates that the amount of prime cost/overheads is lower in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done**, we have to adopt the lower amount of overheads etc. as per the Cost Accounts. Decrease in the amount of Overheads etc. means increase in Financial Profits. Hence, the amount of overheads

under-recovered in Cost Accounts is added to Financial Profits in the reconciliation statement.

(b) Cost/Overheads Over-recovered in Cost Accounts: This items indicates that the amount of overheads (or prime cost) is higher in Cost Accounts as compared to that in the Financial Accounts. As per our rule **Do As The Other Has Done,** we have to adopt the higher amount of overhead etc. as per the Cost Accounts. Increase in the amount of Overheads etc. means decrease in Financial Profits. Hence, the amount of overheads over-recovered in Cost Accounts is deducted from Financial Profits in the reconciliation statement.

(c) Reconciliation: Thus,

Financial Profit as per Financial Accounts

Add: Prime Cost/Overheads Under-recovered in Cost Accounts

Less: Prime Cost/Overheads Over-recovered in Cost Accounts

= Costing Profit as per Cost Accounts

Reconciliation (Starting with Financial Profits)

1. **Introduction:** The Statement of Reconciliation between Financial Profits and Costing Profits is prepared in the format given below. It is similar to a Bank Reconciliation Statement. The Reconciliation Statement can be prepared in two ways – starting with Financial Profits or starting with Costing Profits. Let us first see how the Reconciliation Statement appears when prepared with Financial Profits as the starting point in the light of our earlier discussions (in para 6). The proforma statement is given below:
2. **Proforma:**

Statement of Reconciliation
between Financial Profit and Costing Profit for the Year Ending xxxx

Particulars	₹	₹
Financial Profit	xx	
Add:		
Expenses/Losses/Appropriations		
Debited only in Financial A/cs	xx	
Closing Stock Undervalued in Financial A/cs	xx	
Opening Stock Overvalued in Financial A/cs	xx	
Depreciation Overcharged in Financial A/cs	xx	
Overheads Under-recovered in Cost A/cs	xx	
Income Credited only in Cost A/cs	xx	xx
Less:		
Income Credited only in Financial A/cs	xx	
Closing Stock Overvalued in Financial A/cs	xx	
Opening Stock Undervalued in Financial A/cs	xx	
Depreciation Undercharged in Financial A/cs	xx	
Overheads Over-recovered in Cost A/cs	xx	
Expanses Debited only in Cost A/cs	xx	(xx)
Costing Profit		xx

Reconciliation (Starting With Cost Profits)

1. **Introduction:** The basis rule for preparing the Reconciliation Statement, i.e., **Do As The Other Has Done** is equally applicable in this case too. Thus, when we start with the Costing Profits, we have to do as the Financial Accounts have done. We have to start with the Cost Profits, and
   - exclude the items which were ignored by Financial Accounts,
   - consider the items accounted only in Financial Accounts,
   - adopt the amounts of stocks, depreciation, overheads etc. adopted by Financial Accounts,
   - and finally adjust the Costing Profits accordingly.

   This process of 'Doing What the Other has Done' will finally reconcile the Costing Profits with the Financial Profits.
2. **Proforma:**

Statement of Reconciliation
between Costing Profit and Financial Profit for the Year Ending xxxx

Particulars	₹	₹
Costing Profit	xx	
Add:		
Income Credited only in Financial A/cs	xx	
Closing Stock Overvalued in Financial A/cs	xx	
Opening Stock Undervalued in Financial A/cs	xx	
Depreciation Undercharged in Financial A/cs	xx	
Overheads Over-recovered in Cost A/cs	xx	
Expanses Debited only in Cost A/cs	xx	xx
Less:		
Expenses/Losses/Appropriations		
Debited only in Financial A/cs	xx	
Closing Stock Undervalued in Financial A/cs	xx	
Opening Stock Overvalued in Financial A/cs	xx	
Depreciation Overcharged in Financial A/cs	xx	
Overheads Under-recovered in Cost A/cs	xx	
Income Credited only in Cost A/cs	xx	(xx)
Financial Profit		xx

Reconciliation (Starting with Financial Loss)

1. **Introduction:** In case Financial Accounts show a loss, the proforma Statement of reconciliation will appear as given below. It is clear that this is similar to the Statement prepared above when we take the Costing Profit as the starting point. The Rule of Reconciliation, viz., **Do As The Other Has Done**, remains equally valid in this case too. (In some cases, the Cost Accounts may disclosed profits even when the Financial Accounts shown a loss, due to different treatment of items in the two sets of accounts.

2. Proforma:

Statement of Reconciliation
between Financial Loss and Costing Loss/Profit for the Year Ending xxxx

Particulars	₹	₹
Financial Loss	xx	
Add:		
Income Credited only in Financial A/cs	xx	
Closing Stock Overvalued in Financial A/cs	xx	
Opening Stock Undervalued in Financial A/cs	xx	
Depreciation Undercharged in Financial A/cs	xx	
Overheads Over-recovered in Cost A/cs	xx	
Expanses Debited only in Cost A/cs	xx	xx
Less:		
Expenses/Losses/Appropriations		
Debited only in Financial A/cs	xx	
Closing Stock Undervalued in Financial A/cs	xx	
Opening Stock Overvalued in Financial A/cs	xx	
Depreciation Overcharged in Financial A/cs	xx	
Overheads Under-recovered in Financial A/cs	xx	
Income Credited only in Cost A/cs	xx	(xx)
Costing Loss/Profit		xx

Solved Problems

From Financial and Cost Accounts

Illustration 1

(Both Accounts Show Profits)

The Net Profit of a company for the year ended on 31st March, 2014 was ₹ 56,600 as shown by the Financial Books. The Cost Accounts disclosed a profit of ₹ 59,650 for the same period. On an examination of both the sets of accounts, the following facts were discovered:

(a) Goodwill written off in Financial Accounts ₹ 1,500.
(b) Transfer fees received during the year ₹ 200.
(c) Depreciation charged in financial accounts ₹ 750.
(d) Depreciation recovered in cost statements ₹ 1,000.
(e) Opening stock as on 1st April, 2013 as per financial records ₹ 13,000.
(f) Opening stock as on 1st April, 2013 as per cost statement ₹ 12,000.
(g) Closing stock as on 31st March, 2014 as per financial records ₹ 14,000.
(h) Closing stock as on 31st March, 2014 as per cost statement ₹ 15,000.

Prepare a Reconciliation statement reconciling the profit as shown by financial and cost books taking (i) Financial Profit as the starting point and (ii) Costing profit as the starting point.

Solution:

Statement of Reconciliation
between Financial Profit and Costing Profit for the Year Ending 31.3.2014

Particulars	₹	₹
Financial Profit		56,600
Add:		
1. Amounts Debited in Financial A/cs only – Goodwill written off	1,500	
2. Closing Stock Undervalued in Financial A/cs (₹ 15,000 – ₹ 14,000)	1,000	
3. Opening Stock Overvalued in Financial A/cs (₹ 13,000 – ₹ 12,000)	1,000	3,500
		60,100
Less:		
1. Income Credited only in Financial A/cs – Transfer Fees Received	200	
2. Depreciation Undercharged in Financial A/cs (₹ 1,000 – ₹ 750)	250	450
Costing Profit		59,650

Statement of Reconciliation
between Costing and Financial Profit for the Year Ending 31.3.2014

Particulars	₹	₹
Costing Profit		59,650
Add:		
1. Income Credited in Financial A/cs only – Transfer Fees Received	200	
2. Depreciation Undercharged in Financial A/cs (₹ 1,000 – ₹ 750)	250	450
		60,100
Less:		
1. Amounts Debited in Financial A/cs only – Goodwill written off	1,500	
2. Closing Stock Undervalued in Financial A/cs (₹ 15,000 – ₹ 14,000)	1,000	
3. Opening Stock Overvalued in Financial A/cs (₹ 13,000 – ₹ 12,000)	1,000	3,500
Financial Profit		56,600

Illustration 2

(Both Accounts Show Losses)

From the following, prepare a statement of reconciliation and find out profit/loss as per financial records.

Particulars	₹
Net loss as per cost records	1,72,400
Works overhead under-recovered in costing	3,120
Administrative overheads over-recovered in costing	1,700
Depreciation in Financial A/c	11,200

Depreciation in Cost A/c	12,500
Interest received	8,750
Obsolescence loss in Financial A/c	5,700
Provision for Income Tax	40,300
Opening Stock	
Financial Records	52,600
Cost Records	54,000
Closing Stock	
Financial Records	52,000
Cost Records	49,600
Interest Charges in Cost Account only	6,000
Preliminary Expenses written off	950

Solution: **(Oct. 2001, adapted)**

Statement of Reconciliation Between Costing Loss and Financial Loss

Particulars	₹	₹
Costing loss		1,72,400
Add:		
1. Expenses/Losses/Appropriations Debited in Financial A/c only		
– Obsolescence Loss	5,700	
– Provision for Income Tax	40,300	
– Preliminary Expenses	950	
2. Overheads Under-recovered in Cost A/cs – Works Overheads	3,120	50,070
		2,22,470
Less:		
1. Income Credited in Financial A/cs – Interest Received	8,750	
2. Closing Stock Overvalued in Financial A/cs	2,400	
3. Opening Stock Undervalued in Financial A/cs	1,400	
4. Depreciation Undercharged in Financial A/cs	1,300	
5. Overheads Over-recovered in Cost A/cs – Administrative Overheads	1,700	
6. Expenses Debited only in Cost A/cs – Interest Charged	6,000	21,550
Financial Loss		2,00,920

From Costing Profit Figures

Illustration 3

The following information is available from Cost and Financial Accounts in respect of Progressive Co. Ltd. for the year ended 31st December, 2014. You are required to prepare a statement reconciling the profit or loss from the same. The following items are shown in Financial Accounts but not in Cost Accounts.

Particulars	₹
Loss due to obsolescence of assets	3,700
Provision for income tax	38,000
Reduction in value of stock	6,000
Debenture interest	4,000
Loss by fire	1,050
Interest on investments	6,000
Bank interest and transfer fees	1,225
Rent received of staff quarters	2,000

The additional information is as follows:

(a) In Cost Accounts, works overheads are estimated at ₹ 26,000, while in Financial Accounts they are charged at ₹ 29,120.

(b) In Cost Accounts, administration overheads are estimated at ₹ 20,000, while in Financial Accounts they are debited at ₹ 18,300.

(c) In Cost Accounts, excess charge for depreciation is ₹ 1,300 compared to Financial Accounts.

(d) Profit as shown by Financial Accounts does not agree with the profit shown by Cost Accounts. Profit as per Cost Accounts is ₹ 1,72,400.

Solution:

Progressive Co. Ltd.
Statement of Reconciliation between Costing Profit and Financial Profit

Particulars	₹	₹
Costing Profit		1,72,400
Add:		
1. Income Credited in Financial A/cs only		
– Interest on Investments	6,000	
– Bank Interest and Transfer Fees	1,225	
– Rent Received	2,000	
2. Depreciation Undercharged in Financial A/cs (i.e., overcharged in Cost A/cs)	1,300	
3. Overcharged Over-recovered in Cost A/cs		
– Administration Overhead (₹ 20,000 – ₹ 18,300)	1,700	12,225
		1,84,625
Less:		
1. Expenses/Losses/Appropriations Debited in Financial A/cs Only		
– Loss due to obsolescence of assets	3,700	
– Provision for Income Tax	38,000	
– Reduction in Value of Stock	6,000	
– Debenture Interest	4,000	
– Loss by Fire	1,050	
2. Overheads Under-recovered in Cost A/cs		
– Work Overheads (₹ 29,120 – ₹ 26,000)	3,120	55,870
Financial Profit		1,28,755

From Financial Profit Figures

Illustration 4

From the following particulars, prepare Reconciliation Statement and ascertain Costing Profit/Loss. Net Profit as per Financial P & L A/c. ₹ 50,000, Opening Stock was overvalued by ₹ 2,000 in Cost Accounts as compared to financial accounts. Administrative overheads charged in Financial Books ₹ 20,000 but recovered in Cost ₹ 40,000.

Income Tax Provision ₹ 1,200.

Notional Salary of Proprietor in Cost ₹ 20,000.

Interest Received ₹ 12,000.

Closing Stock as per financial books ₹ 16,200.

Whereas in Cost books it was ₹ 19,000.

(*March 2005, Adapted*)

Solution:

Statement of Reconciliation

Particulars	**₹**	**₹**
Financial Profit		50,000
Add:		
1. Income Tax Provision (only in FA)		1,200
2. Difference in Closing Stock		2,800
		54,000
Less:		
1. Opening Stock Overvalued	2,000	
2. Administration Expenses Overabsorbed	20,000	
3. Notional Salary (only in CA)	20,000	
4. Notional Salary (only in FA)	12,000	54,000
Costing Profit		NIL

Illustration 5

From the following, prepare Reconciliation Statement of M/s XYZ & Company as on 30.6.2014:

1. Net Profit as per Financial Accounts ₹ 40,340.
2. Income Tax Provision made ₹ 30, 000.
3. Materials Purchases of 5,000 units were recorded in cost at standard cost ₹ 24 per unit whereas in Finance it was recorded at actual cost ₹ 22 per unit.
4. Old Bad debts recovered ₹ 20,500.
5. Loss on sale of furniture was ₹ 4,120.

(*Oct. 2006, Adapted*)

Solution:

Statement of Reconciliation of Profit

Particulars	₹	₹
Financial Profit		40,340
Add:		
1. Income Tax Provision not recorded in cost books	30,000	
2. Loss on sale of Furniture not included not included in Cost Sheet	4,120	34,120
		74,460
Less:		
1. Old Bad Debt recovered recorded in Financial Books only	20,500	
2. Material purchased overcharged in cost books	10,000	(30,500)
Costing Profit		43,960

Illustration 6

From the following information, you required to prepare a statement reconciling the results of Cost Books:

Particulars	₹
Net profit as per Financial Books	51,052
Works overheads under-recovered in cost book	1,001
Depreciation charged in Financial Books	13,000
Depreciation charged in Cost Books	14,326
Obsolescence loss charged in Financial Books Only	2,021
Income tax provided in Financial Books only	2,626
Interest received but not recorded in Cost Book	3,031
Bank interest debited in Financial Books only	292

Solution:

Statement of Reconciliation between Financial Profit and Costing Profit

Particulars	₹	₹
Financial Profit		51,052
Add:		
1. Overheads under recovered in Cost A/cs – Works overhead	1,001	
2. Expenses/Losses/Appropriations Debited in Financial A/cs only		
– Obsolescence loss	2,021	
– Income tax	2,626	
– Bank Interest	292	5,940
		56,992
Less:		
1. Depreciation Undercharged in Financial A/cs (₹ 14,326 – ₹ 13,000)	1,326	
2. Income credited in Financial A/cs only – Interest income	3,031	4,357
Costing Profit		52,635

Illustration 7

The net profit of a company amounted to ₹ 60,412 for the ending 31st December, 2014 as per its financial records. The cost records revealed a different figure. A scrutiny of the two sets of accounts disclosed the following facts:

(a) Works overhead recovered in Cost Accounts during the period amounted to ₹ 28,450 while the actual amount of these expenses was ₹ 21,390 only.

(b) Actual office expenses for the period were ₹ 19,850, whereas the office overhead recovered in Cost Accounts amounted to ₹ 14,500.

(c) The annual rental value of premises owned by the company amounting to ₹ 10,800 was charged in Cost Accounts but not in Financial Accounts.

(d) Selling and distribution expenses for the period amounting to ₹ 16,490 were excluded from costing records.

(e) Excess depreciation charged in Cost Accounts ₹ 2,4000.

(f) Expenses not included in Cost Accounts and shown in Financial Accounts:

Interest on Loan	1,600
Bank Charges	160
Director's Fees	750
Penalty due to late completion of contract	2,500

(g) Gains during the year not included in Cost Accounts:

Transfer fees	45
Profit on sale of investment	4,250
Interest on investment	9,450

(h) The following appropriation had been made before arriving at the profit figure of ₹ 60,412, shown above:

Transfer to Dividend Equalisation Fund	10,500
Transfer to Income Tax Reserve	6,400
Transfer to Debenture Redemption Fund	9,000

(i) A sum of ₹ 10,000 given as donation to the Prime Minister's Relief Fund had been charged to profit and loss Account as business expenses.

Prepare a Reconciliation Statement and find the amount of net profit/loss as per the costing records.

Solution:

Statement of Reconciliation
between Financial Profit and Costing for the Year Ending 31.12.2014

Particulars	Rs.	Rs.
Financial Profit		60,412
Add:		
1. Expenses/Losses/Appropriations Debited in Financial A/cs only		
Expenses:		

– Selling and Distribution expenses	16,490	
– Interest on bank loan	1,600	
– Bank charged	160	
– Director's fees	750	
– Penalty on contract	2,500	
Appropriations:		
– Dividend equalisation fund	10,500	
– Income tax reserve	6,400	
– Debenture redemption fund	9,000	
– Donations to Prime minister's Relief Fund	10,000	
2. Overheads under-recovered in Cost A/cs		
Office Overheads (₹ 19,850 – ₹ 14,500)	5,350	62,750
		1,23,162
Less:		
1. Income Credited in Financial A/cs only		
– Transfer fees	45	
– Profit on sale of investments	4,250	
– Interest on investments	9,450	
2. Depreciation Undercharged in Financial A/cs (i..e., Overheads in Cost A/cs)	2,400	
3. Overheads Over-recovered in Cost A/cs	7,060	
– Works Overheads (₹ 28,450 – ₹ 21,390)		
4. Expenses Debited in Cost A/cs only		
– Rent for own premises	10,800	34,005
Costing Profit		89,157

From P & L A/c + Cost Profit Figure

Illustration 8

The net profit of a company for the year ended 31st March, 2014 was ₹ 56,600 as shown by the financial books. The Cost Accounts disclosed a profit of ₹ 59,650 for the same period. On an examination of both the sets of accounts, the following facts were discovered:

(a) Goodwill written off in Financial Accounts ₹ 1,500.

(b) Transfer fees received during the year ₹ 200.

(d) Depreciation charged in Financial Accounts ₹ 750.

(e) Depreciation recovered in cost statements ₹ 1,000.

(f) Opening stock as on 1st April, 2013 as per financial records ₹ 13,000.

(g) Opening stock as on 1st April, 2013 as per cost statements ₹ 12,000.

(h) Closing stock as on 31st March, 2014 as per financial records ₹ 14,000.

(i) Closing stock as on 31st March, 2014 as per cost statements ₹ 15,000.

Prepare reconciliation statement reconciling the profit as shown by financial and cost books.

Solution:

Reconciliation Statement

Particulars	Amount ₹	Amount ₹
N.P. as per Costing Records		59,650
Add: (1) Transfer fees received not recorded in costing books (C.B.)	200	
(2) Depreciation more in C.B.	250	450
		60,100
Less: (1) Goodwill written off in financial books not recorded in C.B.	1,500	
(2) Opening stock recorded less in C.B.	1,000	
(3) Closing stock recorded more in C.B.	1,000	3,500
N.P. as per Financial Records		56,600

Illustration 9

The profits disclosed by cost book is ₹ 1,000.

Particulars	₹
Claim for damages paid under a court decree	3,000
Depreciation charged in cost accounts	1,200
Depreciation charges in financial accounts	800
Loss due to depreciation in stock values in cost accounts	400
Dividend on investment received	4,000
Income tax paid	500
Bank interest received	500
Stores adjustment (credit in financial books)	200
Selling overheads under-recovered in cost accounts	2,000

Prepare a reconciliation statement.

Solution:

Reconciliation Statement

Particulars	Amount (₹)	Amount (₹)
Net Profit as per Cost Books		1,000
Add: (1) Depreciation charged more in C.B.	400	
(2) Loss recorded only in C.B	400	
(3) Dividend received but not recorded in C.B.	4,000	
(4) Bank interest received not recorded in C.B.	500	
(5) Credit Stores adjustment in F.B.	200	5,500
		6,500
Less: (1) Claim for damages not recorded in cost books	3,000	
(2) Income tax paid not recorded in C.B.	500	
(3) S/D overheads under recorded in C.B.	2,000	5,500
Net Profit as per Financial Books		1,000

Illustration 10

A Company's Trading and Profit and Loss Account is as follows:

Particulars		₹	Particulars	₹
Purchase	37,815		Sales 75,000 Units	
Less: Closing Stock	6,120	31,695	@ ₹ 1.50 each	1,12,500
Wages (Direct)		15,750	Profit on Sale of machinery	3,900
Works Expenses		18,195		
Selling Expenses		10,650		
Administration Expenses		8,010		
Depreciation		1,650		
Net Profit		30,450		
		1,16,400		1,16,400

The Profit as per Cost Accounts was ₹ 29,655. Prepare Reconciliation Statement to reconcile Cost Profit with Financial Profit. Further information as per Cost Accounts:

(a) Closing Stock was taken at ₹ 6,420.

(b) The Works Expenses were taken at 100% of Direct Wages.

(c) Selling and Administration Expenses were charged at 10% sales and at ₹ 0.10 per unit respectively.

(d) Depreciation was taken at ₹ 1,200.

Solution:

Statement of Reconciliation between Financial Profit and Costing Profit

Particulars	₹	₹
Financial Profit		30,450
Add:		
1. Closing Stock Undervalued in Financial A/cs (₹ 6,420 – ₹ 6,120)	300	
2. Depreciation Overcharged in Financial A/cs (₹ 1,650 – ₹ 1,200)	450	
3. Overheads Under-recovered in Cost A/cs		
– Work Expenses (₹ 18,195 – ₹ 15,750)	2,445	
– Administration Expenses (₹ 8,010 – ₹ 7,500)	510	3,705
		34,155
Less:		
1. Income Credited in Financial A/cs only – Profit on Sale of Machinery	3,900	
2. Overheads Over-recovered in Cost A/cs – Selling Expenses (₹ 11,250 – ₹ 10,650)	600	4,500
Costing Profit		29,655

Illustration 11

Following is the Profit and Loss Account of M/s Anubhav Manufacturing Company for the year ended 31st December, 2014.

Particulars		₹	Particulars		₹
To Opening Stock of			By Sales		9,20,000
Raw Materials	60,000		By Closing Stock:		
Work-in-progress	35,000		Raw Materials	60,000	
Finished Goods	80,000	1,75,000	Work-in-progress	41,000	
To Purchases		2,40,000	Finished Goods	30,000	1,31,000
To Factory Wages		60,000			
To Electricity Charges		66,000			
To Factory Overheads		90,000			
To Gross Profit c/d		4,20,000			
		10,51,000			10,51,000
To Administrative Expenses		25,000	By Gross Profit b/d		4,20,000
To Selling and Distribution Expenses		1,15,000	By Miscellaneous Income		20,000
To Bad Debts		30,000			
To Net Profit		2,70,000			
		4,40,000			4,40,000

Their Cost Account showed a profit of ₹ 2,81,750. On scrutiny of their Costing Profit and Loss Account, it was found that:

(a) Their Opening Stock and Closing stock were valued as under:

Opening Stock of		Closing Stock of	
Raw Materials	₹ 80,000	Raw Materials	₹ 70,000
Work-in-process	₹ 40,000	Work-in-progress	₹ 44,000
Finished Goods	₹ 60,000	Finished Goods	₹ 20,000

(b) They charged administrative expenses at ₹ 18,000 and Selling and distribution expenses at ₹ 1,27,000.

(3) They had charged depreciation @ 25% on Written Down Value Method on its plant which was purchased on 1st July, 2014 for ₹ 80,000. In Financial accounts, however, the depreciation was provided on Straight Line Method and the same was included in the Factory overheads of ₹ 90,000.

Prepare a statement reconciling the difference in the profits as disclosed by the two records.

(*Apr. 95, Adapted*)

Solution:

M/s Anubhav Manufacturing Company
Statement of Reconciliation for the Year Ending 31.12.2014

Particulars	₹	₹
Costing Profit		2,81,750
Add:		
1. Miscellaneous income crediting only in F.A.	20,000	
2. Closing Stock on overvalued in F.A.		

– Finished goods (30,000 – 20,000)	10,000	
3. Opening Stock undervalued in F.A.		
– Raw Materials (80,000 – 60,000)	20,000	
– Work-in-progress (40,000 – 35,000)	5,000	
4. Selling and Distribution Expenses Over-recovered in C.A. (1,27,000 – 1,15,000)	12,000	67,000
		3,48,750
Less:		
1. Bad debts written off only in F.A.	30,000	
2. Opening stock overvalued in F.A.		
Finished goods (80,000 – 60,000)	20,000	
3. Closing stock undervalued in F.A.		
Raw materials (70,000 – 60,000)	10,000	
Work-in-progress (44,000 – 41,000)	3,000	
4. Depreciation overcharged in F.A. (20,000 – 9,844)	10,156	
5. Overheads under-recovered in C.A.		
– Administrative expenses (25,000 – 18,000)	7,000	80,156
		2,68,594
Add: Factory Overheads [71,406 – (90,000 – 20,000)] (WN 3)		1,406
Financial Profit		2,70,000

Notes:

1. Depreciation as per P & L A/c: 80,000 × 25% = 20,000
2. Depreciation as per Cost Accounts:

1.7.2000	Machine purchased	80,000
31.12.2000	Depreciation @ 25% (for 6 months)	10,000
1.1.2001	W.D.V.	70,000
31.12.2001	Depreciation @ 25%	17,500
		52,500

Illustration 12

A company's Trading and Profit and Loss Account was as follows:

Particulars	Amount ₹	Particulars	Amount ₹
To Opening Stock of Raw Materials	1,00,000	By Sales	1,75,000
To Purchases	80,000		
	1,80,000		
Less: Closing Stock of Raw Materials	80,000		
	1,00,000		
To Direct Wages	20,000		
To Factory Expenses	15,000		
To Gross Profit c/d	40,000		
	1,75,000		1,75,000

To Administrative Expenses	10,000	By Gross Profit b/d	40,000
To Selling Expenses	15,000		
To Net Profit	15,000		
	40,000		40,000

Costing records show the following:

(a) Stock Ledger closing balance ₹ 89,000

(b) Direct Labour ₹ 23,000

(c) Factory Overheads ₹ 13,000

(d) Administrative overheads and selling expenses each are calculated at 8% of the Selling Price.

Prepare Costing Profit and Loss Account and the statement of reconciliation between the profit or loss as per the two accounts.

Solution:

Costing P & L A/c for Year.....

Particulars	₹	Particulars	₹
To Raw Materials:		By Cost of production	1,41,000
Opening Stock	1,00,000		
Purchase	80,000		
	1,80,000		
Less: Closing stock	89,000		
To Material consumed	91,000		
To Direct Labour	23,000		
To Prime Cost	1,14,000		
To Factory Overheads	13,000		
To Factory Cost	1,27,000		
To Administration overheads	14,000		
	1,41,000		1,41,000
To Cost of production	1,41,000	By Sales	1,75,000
To Selling Overheads	14,000		
To Net Profit	20,000		
	1,75,000		1,75,000

Reconciliation Statement

Particulars	Amount ₹	Amount ₹
N.P. as per Costing Records		20,000
Add: (1) Direct Labour more in C.B.	3,000	
(2) Administration overheads more in C.B.	4,000	7,000
		27.000

Less:	(1) Closing stock in more in C.B.	9,000	
	(2) Factory overheads less in C.B.	2,000	
	(3) Selling overheads less in C.B.	1,000	12,000
N.P. as per Financial Records			15,000

Illustration 13

The following is the Trading and Profit and Loss Account of a manufacturing company for the year ending 31st December, 2014:

Particulars	Amount	Particulars	Amount
To Opening Stock (100 units) at prime cost (F.G.)	400	By Sales (2,400 units)	9600
		By Closing Stock (200 units)	600
To Materials	3,000		
To Wages	2,000		
To Works Overheads	2,200		
To Selling & Distribution Overheads	800		
To Net Profit	1,800		
	10,200		10,200

Factory overheads are charged at 40% of prime cost, selling expenses are charged at ₹ 0.30 per unit sold.

Prepare Cost Sheet and statement of Reconciliation with assumptions.

Solution:

Working Note:

Calculation of No. of Units Produced

Opening Stock + Production – Closing Stock = Sales

100 + ? – 200 = 2,400

Production = 2,500 units

Cost Sheet for Year 31.12.2014

Production = 2,500 units
Sales = 2,400

Particulars	Amount	CPU
Materials	3,000	1.20
Wages	2,000	0.80
Prime Cost	5,000	2.00
Add: Factory overheads (40% of Prime Cost)	2,000	0.80
Cost of Production	7,000	2.80
Add: Opening stock of finished goods	400	—
	7,400	
Less: Closing stock of finished goods (200 × 2.0)	400	—

Cost of Goods Sold	7,000	2.92
Add: Selling overheads	720	0.30
Total Cost	7,720	3.22
Profit (Balance figure)	1,880	0.78
Sales	9,600	400

Note: Opening stock of Finished Goods in cost sheet is valued as per Financial Books which is at prime cost. To maintain "Consistency in stock valuation", Closing stock is also valued at prime cost of cost sheet.

Reconciliation Statement

Particulars	Amount ₹	Amount ₹
N.P. as per Costing Records		1,880
Add: (1) Closing stock less in C.B.		200
		2080
Less: (1) Factory overheads recorded less in C.B.	200	
(2) Selling and Distribution overheads recorded less in C.B.	80	280
N.P. as per Financial Records		1,800

Illustration 14

The following figures have been extracted from the Financial Accounts of a manufacturing firm for the year of its operation.

Particulars	₹ ('000)
Direct Material Consumption	5,000
Direct Wages	3,000
Factory Overheads	1,600
Administrative Overheads	700
Selling and Distribution Overheads	960
Bad Debts	80
Preliminary Expenses written off	40
Legal Charges	10
Dividend Received	100
Interest Received on Deposits	20
Sales (1,20,000 units)	12,000
Closing Stocks:	
Finished Goods (4,000 units)	320
Work-in-progress	240

The cost accounts for the same period reveal that the direct material consumption was ₹ 5,600. Factory overhead is recovered at 20% on prime cost. Administration overhead is recovered at ₹ 6 per unit of production. Selling and distribution overheads are recovered at ₹ 8 per unit sold.

Prepare the Profit and Loss Accounts both as per financial records and as per cost records. Reconcile the profits as per the two records.

Solution:

Working Note:

Calculation of No. of Units Produced:

Opening Stock + Production – Closing Stock = Sales

Nil + ? – 4,000 = 1,20,000

Production = 1,24,000 units

Financial P & L A/c

Particulars	₹	Particulars	₹
To Direct Material	50,00,000	By Sales	1,20,00,000
To Direct Labour	30,00,000	By Closing Stock F.G.	3,20,000
To Factory Overheads	16,00,000	By Closing Stock W.I.P	2,40,000
To Gross Profit c/d	29,60,000		
	1,25,60,000		1,25,60,000
To Administration Overheads	7,00,000	By Gross Profit b/d	29,60,000
To Selling Overheads	9,60,000	By Dividend Received	1,00,000
To Bad Debts	80,000	By Interest on F.D. Received	20,000
To Preliminary Expenses written off	40,000		
To Legal Charges	10,000		
To Net Profit c/d	12,90,000		
	30,80,000		30,80,000

Cost Sheet

Production = 1,24,000
Sales = 1,20,000

Particulars	Amount ₹	CPU
Direct Material	56,00,000	45.16
Direct Labour	30,00,000	24.19
Prime Cost	86,00,000	69.35
Add: Factory overheads (20% of PC)	17,20,000	13.87
	1,03,20,000	
Les: Closing stock of WIP	2,40,000	
Works cost	1,00,80,000	81.29
Add: Administration overheads	7,44,000	6.00
Cost of Production	1,08,24,000	87.29
Add: Opening stock of finished good	—	
Less: Closing stock of finished good	3,49,160	
Cost of goods sold	1,04,74,840	87.29
Add: Selling overheads	9,60,000	8.00

Cost of Sales	1,14,34,840	95.29
Profit (Balance figure)	5,65,160	4.71
Sales	1,20,00,000	100.00

Reconciliation Statement

Particulars	Amount ₹	Amount ₹
N.P. as per Costing Books		5,65,160
Add: (1) Direct material more in C.B.	6,00,000	
(2) Factory overheads more in C.B.	1,20,000	
(3) Administration overheads more in C.B.	44,000	
(4) Dividend received not recorded in C.B.	1,00,000	
(5) Interest received not recorded in C.B.	20,000	8,84,000
		14,49,160
Less: (1) Closing stock of finished goods more in C.B.	29,160	
(2) Bad Debts recorded only in F.B.	80,000	
(3) Preliminary Expenses written off not recorded in C.B.	40,000	
(4) Legal charges not recorded in C.B.	10,000	1,59,160
N.P. as per Financial Books		12,90,000

Working Note:

Valuation of closing stock in cost sheet:

Closing stock is valued at cost of production

Closing stock = 4,000 units × 87.29

= 3,49,160 (approx.)

Illustration 15

M/s Sellwell Ltd. has furnished you the following information from the financial books for the year ended 31st December, 2014:

Profit and Loss Account for the year ended 31st December, 2014

Particulars	₹	Particulars	₹
To Opening stock of finished goods:		By Sales (10,250 units)	3,58,750
500 units @ ₹ 17.50 each	8,750	By Closing stock of finished goods:	
To Material Consumed	1,30,000	250 units @ ₹ 25 each	6,250
To Wages	75,000		
To Gross Profit c/d	1,51,250		
	3,65,000		3,65,000
To Factory Overheads	47,375	By Gross Profit b/d	1,51,250
To Administration Overheads	53,000	By Interest	125
To Selling Expenses	27,500	By Rent Received	5,000
To Bad Debts	2,000		

To Preliminary expenses	2,500		
To Net Profit	24,000		
	1,56,375		1,56,375

The cost sheet shows:

(i) The cost of material at ₹ 13 per unit;

(ii) The labour cost as ₹ 7.50 per unit;

(iii) The factory overheads are absorbed at 60% of labour cost;

(iv) The administration overheads are absorbed at 20% of factory cost;

(v) Selling expenses are charged at ₹ 3 per unit;

(vi) The opening stock of finished goods is valued at ₹ 22.50 per unit.

You are required to prepare:

(a) The cost sheet showing the number of units produced and the cost of production, by elements of costs, per unit and in total.

(b) The statement of profit or loss as per cost accounts for the year ended 31st December, 2014.

(c) The statement showing the reconciliation of profit or loss as shown by the cost accounts with the profit as shown by the financial accounts.

Solution:

Working Note:

Calculation of No. of Units Produced

Opening Stock + Production – Closing Stock = Sales

500 + ? – 250 = 10,250

Cost Sheet for Year 31.12.2013

Production = 10,000 units
Sales = 10,250 units

Particulars	Amount (₹)	Amount (₹)
Material	1,30,000	13.00
Labour	75,000	7.50
Prime Cost	2,05,000	20.50
Add: Factory overheads (60% of Labour)	45,000	4.50
Factory cost	2,50,000	25.00
Add: Administration overheads (20% of Factory Cost)	50,000	5.00
Cost of Production	3,00,000	30.0
Add: Opening stock of F.G. (500 × 22.50)	11,250	
	3,11,250	
Less: Closing stock of F.G. (250 × 30)	7,500	
Cost of goods sold	3,03,750	29.63
Add: Selling and Distribution overheads	30,750	3.00
Cost of Sales	3,34,500	32.63

Profit (Balancing Figure)	24,250	2.37
Sales	3,58,750	35.0

Reconciliation Statement

Particulars	Amount (₹)	Amount (₹)
N.P. as per Costing P & L A/c		24,250
Add: (1) Opening stock of Finished Goods recorded more in C.B.	2,500	
(2) S & D overheads more in C.B	3,250	
(3) Interest received not recorded in C.B.	125	
(4) Rent received not recorded in C.B.	5,000	10,875
Less: (1) Factory overheads recorded less in C.B.	2,375	
(2) Administration overheads recorded less in C.B.	3,000	
(3) Closing stock of F.G. recorded more in C.B.	1,250	
(4) Bad Debts not recorded in C.B.	2,000	
(5) Preliminary Expenses written off not recorded in C.B.	2,500	11,125
N.P. as per Financial P & L A/c		24,000

Illustration 16

A company's Trading and Profit and Loss Accounts is as follows:

Particulars		₹	Particulars	₹
To Purchases	37,815		By Sales 75,000 units	
Less: Closing Stock	6,120	31,695	@ ₹ 1.50 each	1,12,500
To Wages (Direct)		15,750	By Profit on Sale of Machinery	3,900
To Works Expenses		18,195		
To Selling Expenses		10,650		
To Administration Expenses		8,010		
To Depreciation		1,650		
To Net Profit		30,450		
		1,16,400		1,16,400

The profit as per Cost Accounts was ₹ 29,655. Prepare Reconciliation Statement to reconcile Cost Profit with Financial Profit.

Further information as per Cost Accounts:

(a) Closing stock was taken as ₹ 6,420.

(b) The works expenses were taken at 100% of Direct Wages.

(c) Selling and Administration Expenses were charged at 10% of sales and at ₹ 0.10 per unit respectively.

(d) Depreciation was taken at ₹ 1,200.

Solution:

Reconciliation Statement

Particulars	Amount (₹)	Amount (₹)
Net Profit per Costing Record		29,655
Add: (1) S/D overheads recorded more in C.B. (10,650 – 11,250)	600	
(2) Profit on sale of Machinery unrecorded	3,900	4,500
		34,155
Less: (1) Closing stock recorded more in C.B. (6,420 – 6,120)	300	
(2) Work Expenses less in C.B. (18,195 – 15,750)	2,445	
(3) Administration overheads less in C.B. (8,010 – 7,500)	510	
(4) Depreciation less in C.B. (1,650 – 1,200)	450	3,705
Net Profit as per Financial Records		30,450

Illustration 17

A company's Trading and Profit and Loss Account was as follows:

Particulars	₹	Particulars	₹
To Purchase	25,210	By Sales (5,000) units at ₹ 15 each)	75,000
Less: Closing Stock	4,080	By Discount Received	260
	21,130	By Profit on sale of land	2,340
To Direct Wages	10,500		
To Work Expenses	12,130		
To Selling Expenses	7,100		
To Administration Expenses	5,340		
To Depreciation	1,100		
To Net Profit	20,300		
	77,600		77,600

The profit as per cost accounts was only ₹ 24,270. Reconcile the financial and cost profits using the following information:

(a) Cost accounts value of closing stock ₹ 4,280.

(b) The works expenses in the cost accounts were taken as 100 per cent of direct wages.

(c) Selling and administration expenses were charged in the cost accounts at 10 per cent of sales and ₹ 0.10 per unit respectively.

(d) Depreciation in the cost accounts was ₹ 800.

Solution:

Reconciliation Statement

Particulars	Amount (₹)	Amount (₹)
Net Profit as per Cost Books		24,270
Add: (1) Selling Expenses recorded more in cost books	400	
(2) Discount received not recorded in C.B.	260	

(3) Profit on sale of land not recorded in C.B.	2,630	3,000
		27,270
Less: (1) Closing stock more in C.B.	200	
(2) Work overheads less in C.B.	1,630	
(3) Administration overheads less in C.B.	4,840	
(4) Depreciation less in C.B.	300	6,970
Net Profit as per Financial Books		20,300

Illustration 18

The following figures are extracted from the financial accounts of Selwel Ltd. for the year ending 31.3.14.

Particulars		₹
Sales (20,000 units)		50,00,000
Materials		20,00,000
Wages		10,00,000
Factory overheads		9,00,000
Administrative overheads		5,20,000
Selling and distribution overheads		3,60,000
Finished goods (1.230 units) – closing stock		3,00,000
Work-in-progress (closing)		
Materials	60,000	
Labour	40,000	
Factory overhead	40,000	1,40,000
Goodwill written off		4,00,000
Interest paid on capital		40,000

In the costing records, factory overhead is charged at 100% of wages, administration overhead 10% of factory cost and selling and distribution overhead at the rate of ₹ 20 per unit sold.

Prepare a statement reconciling the profit as per cost records with the profit as per Financial records and prepare Cost Sheet and Profit and Loss A/c.

Solution:

Working Note

Calculation of No. of Units Produced:

Opening stock + Production – Closing Stock = Sales

Nil + ? – 1,230 = 20,000

Production = 21,230 units

Cost Sheet

Production = 21,230
Sales = 20,000

Particulars	**Amount**	**CPU**
Materials	20,00,000	94.2
Labour	10,00,000	47.1
Prime cost	30,00,000	141.3
Add: Factory overheads (100% of Labour)	10,00,000	47.1
	40,00,000	188.4
Less: Closing stock of W.I.P. (W.N. 1)	1,40,000	6.6
Factory cost	38,60,000	181.8
Add: Administration overheads	3,86,000	18.2
Cost of Production	42,46,000	200.00
Less: Closing stock of finished goods (1300)	2,46,000	
Cost of goods sold	40,00,000	200.0
Add: S/D overheads	4,00,000	20.0
Cost of sales	44,00,000	220.0
Profit (Balancing figure)	6,00,000	30.0
Sales	50,00,000	250.0

Working Note:

Calculation of W.I.P.:

Material	60,000
Labour	40,000
Factory overhead (100% of Lab.)	40,000
	1,40,000

Financial P & L A/c

Particulars	**₹**	**Particulars**	**₹**
To Materials	20,00,000	By Sales	50,00,000
To Labour	10,00,000	By Closing stock (F.G.) 3,00,000	
To Factory overheads	9,00,000	By Closing stock (W.I.P.) 1,40,000	4,40,000
To Gross Profit c/d	15,40,000		
	54,40,000		54,40,000
To Administration overheads	5,20,000	By Gross Profit b/d	15,40,000
To S/D overheads	3,60,000		
To Goodwill Written off	4,00,000		
To Interest on capital	40,000		
To Net Profit	2,20,000		
	15,40,000		15,40,000

Reconciliation Statement

Particulars	Amount	Amount
Net Profit as per Cost Books		6,00,000
Add: (1) Factory overheads more in C.B.	1,00,000	
(2) Closing stock of F.G. less in C.B.	54,000	
(3) S/D overheads overcharged in C.B.	40,000	1,94,000
		7,94,000
Less: (1) Administration overheads undercharged in C.B.	1,34,000	
(2) Goodwill written off not recorded in C.B.	4,00,000	
(3) Interest on capital not recorded in C.B.	40,000	5,74,000
Net Profit a per Financial Books		2,20,000

Illustration 19

During a particular year, the auditors certified the financial accounts, showing a profit of ₹ 1,68,000, whereas, the same, as per costing books was coming out to be ₹ 2,40,000. Given the following information, you are asked to prepare a reconciliation statement showing clearly the reasons for the gap.

Trading and Profit & Loss A/c

Particulars	₹	Particulars	₹
To Opening Stock	8,20,000	By Sales	34,65,000
To Purchases	24,72,000	By Closing Stock	7,50,000
To Direct wages	2,30,000		
To Factory overheads	2,10,000		
To Gross Profit c/d	4,83,000		
	42,15,000		42,15,000
To Administrative expenses	95,000	By Gross Profit b/d	4,83,000
To Selling expenses	2,25,000	By Sundry Income	5,000
To Net Profit	1,68,000		
	4,88,000		4,88,000

The costing records shows:

(a) Book value of closing stock ₹ 7,80,000.

(b) Factory overheads have been absorbed to the extent of ₹ 1,89,800.

(c) Sundry income is not considered.

(d) Administrative expenses are recovered at 3% of selling price.

(e) Total absorption of direct wages ₹ 2,46,000.

(f) Selling prices include 5% for selling expenses.

Solution:

Reconciliation Statement as on ....

Particulars	Amount	Amount
Net Profit as per Costing Books		2,40,000
Add: (1) Sundry Income not recorded in C.B.	5,000	
(2) Administration Expenses overcharged in C.B.	8,950	
(3) Direct wages overabsorbed in C.B.	16,000	29,950
	30,000	2,69,950
Less: (1) Closing stock overvalued in C.B	20,200	
(2) Factory overheads undercharged in C.B.	51,750	1,01,950
(3) Selling expenses undercharged in C.B.		
Net Profit as per Financial Books		1,68,000

Illustration 20

M/s Modern Company Limited furnishes the summary of the Trading and Profit and Loss Account for the year ending 31st December, 2014.

Particulars	₹	Particulars		₹
To Raw materials	1,39,600	By Sales (12,000 units)		4,80,000
To Direct wages	76,200	By Finished stock (200 units)		8,000
To selling and distribution overheads	42,700	By Work-in-progress:		
To Administration overheads	39,100	Materials	28,200	
To Preliminary expenses – written off	2,200	Wages	11,796	
To Goodwill – written off	2,501	Production overhead	7,999	47,995
To Dividend (net)	3,000	By interest on securities (gross)		6,000
To Income tax	4,100			
To Net Profit	1,89,994			
	5,41,995			5,41,995

The company manufactures a standard unit. Scrutiny of cost records for the same period show that:

(i) Factory overheads have been allocated to the production at 20% on prime cost.

(ii) Administration overheads have been charged at ₹ 3 per unit on units produced.

(iii) Selling and distribution expenses have been charged at ₹ 4 per unit on units sold.

You are required to prepare a statement of cost and work out profit as per cost accounts and to reconcile the same with that shown in the financial accounts.

Solution:

Working Notes:

Calculation of No. of Units Produced:

Opening stock + Production – Closing Stock = Sales

Nil + ? – 200 = 12,000

Production = 12,200 units

Cost Sheet

Production = 12,000
Sales = 12,000

Particulars	Amount	CPU
Materials	1,39,600	11,44
Direct Labour	76,200	6.25
Prime Cost	2,15,800	17,69
Add: Factory overheads (20% of PC)	43,160	3.54
	2,58,960	
Less: Closing Stock W.I.P. (W.N. 1)	47,995	
Factory Cost	2,10,965	17.29
Add: Administration overheads	36,600	3.00
Cost of Production	2,47,565	20.29
Less: Closing Stock of Finished Goods (W.N. 2)	4,058	
Cost of Goods Sold	2,43,507	20.29
Add: S/D overheads	48,000	4.00
Total cost	2,91,507	20.29
Profit (Balancing figure)	1,88,493	15.71
Sales	4,80,000	40.00

Notes:

1. Amount of Factory overheads ₹ 42,600 not printed in given Financial P & L Account.
2. Interest on securities ₹ 6,000/- and W.I.P. ₹ 47,995 not printed in Financial P & L Account.

Working Note:

1. Calculation of W.I.P.:

Material	28,200
Labour	11,796
Prime Cost	39,996
Factory Overheads	7,999
(20% of PC)	47,995

2. Calculation of F.G. Stock:

$$\frac{2,47,565}{12,200} \times 200$$

$= 4,058$

Reconciliation Statement

Particulars	Amount	Amount
Net Profit as per Costing Books		1,88,493
Add: (1) Factory overheads more in C.B.	560	
(2) Closing stock of Finished goods less in C.B.	3,942	
(3) S/D overheads more in C.B.	5,300	

(4) Interest on Securities received not recorded	6,000	15,802
		2,04,295
Less: (1) Administration overheads less in C.B.	2,500	
(2) Preliminary Expenses written off not recorded	2,200	
(3) Goodwill written off not recorded	2,501	
(4) Dividend paid not recorded	3,000	
(5) Income tax paid not recorded	4,100	14,301
Net Profit in Financial Books		1,89,994

Illustration 21

The following represents the Trading and Profit and Loss Account of a manufacture of a standard fire extinguisher:

Particulars	₹	Particulars		₹
To Materials used	29,150.00	By Sales		75,000.00
To Productive wages	18,610.00	By Stock of finished goods		1,812.50
To Factory expenses	14,055.00	By Work-in-progress:		
To Gross Profit c/d	20,527.50	Materials	2,800	
		Wages	1,560	
		Factory expenses	1,179	5,530.00
	82,342.50			82,342.50
To Administration expenses	13,650.00	By Gross Profit b/d		20,527.50
To Net Profit	6,877.50			
	20,527.50			20,527.50

1,550 Extinguishers were manufactured during the year and 1,500 were sold during the same period.

The cost records showed that Factory Overheads work out at ₹ 8.25 and Administrative Overheads at ₹ 9.0625 per article produced; the Cost Accounts showing an estimated total profit of ₹ 7,031.25 for the year.

From the foregoing information, you are required to prepare:

(a) Factory Overheads A/c.

(b) Administration overheads A/c in costing books, and

(c) An account showing reconciliation between the total net profit as per the cost accounts and the net profit shown in the financial books.

Solution:

Factory Overheads A/c

Particulars	₹	Particulars	₹
To General Ledger A/c (Actual)	14,055.0	By W.I.P. Ledger Control A/c (1550 × 8.25 + 1170)	13,957.50
		By Underabsorption	97.50
	14,055.0		14,055.00

Administration Overheads A/c

Particulars	₹	Particulars	₹
To General Ledger Adjustment A/c	13,650.000	By Finished Good Ledger Control A/c (1550 × 9.0625)	14,046.875
To Overabsorption	396.875		
	14,046.875		14,046.875

Reconciliation A/c

Particulars	₹	Particulars	₹
To Underabsorption of factory overheads	97.500	By Profit as per Costing Books	7,031.250
To Overvaluation of closing stock (50 × 9.0625)	453.125	By Overabsorption of Administration overheads	396.875
To Profit as per Financial Books	6,877.500		
	7,428.125		7,428.125

Illustration 22

The following is the summarised version of Trading and Profit and Loss Account of Continental Enterprises Limited for the year ended 31st December, 2014:

Particulars	₹	Particulars		₹
To Materials	48,000	By Sales		96,000
To Wages	36,000	By Closing stock of finished goods		20,400
To Work expenses	24,000	By Work-in-progress:		
To Gross Profit	14,400	Material	3,000	
		Wages	1,800	
		Works expenses	1,200	6,000
	1,22,400			1,22,400
To Administrative expenses	6,000	By Gross Profit		14,400
To Net Profit	8,400			
	14,400			14,400

During the year, 6,000 units were manufactured and 4,800 of them were sold.

The costing records show that works overheads have been estimated at ₹ 3 per unit produced and administration overheads at ₹ 1.50 per unit produced. The costing books show a profit of ₹ 11,040.

Prepare factory overheads account, administration overheads account and an account showing the reconciliation between the total net profit as per cost accounts and net profit shown in the financial books.

Solution:

Factory Overheads A/c

Particulars	₹	Particulars	₹
To General Led. Adj. A/c.	24,000	By W.I.P. Ledger Control A/c (6,000 × 3 + 1,200)	19,200
		By Underabsorption	4,800
	24,000		24,000

Administration Overheads A/c

Particulars	₹	Particulars	₹
To Gen. Led. Adj. A/c	6,000	By Finished Goods Led. Control A/c (6,000 × 1.50)	9,000
To Overabsorption	3,000		
	9,000		9,000

Reconciliation

Particulars	₹	Particulars	₹
To Underabsorption of factory overheads	4,800	By Profit as per Costing Books	11,040
To Overvaluation of closing stock	840	By Overabsorption of administration overheads	3,000
To Profit as per Financial Books	8,400		
	14,040		14,040

Cost Sheet

Production = 6,000
Sales = 4,800

Particulars	Amount	CPU
Materials	48,000	8.00
Labour	36,000	6.00
Prime Cost	84,000	14.00
Add: Factory overheads (18,000 + 1,200)	19,200	3.20
	1,03,200	17.20
Less: Closing stock of W.I.P.	6,000	
Factory Cost	97,200	16.20
Add: Administration overheads	9,000	1.50
Cost of Production	1,06,200	17.70
Less: Closing stock of Finished Goods	21,240	
Total cost	84,960	17.70
Profit (Balancing figure)	11,040	2.30
Sales	96,000	20.00

Illustration 23

The following information is available from the financial books of a company having a normal production of 60,000 units for the year ended 31st March, 2014:

(i) Sales ₹ 10,00,000 (50,000 units).

(ii) There was no opening and closing stock of finished units.

(iii) Direct material and direct wages cost were ₹ 5,00,000 and ₹ 2,50,000 respectively.

(iv) Actual factory expenses were ₹ 1,50,000 of which 60% are fixed.

(v) Actual administrative expenses were ₹ 45,000 which are completely fixed.

(iv) Interest and dividends received ₹ 15,000.

You are required to:

(a) Find out profit as per financial books for the year ended 31st March, 2014;

(b) Prepare the cost sheet and ascertain the profit as per cost accounts for the year ended 31st March, 2014 assuming that the indirect expenses are absorbed on the basis of normal production capacity;

(c) Prepare a statement reconciling profits shown by Financial and Cost Books.

Solution:

Financial P & L A/c for the year ended 31st March, 2014

Particulars	Amount	Particulars	Amount
To Direct Material	5,00,000	By Sales	10,00,000
To Direct Wages	2,50,000	By Interest and Dividend	15,000
To Factory Expenses	1,50,000		
To Administration Expenses	45,000		
To Net Profit	70,000		
	10,15,000		10,15,000

Cost Sheet for the year ended 31st March, 2014

Particulars	Amount	Amount
Direct Materials consumed		5,00,000
Add: Direct Wages		2,50,000
Prime Cost		7,50,000
Add: Factory Overheads		
Variable $\left(\frac{60,000}{50,000}\times 60,000\right)$	72,000	
Fixed	90,000	1,62,000
Works Cost		9,12,000
Add: Administration expenses		45,000
Cost of Production/Total Cost		9,57,000
Profit		43,000
Sales		10,00,000

Working Note:

	Particulars	Cost A/c	Financial A/C	Difference
1.	Factory Expenses	1,62,000	1,50,000	12,000 (+)
2.	Interest and Dividend	–	15,000	15,000 (+)

Reconciliation Statement as on 31st March, 2014

Particulars	Amount	Amount
Net Profit as per Cost A/c		43,000
Add: (1) Factory overheads over-recovered in Cost A/c	12,000	
(2) Interest and Dividend received not recorded in Cost A/c	15,000	27,000
Net Profit as per Financial A/c		70,000

Illustration 24

Profit and Loss Account of INTEL Ltd. (as prepared by the head office account department) is summarised as follows:

Particulars	₹	Particulars	₹
To Stock on 1st Jan., 2014	60,000	By Sales	1,30,000
To Purchases	82,000	By Stock on 31st Dec., 2012	80,000
To Wages	40,000		
To Works expenses	1,800		
To Gross Profit c/d	26,200		
	2,10,000		2,10,000
To Salaries	8,000	By Gross Profit b/d	26,200
To Rent and rates	4,000	By Rent received	6,000
To Selling expenses	5,600		
To Administration	4,200		
expenses	10,400		
To Net Profit			
	32,200		32,200

The following information and break up in respect of above items of Profit & Loss Account was also supplied:

Particulars	On 1 st Jan. 2014 ₹	On 31 st Dec. 2014 ₹
1. Stock:		
Manufactured Units	24,000	20,000
Purchased Units	14,000	44,000
Raw Materials	22,000	16,000
	60,000	80,000
2. Purchases:		
Purchased Units	54,000	
Raw material	28,000	

	82,000	
3. Wages:		
Direct Wages	30,000	
Indirect Wages (Factory)	8,000	
Clerical Wages (Sales)	2,000	
	40,000	
4. Salaries:		
Works Supervision	2,000	
Sales Department	4,000	
Administration	1,800	
	8,000	
5. Rent and Rates:		
Works	2,000	400
Sales Office Administration Office	1,600	
	4,000	

Multiple Choice Questions

1. Premium on issue of share is
   (i) Shown in Costing Profit and Loss A/c
   (ii) Shown in Financial Profit and Loss A/c
   (iii) Ignored
   (iv) None of the above
2. Notional rent is taken in
   (i) Cost A/c
   (ii) Financial A/c
   (iii) Balance Sheet
   (iv) Ignored
3. Excess of overheads in costing as compared to Profit and Loss A/c is
   (i) Overabsorption of overheads
   (ii) Underabsorption of overheads
   (iii) Both (i) and (ii)
   (iv) None of the above
4. Interest on investment increases
   (i) Financial profit
   (ii) Costing profit
   (iii) Asset
   (iv) None of the above
5. Loss on sale of capital asset is
   (i) Added to financial profit
   (ii) Added to costing profit

(iii) Ignored from Cost A/c
(iv) None of the above to get costing profit

6. Overvaluation of costing stock in Cost Accounts
   (i) Increases costing profit
   (ii) Increases financial profit
   (iii) Decreases costing profit
   (iv) Decreases financial profit
7. Interest on Bank Deposits is
   (i) Credited in Costing P & L A/c
   (ii) Credited in Financial P & L A/c
   (iii) Debited in Costing P & L A/c
   (iv) Debited in Financial P & L A/c
8. Dividend paid on share capital is
   (i) Debited to Costing P & L A/c
   (ii) Debited to Financial P & L A/c
   (iii) Credited in Costing P & L A/c
   (iv) Credited in Financial P & L A/c
9. Overabsorption of overheads in costing
   (i) Decreases costing profit
   (ii) Increases financial profit
   (iii) Decreases costing profit
   (iv) Both (i) and (ii)
10. Undervaluation of opening stock in costing
   (i) Increases costing profit
   (ii) Decreases financial profit
   (iii) Decreases costing profit
   (iv) Both (i) and (ii)
11. Donations paid is
   (i) Debited to costing profit
   (ii) Debited to Financial P & L A/c
   (iii) Ignored in costing
   (iv) Both (ii) and (iii)

[Ans.: 1. (ii), 2. (i), 3. (i), 4. (i), 5. (i), 6. (i), 7. (ii), 8. (ii), 9. (iv), 10. (iv), 11. (iv)**]**

True or False

1. Interest on capital is debited to Costing Profit and Loss A/c.
2. Donations are debited to Financial Profit and Loss A/c.
3. Overvaluation of closing stock in Financial A/c increases profit.

4. Overabsorption of overheads in Cost A/c is added to net profit as per Cost A/c to get financial profit.
5. Undervaluation of closing stock in Cost A/c reduces costing profit.

[Ans. True: (2, 3, 4, 5). False: (1)**]**

Match the Pair

Group 'A'	Group 'B'
1. Reconciliation	(i) Included in Cost A/c
2. Profit on sale of asset	(ii) Credited to Financial Profit and Loss A/c
3. Interest on capital	(iii) Debited to Cost A/c
4. Notional expenses	(iv) Debited to Financial Profit and Loss A/c
5. Dividend on share capital	(v) Credited to Cost A/c
	(vi) Shown in Financial A/c
	(vii) Under non-integral system of accounting

[Ans.: 1. (vii), 2. (vi), 3. (iv), 4. (i), 5. (ii)**]**

Fill in the Blanks

1. _____ facilitates internal control.
2. Dividend received is shown in _____ accounts only.
3. Overheads recovered in costing is more than actual. It is called _____.
4. Less overheads recovered in costing is called _____.
5. Donations paid reduces _____ profit.
6. Interest on capital reduces _____ profit.
7. Underabsorption of overheads in costing increases _____ profit.

[Ans. 1. reconciliation; 2. financial; 3. overabsorption; 4. underabsorption: 5. financial profit; 6. financial profit; 7. costing**]**

Questions for Self-practice

1. Write a short note on Items of Reconciliation between Financial Statements and Cost Records.
2. Why do Cost Accounts and Financial Accounts disclose different profit and loss for the same accounting year?
3. Write a short note on Reasons for differences between Financial Profit and Cost Profit.
4. Write a short note on Purpose of Reconciliation of Cost and Financial Accounting.
5. Explain why periodic reconciliation of Cost and Financial Accounting is necessary.
6. What is the purpose of reconciling Cost and Financial Accounts?

Practical Questions

1. From the following, prepare a statement of reconciliation and find out profit/loss as per financial records.

Particulars	₹
Net loss as per cost records	1,72,400
Works overheads under-recovered in costing	3,120
Administrative overheads over-recovered in costing	1,700
Depreciation in Financial A/c	11,200
Depreciation in Cost A/c	12,500
Interest received	8,750
Obsolescence loss in Financial A/c	5,700
Provision for Income Tax	40,300
Opening Stock:	
Financial Records	52,600
Cost Records	54,000
Closing Stock:	
Financial Records	52,000
Cost Records	49,600
Interest charges in Cost Accounts only	6,000
Preliminary expenses written off	950

(T.Y.B.Com., Oct.2001)

2. From the following details of KT & Co., compute profit as per P & L A/c as well as, as per cost sheet and reconcile profit between cost sheet and P & L A/c showing clearly the reasons for the variation of the two profit figures.

Particulars	₹
Sales	20,000
Purchases of material	3,000
Closing stock of material	500
Direct wages	1,000
Indirect wages	500
Indirect factory expenses	2,000
Bad debts	100
Interest on overdraft	50
Profit on sale of assets	1,000
Selling expenses	2,000
Distribution expenses	1,000

In cost sheet manufacturing overheads recovered at 300% of direct wages, selling overheads recovered ₹ 1,500 and distribution overheads recovered ₹ 700. ***(T.Y.B.Com., Oct.2003)***

3. Enthusiasts Ltd. commenced business on 1st April 2013, cost and financial records are maintained for the year ended 31st March 2014. From the following information, prepare statements:

(a) Showing the result as per costing records,
(b) Showing result as per financial records, and
(c) Reconciling these results.

Particulars	As per Costing Records	As per Financial Records
Material Consumed (20000 kgs)	₹ 28.50 per kg	₹ 26 per kg
Direct Wages (3000 man days)	₹ 80 per man day	₹ 85 per man day
Factory Overheads	20% of prime cost	₹ 3,60,000
Administrative Overheads	₹ 30 per kg. of output produced	₹ 4,00,000
Selling Overheads	₹ 50 per kg. of output sold	₹ 9,60,000
Stock (of output produced) as on31-3-2003 (2000 kgs)	At cost of production	₹ 1,50,000
Work-in-progress as on 31-3-2003	₹ 1,62,000	₹ 1,62,000
Sales (16,000 kgs)	₹ 130 per kg	₹ 129.50 per kg
Rent Income	—	₹ 1,20,000
Preliminary Expenses Written off	—	₹ 30,000

(T.Y.B.Com., April 2004)

4. The following figures have been extracted from the Financial Accounts of Bawa Manufacturing Company for the first year of its operations:

Particulars	₹
Direct Material Consumption	50,00,000
Direct Wages	30,00,000
Factory Overheads	16,00,000
Administrative Overheads	7,00,000
Selling and Distribution Overheads	9,60,000
Provision for Bad Debts	80,000
Preliminary Expenses Written off	40,000
Dividend Received	1,00,000
Interest Received on Deposits	20,000
Sales (1,20,000 units)	1,20,00,000
Closing Stock:	
Finished Goods (4,000 units)	3,20,000
Work-in-progress	2,40,000

The Cost Accounts for the same period reveal that the Direct Material consumption was ₹ 56,00,000. Factory overheads are recovered at 20% on Prime Cost. Administrative overheads are recovered as ₹ 6 per unit of production. Selling and Distribution overheads are recovered at ₹ 8 per unit sold. Prepare the Profit and Loss Account as per Financial Records and Cost Sheet as per Cost Records. Reconcile the profits as per the two records. The cost accounts value closing stock of finished goods at cost of production.

5. From the following particulars, prepare Reconciliation Statement and ascertain Costing Profit/Loss. Net profit as per Financial P & L A/c ₹ 50,000. Opening Stock was overvalued by ₹ 2,000 in Cost Account as compared to financial accounts. Administrative overheads charged in Financial Books ₹ 20,000 but recovered in Cost Books ₹ 40,000.

   Income Tax Provision ₹ 1,200. Notional Salary of Proprietor in Cost ₹ 20,000. Interest Received ₹ 12,000. Closing Stock as per financial books ₹ 16,200 whereas in cost books it was ₹ 19,000.

6. From the following, prepare Reconciliation Statement of M/s XYZ & Co. as on 30-6-2004:
   (i) Net profit as per Financial Accounts ₹ 40,340.
   (ii) Income Tax Provision made ₹ 30,000.
   (iii) Material Purchases of 5,000 units were recorded in cost at standard cost ₹ 24/- per unit whereas in Financial books it was recorded at actual cost books ₹ 22/- per unit.
   (iv) Old Bad debts recovered ₹ 20,500.
   (v) Loss on sale of furniture was ₹ 4,120.

7. Following is the Trading and Profit and Loss Account of M/s Vishal Enterprises for the year ended 31-3-2013.

Particulars	₹	Particulars	₹
To Opening Stock (500 units)	17,500	By Sales (10250 units)	7,17,500
To Materials	2,60,000	By Closing Stock (250 units)	12,500
To Wages	1,50,000		
To Factory Overheads	94,750		
To Gross Profit c/d	2,07,750		
Total	**7,30,000**	**Total**	**7,30,000**
To Administrative Overheads	1,06,000	By Gross Profit c/d	2,07,750
To Selling Overheads	55,000	By Dividend Received on Investments	10,250
To Loss on Revaluation of Assets	9,000		
To Net Profit	48,000		
Total	**2,18,000**	**Total**	**2,18,000**

In Cost Accounts, Material Charges @ ₹ 25 per unit and wages @ ₹ 15 per unit. Factory overheads taken @ 60% of wages. Administrative overheads applied @ 20% of works cost. Selling overheads taken @ ₹ 6 per unit sold. You are required to prepare:

1. Statement of Cost showing total cost and cost per unit.
2. Statement of Reconciliation of Profit/Loss.

8. Following is the summarised Trading and Profit & Loss account of Sheetal Industries for the year ended 31.3.13.

Trading and Profit and Loss Account for the year ended 31.3.2013

Particulars	₹	Particulars	₹
To Opening Stock of Raw Materials	9,000	By Sales (12000 Units)	4,80,000
To Purchases of Raw Materials	2,10,000	By Closing Stock	
To Carriage Inwards	5,000	Finished Goods (3000 Units)	66,000

To Wages		75,400	Raw Materials		24,000
To Factory Expenses			By Profit on Securities		17,000
Paid	52,400		By Profit on Sale of Assets		1,20,000
Add: Outstanding	2,200	54,600			
To Administrative Overheads		52,500			
To Selling and Distribution Overheads		96,000			
To Goodwill Written off		12,500			
To Interest on Loans		1,500			
To Dividend		2,500			
To Income Tax		5,000			
To Net Profit		1,83,000			
Total		**7,07,000**	**Total**		**7,07,000**

A standard unit was manufactured during the year. The cost accounting records showed the following:

(i) Materials consumed @ ₹ 10 per unit produced.

(ii) Direct Wages @ ₹ 6 per unit produced.

(iii) Factory Overheads were absorbed @ 25% of Prime Cost.

(iv) Administration Overheads were absorbed @ ₹ 5 per unit produced.

(v) Selling and Distribution Overheads were absorbed @ ₹ 7 per unit sold.

You are required to prepare the detailed cost statement for the year ended 31.3.2006 and a statement of reconciliation.

9. Following is the Profit and Loss Account, as per Financial records, of M/s Tirupati Traders for the year ended 31st March, 2013.

Particulars		₹	Particulars	₹
To Operating Stock (Finished – 6,000 units)		59,760	By Sales (90,000 units)	11,70,000
To Raw Materials Consumed		5,19,400	By Closing Stock (Finished – 4,500 units)	52,776
To Carriage Inwards		5,100	By Bank Interest	410
To Direct Wages		72,872	By Dividend	6,900
To Salesman Commission		38,520		
To Office Salaries		25,368		
To Motor Car Expenses		18,384		
To Advertisement		61,920		
To Director's Remuneration:				
Office	12,000			
Works	12,000			
Sales	14,400	38,400		
To Indirect Wages		20,268		
To Plant – Depreciation		11,472		

To Workmen Compensation Reserve		13,275		
To Office Rent		6,900		
To After-sales Services Expenses		4,476		
To Interest		6,000		
To Showroom Rent		9,000		
To Carriage Outward		6,240		
To Depreciation on Delivery Van		5,040		
To Factory Fuel		4,248		
To Packing and Forwarding		3,270		
To Miscellaneous Factory Expenses		3,270		
To Preliminary Expenses written off		4,200		
To Audit Fees		2,520		
To General Office Expenses		1,500		
To Factory Rent		18,720		
To Loss on Sales of Investments		4,017		
To Insurance:				
Office	300			
Sales	720			
Factory	1,800	2,820		
To Printing and Stationery		720		
To Depreciation:				
Factory Furniture	600			
Office Furniture	900			
Showroom Furniture	420	1,920		
To Telephone Charges:				
Office	129			
Sales	627	756		
To Legal Fees		504		
To Net Profit c/d		2,59,226		
		12,30,086		**12,30,086**

Closing stock in cost Accounts is valued at cost of production. However, opening stock in cost records is same as per financial records.

Prepare:

(a) Detailed cost statement showing total cost (excluding per unit) and profit.

(b) Reconciliation statement showing reconciliation of profits.

10. From the following details, find out Profit or Loss as per Financial Accounts.

Particulars	₹
Underabsorption of factory overheads	12,500
Overvaluation of closing stock of Raw Material in Cost Accounts	8,600
Profit as per Cost Accounts	2,70,000
Depreciation underrecovered in Cost Accounts	3,700
Overabsorption of Administrative Overheads	9,800

11. From the following information, find out Profit or Loss as per Cost Records:

Particulars	₹
Profit as per Financial Records	1,45,000
Overabsorption of Indirect Wages	12,000
Overvaluation of Opening Stock of Finished Goods in Cost Accounts	5,000
Excess Depreciation charged in Financial Accounts	3,500
Underabsorption of Selling Overheads	7,500

12. From the following information find, out Profit or Loss as per Financial Records:

Particulars	₹
Overabsorption of Selling and Distribution Overheads	3,000
Overvaluation of Closing Stock in Cost Accounts	13,800
Underabsorption of Office and Administrative Overheads	24,700
Loss as per Cost Accounts	85,000
Excess Depreciation charged in Financial Accounts	4,500

13. From the following information find, out Profit or Loss as per Financial Records:

Particulars	₹
Loss as per Cost Records	12,900
Underrecovery of Depreciation in Cost Account	4,900
Notional Salary of Proprietor not considered in Financial Profit and Loss Account	12,000
Overvaluation of Closing Stock in Financial Accounts	1,200
Overabsorption of factory overheads	7,000

14. RST Ltd. has furnished the following information from the financial books for the year ended 31st March, 2014.

Dr. Trading and Profit and Loss A/c Cr.

Particulars	₹	Particulars	₹
To Opening Stock (Finished Goods 2500 units)	2,50,000	By Sales (47,500 units)	59,85,000
To Raw Material	20,80,000	By Closing stock (Finished Goods 5000 units)	5,00,000
To Direct Wages	15,15,000	By Commission received	35,000
To Factory Expenses	10,18,000	By Bad debts recovered	12,000

To Office and Administrative Expenses	8,45,000	By Net Loss	36,000
To Selling and Distribution Expenses	7,00,000		
To Goodwill written off	60,000		
To Loss on Sale of Investments	1,00,000		
	65,68,000		**65,68,000**

The following information is revealed from the cost records for year ended 31st March, 2014:

(a) Raw material consumption is ₹ 40 per unit of production.
(b) Direct wages are 70% of Direct Material.
(c) Factory overheads are recovered @ 50% of Direct Materials.
(d) Administrative overheads are taken @ 20% of Works cost.
(e) Selling and Distribution overheads are recovered ₹ 15 per unit.
(f) Opening stock of finished goods is valued at cost ₹ 101.80 per unit.
(g) Closing stock of finished goods is to be valued at cost of production.
(h) Selling price is recoded at ₹ 125 per unit.

Prepare:

(i) Detailed Cost Statement showing total cost, per unit cost and profit.
(ii) Statement of Reconciliation.

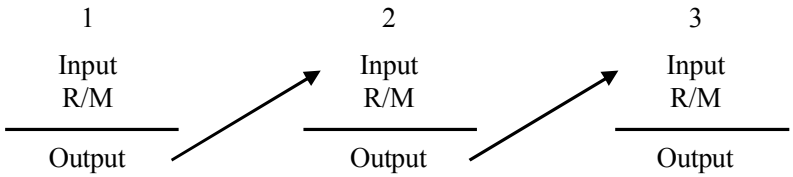
3
Chapter

Process Costing

Meaning:

It is a method of costing adopted to find out the cost of those goods which are manufactured in stages. Each stage is called a process. The output of each process becomes the input for the next process and so on. The product becomes a finished product only after it passes through all the process.

Example: R/M —(Passes through / Various Process)→ FG



The raw material introduced in the first process loses its identity and the output is transferred to the next process.

Example: Process costing is applicable to product like sugar industry, oil industry, paper industry. etc. On account of processing, certain losses occur at each process. There are two types of losses in process costing.

Example:

Input	20 Kgs
(–) Output	18 Kgs
= Loss 2 Kgs	

Abnormal loss — Normal loss

A. Normal loss

1. It is a loss due to internal factors like heating, boiling, evaporation, etc.
2. It is an expected loss.
3. It is a predetermined % on the input quantity.
4. It is unavoidable and therefore it is uncontrollable loss.
5. It is normally of two types: (a) Scrap: It has realisable value. (b) Weight loss: It has no realisable value because it is an invisible process.
6. It is credited to Process A/c and calculated as a % on the input quantity.

B. Abnormal loss

1 It is loss due to external factors like natural calamity, loss by fire or theft, strikes, breakdown of machine, etc.

2 It is unexpected loss.

3 It is avoidable to some extent and therefore controllable.

4 It is credited to Process A/c as balancing figure in the quantity column.

5 The amount column is calculated by using the formula:

$$\text{Abnormal Loss (Amt.)} = \frac{\text{Dr} - \text{Cr (Amt Col.)}}{\text{Dr} - \text{Cr (Qty to \%)}} \times \text{Abnormal Loss (Qty)}$$

C. Abnormal gain/profit

1. When actual loss is less than the expected loss, it is called an abnormal gain.
2. It is due to superior quantity of R/M, efficient labour, advanced technology, etc.
3. Recorded on debit side of Process A/c as a balance figure in the quantity column.
4. The amount column in calculated by using the formula:

$$\text{Abnormal Gains (Amt.)} = \frac{\text{Dr} - \text{Cr (Amt column)}}{\text{Dr} - \text{Cr (Qty column)}} \times \text{Abnormal Gain (Qty)}$$

[PRO FORMA]

Dr. **Process 1 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty.	Amt.
To R/M Introduced	X X	X X	By Normal Loss A/c		
To DM		X X	(1) Scrap	X X	X X
To DL		X X	(2) Weight loss	X X	Nil
To DE		X X			
To Factory Exp.		X X			
To Manufacture Exp.		X X	By Abnormal loss	X X	(Formula)
To Abnormal Gain	X X			(Balancing)	
	(Balancing)	(Formula)			
			By Output c/d or transferred (C.P.U.) to Process 2 A/c	X X	X X X (Balancing)
	X X	X X		X X	X X

Notes:
- R/M is introduced in the first process.
- The output of first process becomes input raw material for the next process and so on.
- The output of last process is finally transferred to FINISHED GOODS STOCK ACCOUNT.
- Cost per Unit, i.e., (C.P.U.) must be calculated for each Process A/c.

Process 2 A/c

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process 1 A/c	X X	X X	By Normal Loss	X X	X X
To DM		X X	By Abnormal Loss	X X	(Formula)
To DL		X X		(Balancing)	
To DE		X X	By Output transferred to Finished Stock A/c (C.P.U.)	X X	X X X
To Factory Exp		X X			
To Manufacturing Exp		X X			
To Abnormal Gain	X X	(Formula)			
	X X	X X	X X	X X	X X

Features of Process Costing

In the case of process costing, production follows a series of sequential processes. Since the product manufactured passes through various processes, production is a continuous activity. Units produced are uniform and, therefore, product differentiation is not possible. Following are the main features of process costing:

1. Process costing is used by the industries where the goods are produced through the sequence of several processes. Process costing is suitable for industries like paint, oil refining, rubber, chemicals, sugar, paper, soap-making, textiles, etc. This method is also employed where it is not possible to ascertain the prime cost of specific order.
2. Units of production are uniform and homogeneous. As a result, unit cost of each process is obtained by averaging the total cost of each process.
3. Costs are ascertained for each process at the end of the cost period.
4. Costs follow the production process, i.e., costs incurred in one process are transferred to the next process along with the output.
5. The entire production activity is characterised by a number of stages of production, i.e., processes. Each process includes a number of operations. The boundaries of the process are determined by similarity of work performed, supervision and physical location of men and machines in the plant.
6. The products and processes are standardised.
7. Production is in continuous flow and the output of Process I becomes the input of Process II and so on until the finished product is obtained.
8. Total cost of the process is adjusted with normal losses, abnormal losses, abnormal gains and scrap of the process.

Advantages of Process Costing

Following are the advantages of process costing:

1. Due to the simplicity of cost records, process costing involves less efforts and expenses on accounting.
2. Production activity in process costing is standardised. Hence, managerial control and supervision becomes easier.
3. It is convenient and easy to compute the cost of different processes as well as finished product at short intervals, say, daily, weekly or monthly.
4. In case of process costing, it is possible to allocate expenses to different processes on rational basis. This results into more accurate costing.
5. In process costing, products and processes are standardised. Hence, it is easy to apply standard costing.
6. In process costing, the products are homogeneous. As a result, cost per unit can be easily computed by averaging the total cost and price quotations become easier.

Limitations of Process Costing

Following are the limitations of process costing:

1. Value of work-in-progress is computed on the basis of estimates which results in further inaccuracies.
2. Once an error is committed in one process, it is carried over to the subsequent processes.
3. Since process cost is the average cost, it may not be accurate for analysis, evaluation and control of the performance of various departments.
4. The cost obtained at the end of the accounting period is historical in nature and is of little use for effective managerial control.
5. Process costing does not evaluate the efficiency of individual workers or supervisors.

Distinction between Job Costing and Process Costing

Process costing and job costing are two principal methods of cost accounting. The main points of distinction between job costing and process costing may be listed as under:

Points of Distinction	Job Costing	Process costing
1. Time period	Costs are complied after the completion of the job. Job cost is a terminal cost.	Costs are complied at the end of the each process. Process cost is a period cost.
2. Accumulation	Since each job is separate and independent of others, costs are determined for each job.	Since products are manufactured in a continuos flow and lose their individual entity, costs are accumulated for each process.
3. Applicability	It is applicable to goods manufactured to consumer's specifications.	It is applicable to production for mass consumption through the sequence of several processes.

4. Nature	Cost incurred on jobs need to be identified separately for each job. It is very expensive and requires lot of clerical work.	Cost incurred on units need not be identified separately. It is very simple and less expensive.
5. Unit cost	Total cost of a job is divided by the number of units produced in the job to ascertain unit cost of a job. Cost of a job cannot be ascertained by averaging.	Unit cost is ascertained by dividing total cost of each process by production of each process. Cost of an unit is computed by averaging the total cost.
6. Work-in-progress	There may or may not be work-in-progress at the beginning or at the end of the accounting period.	There is always work-in-progress at the beginning or end of the accounting period since units of production remain in continuous flow.
7. Transfer of cost	There are usually no transfers of cost from one job to another job.	Costs of one process is transferred to subsequent process.
8. Managerial control	Since production is not in continuous flow, job costing requires close supervision and managerial control.	Since production is standardised and continuous, managerial control is easier.

Costing Procedure under Process Costing

For the purpose of costing, the factory is divided into various departments, each department representing a particular process. A supervisor is appointed for each department to supervise the functioning of his department. Each process is a cost centre and, thus, costs are accumulated for each process. A separate account is maintained for each process to which costs of material, labour, direct expenses and overheads are recorded. Following are the main elements of cost in process costing:

1. Materials: Materials required for each process are drawn from the stores by way of material requisitions. No distinction is made between direct and indirect materials. The value of materials issued is debited to the process account. When the output of first process becomes the raw material of the next process, the account of the receiving process is debited with the cost of transfer in addition to the cost of additional materials, if any, added to that process.

2. Labour: Wages of workers engaged wholly in a particular process are debited to that process. If the workers are engaged in a number of processes, the wages are apportioned to different processes on the basis of time spent. Generally, the direct labour cost is a very small part of the cost of production in case of process costing.

3. Direct Expenses: Direct expenses are the expenses which can be easily identified with the process. Depreciation, insurance, electricity, repairs and maintenance etc. are some of the examples of direct expenses which may be directly attributed to a process and, thus, are debited to the process concerned.

4. Production Overhead: Production overhead is the major constituent of the cost of production in case of process costing. Production overheads are the expenses which are common to more than one process, i.e., which cannot be directly allocated to any process. Production overheads include rent. telephone, lighting, gas, water charges etc. Generally, production overheads are recovered at pre-

determined rates based on direct wages or prime cost. Thus, process cost does not include office and administrative overheads and selling and distribution overheads.

Preparation of Process Cost Accounts

For each process, a separate process account is maintained. The following situations might arise while preparing process accounts:

(i) Process costing with no process loss and no stock,
(ii) Process costing having process losses,
(iii) Process costing having abnormal gain,
(iv) Process costing having stocks.

Process Costing Having No Process Losses and No Stock

All costs of material, labour, direct expenses and production overheads relating to the process are debited to the process account. Since no process losses are given, the output of a process is equal to the units introduced in the process. The total cost of the process is transferred to the next process. The finished product of one process becomes the raw material of the next process.

Illustrations 1. A product passes through 3 process A, B and C.

	Particulars	A	B	C
1	% loss	2 %	5%	10%
2	Sale price per 100 units	₹ 5	₹ 5	₹ 20
3	Actual output in units	19,500	18,800	2,000
4	Material consumed	₹ 6,000	₹ 4,000	₹ 2,000
5	Direct labour	₹ 8,000	₹ 6,000	₹ 3,000
6	Manufacturing exp.	₹ 1,000	₹ 1,000	₹ 1,500

During the month, 20,000 units were introduced to Process A at a cost of ₹ 10,000. Prepare respective Process A/cs and also calculate cost/unit for each process.

Solution:

Dr. **Process A A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Raw Materials Introduced	20,000	10,000	By Normal loss [20,000 × 2% / 400 × ₹ 0,05]	400	20
To DM	—	6,000			
To DL	—	8,000			
To Manufacturing expenses	—	1,000	By Abnormal loss (C.P.U. = ₹ 1.27)	100	127 (Formula)
			By Output transferred to Process B A/c	19,500	24,853

			(C.P.U = ₹ 1.27)		
	20,000	**25,000**		**20,000**	**25,000**

Working Note for Process A A/c

$$\text{Abnormal loss (Amt.)} = \frac{\text{Dr} - \text{Cr (Amt column)}}{\text{Dr} - \text{Cr (Qty column)}} \times \text{Abnormal Loss (Qty)}$$

$$= \frac{25{,}000 - 20}{20{,}000 - 400} \times 100 = \frac{24{,}980}{19{,}600} \times 100 = 127.45 = ₹\ 127$$

Dr. Process B A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process A A/c	19,500	24,853	By Normal loss (19,500 × 5% × 975) (975 × ₹ 0.05)	975	49
To DM		4,000	By output transferred to Process C A/c	18,800	36,336
To DL		6,000	(C.P.U. = ₹ 1.93)		
To Manufacturing Expenses		1,000			
To Abnormal Gain (C.P.U. = ₹ 1.93)	275	532 (Formula)			
	19,775	**36,385**		**19,775**	**36,385**

Dr. Process C A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process B A/c	18,800	36,336	By Normal loss (18,800 × 10% = 1,880)	1,880	376
To DM		2,000	(1,880 × ₹ 0.2)		
To DL		3,000	By Abnormal loss	14,920	37,441 (Formula)
To Manufacturing Expenses		1,500	By Finished Goods Stock A/c	2,000	5,019
	18,800	**42,836**		**18,800**	**42,836**

Working Note for Process B A/c

$$\text{Abnormal Gain (Amt)} = \frac{\text{Dr} - \text{Cr (Amt column)}}{\text{Dr} - \text{Cr (Qty column) (Qty)}} \times \text{Abnormal Gain (Qty)}$$

$$= \frac{35{,}853 - 49}{19{,}500 - 975} \times 275 = ₹\ 531.5$$

$$= \frac{35{,}804}{18{,}525} \times 275$$

$= ₹ 531.5$

$= ₹ 532$

Working Note for Process C A/c

$$\text{Abnormal Loss (Amt)} = \frac{\text{Dr} - \text{Cr (Amt Col)}}{\text{Dr} - \text{Cr (Qty Co1)}} \times \text{Abnormal Loss (Qty)}$$

$$= \frac{42,836 - 376}{18,800 - 1,880} \times 14,920$$

$$= \frac{42,460}{16,920} \times 14,920$$

$= ₹ 37,441$

Note: C.P.U. should be calculated up to 3 decimal and round off to the 2nd decimal.
In this question, output for each process is given. Therefore, Abnormal loss/Abnormal profit can be calculated as a balancing figure.

Illustration 2

A product passes through 3 process. The following cost is given below:

Particulars	**Total** ₹	**1** ₹	**2** ₹	**3** ₹
Direct Material	8,482	2,000	3,020	3,462
Direct Labour	12,000	3,000	4,000	5,000
Expenses (direct)	726	500	226	—
Production Overhead	6,000	?	?	?
Output		920 u	870 u	800 u
Normal loss		10%	5%	10%
Sale price of scrap p.u.		3	₹ 5	₹ 6

(1,000 unit at the Rate ₹ 5 were introduced in Process 1.)

Production overheads is allocated to each process on the basis of 50% cost of Direct Labour. Prepare necessary Process A/c. Also calculate cost p.u. for each process.

Solution:

Dr. Process 1 A/c Cr.

Particulars	**Qty**	**Amt**	**Particulars**	**Qty**	**Amt**
To R.M. Introduced (1000 × ₹ 5)	1,000	5,000	By Normal loss [1,000 × 10% = 100 100 × ₹ 3 p.u.]	100	300
To DM	–	2,000			
To DL	–	3,000			
To Direct Expenses	–	500			
To Production Overheads	-	1,500			
To Abnormal Gain	20	260	By Output	920	11,960

(C.P.U. = ₹ 13)		(Formula)	transferred to Process 2 A/c (C.P.U. = ₹ 13)		
	1,020	**12,260**		**1,020**	**12,260**

Working Note 1:

$$\text{Abnormal Gain (Amt)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Co1umn)}} \times \text{Abnormal Gain (Qty)}$$

$$= \frac{12{,}000 - 300}{1{,}000 - 100} \times 20$$

$$= \frac{11{,}700}{900} \times 20 = ₹\ 260$$

Dr. Process 2 A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from		11,960	By Normal loss		320
Process A A/c	920	17,960	(5% × 920)	46	
To DM	–	3,020	(46 × ₹ 5)		
To DL	–	4,000	By Abnormal loss	04	96
To Direct Expenses	–	226	(C.P.U. = ₹ 24)		(Formula)
To Production Overheads		2,000	By Output transferred to Process 3 A/c (C.P.U. = ₹ 24)	870	20,880
	920	**21,206**		**920**	**21,206**

Dr. Process 3 A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process B A/c	870	20,880	By Normal loss (870 × 10%)	87	522
To DM		3,462	(87 × ₹ 6)		
To DL		5,000	By Output transferred to F.G. Stock A/c		
To Direct Expenses		–	(C.P.U. = ₹ 40)	800	32,000
To Production Overheads		2,500			
To Abnormal Gain	17	680			
(C.P.U. = ₹ 40)		(Formula)			
	887	**32,522**		**887**	**32,522**

Working Note 2:

$$\text{Abnormal Loss (Amt)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Amt Co1umn)}} \times \text{Abnormal Loss (Qty)}$$

$$= \frac{21{,}206 - 230}{920 - 46} \times 04$$

$$= \frac{20{,}976}{874} \times 4$$

$$= ₹\ 96$$

Working Note 3:

$$\text{Abnormal Gain} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Co1umn)}} \times \text{Abnormal Gain (Qty)}$$

$$= \frac{31{,}842 - 522}{870 - 87} \times 04$$

$$= ₹\ 680$$

Illustration 3

A product passes through 3 process in each process. 2% of the gross weight is lost and 10% is scrap which in case of A and B realised @ ₹ 100 per quintal and in case of process C @ ₹ 200 per quintal.

Particulars	A	B	C
Material	8,000 quintal @ ₹ 500/quintal	1,000 quintal @ ₹ 200/quintal	900 quintal @ ₹ 650/quintal
Labour	₹ 50,000	25,000	20,000
Direct expenses	20,500	10,800	17,200
General expenses related to material	7,000	1,500	4,300
Cost of tins	—	10,750	—
Packing of tins	—	—	4,500

Indirect expenses are ₹ 5,000 which are to be apportioned to all the three process in the ratio of combined cost of material and wages. Calculate the C.P.U. of each process.

Solution:

*** Calculation of Indirect Expenses**

	DM	DL	(DM + DL) Combined Cost	Indirect Expenses
A	40,00,000	50,000	40,50,000	4,150
B	2,00,000	25,000	2,25,000	230
C	5,85,000	20,000	6,05,000	620
Total			**48,80,000**	**5,000**

Note: To calculate the Indirect Expenses for process A, B, C, cross multiply the total of combined cost with Indirect expenses:

In this question, output is not given for process A, B, and C. Therefore, output is calculated as a balancing figure for each Process A/c.

Dr. Process A A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To RM introduced (8,000 × 500)	8,000	40,00,000	By Normal loss (Scrap 10% × 8,000)	800	80,000
To DL		50,000	(800 × 100)		
To DE		20,500	Weight loss	160	NIL
To GE		7,000	(2% × 8,000)		
To Indirect expenses		4,150	By Output transferred to Process B A/c (C.P.U. = ₹ 568.42)	7,040	40,01,650
	8,000	**40,81,650**		**8,000**	**40,81,650**

Dr. Process B A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process A A/c	7,040	40,01,650	By Normal loss		
To DM (1,000 × 200)	1,000	2,00,000	(Scrap10% of 8040)	804	80,400
To DL		25,000	(804 × 100)		
To DE			Weight loss		
To GE		1,080	(2% of 8040)	161	NIL
To Indirect expenses		230	By Output transferred to Process C A/c	7,075	41,69,530
To Cost of tin		10,750	(C.P.U. = ₹ 589.33)		
	8,040	**42,49,930**		**8,040**	**42,49,930**

Dr. Process C A/c Cr

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process B A/c	7,075	41,69,530	By Net loss	798	1,59,600
To DM (900 × 650)	900	5,85,000	(Scrap10% of 7,975)		
To DL		20,000	(798 × 200)		
To DE		17,200	Weight loss	160	Nil
To GE		4,300	(2% of 7,975)		
To Indirect expenses		620			
To Packing		4,500	By Output transferred to F.G. A/c (C.P.U. = ₹ 661.47)	7,017	46,41,550
	7,975	**48,01,150**		**7,975**	**48,01,150**

Distinction between Normal Loss and Abnormal Loss

Points of Distinction	Normal Loss	Abnormal Loss
1. Nature	It is of recurring nature.	It is of accidental nature.
2. Source	It arises due to internal factors, i.e., nature of product.	It arises due to external factors, i.e., carelessness, accidents etc.
3. Insurance	It is non-insurable loss.	It is an insurable loss.
4. Estimation	It can be estimated in advance from the past experience.	It cannot be estimated in advance.
5. Effect	It is a part of process cost. Normal loss is borne by good units. As a result, cost per unit of output goes up.	It is not a part of process cost. It is not borne by good units. It is transferred to Costing Profit and Loss A/c
6. Avoidance	It is unavoidable.	It is avoidable.

Following Journal entries are passed to record abnormal gain:

(i) Process A/c Dr.
To Abnormal Gain A/c

(ii) Abnormal Gain A/c Dr.
To Normal Loss A/c

(iii) Abnormal Gain A/c Dr.
To Costing Profit and Loss A/c

Illustration 4

A chemical company produces a product with 2% of weight loss in each process and 10% of scrap loss in each process for which ₹ 100 p.u. for process 1 and 2 is realised and ₹ 20 p.u. for process 3 is realised.

The input quantity for each process is 1,000 units, 140 units and 1,348 units respectively.

Particulars	Process – 1	Process – 2	Process – 3
Direct material	1,20,000	28,000	1,07,840
Manufacturing wages	20,500	18,520	15,000
General expenses	10,300	7,240	3,100
Stock kept for sale	25%	50%	100%
Passed to next process	75%	50%	Nil

Solution:

Dr. **Process 1 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To DM (RM Introduced)	1,000	1,20,000	By Normal loss	20	Nil
To Manufacturing wages		20,500	(a) weight loss		
To General Expenses		10,300	(2% of 1000)		
			(b) Scrap		

			(10% of 1000 100 × ₹ 100)	100	10,000
			By Output c/d (C.P.U. = 160)	880	1,40,800
	1,000	**1,50,800**		**1,000**	**1,50,800**
To Output b/d	880	1,40,800	By Sales (220 × ₹ 160)	220	35,200
			By Output transferred to P-2 A/c (C.P.U. = ₹ 160)	660	1,05,600
	880	**1,40,800**		**880**	**1,40,800**

Note: When the question is silent, the goods sold will be recorded at cost price. Alternatively, it is recorded at COST + PROFIT = SALES.

- Cost Price means cost per unit of respective Process A/c.
- In this question for process 2 and 3, scrap and weight loss is calculated on total input raw material quantity.

Dr. **Process 2 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process 1	660	1,05,600	By Normal loss:		
To DM	140	28,000	(a) Weight loss	16	Nil
To Manufacture wages		18,520	(2% of 800)	80	800
To General expenses		7,240	(b) Scrap (10% × 800 80 × 100)		
			By Output c/d (C.P.U. = 215)	704	1,51,360
	800	**1,59,360**		**800**	**1,59,360**
To Output b/d	704	1,51,360	By Sales (352 × 215)	352	75,680
			By Output transferred to P-3 A/c (C.P.U. = 215)	352	75,680
	704	**1,51,360**		**704**	**1,51,360**

Solution:

Process 3 A/c

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process 2 A/c	352	75,680	By Normal loss (a) Weight loss	34	NIL
To DM	1,348	1,07,840	(12% × 1,700)		
To Manufacturing wages		15,000	(b) Scrap (10% × 1,700)	170	3,400
To General Expenses		3,100	(170 × ₹ 132.5)		
By Output c/d	1,496	1,98,220	To Output c/d		

	1,700	2,01,620	(C.P.U. = 132.5)	1,700	2,01,620
To output b/d	1,496	1,98,220	By Sales A/c (100% Sold) (1496 × ₹ 132.5)	1,496	1,98,220
	1,496	**1,98,220**		**1,496**	**1,98,220**

Working Note 1:

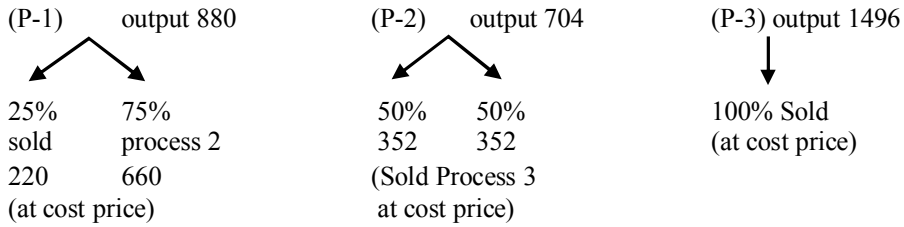


Illustration 5

Engineers Ltd. manufactures a product for a month.

Particulars	**A-1**	**A-2**	**A-3**
RM in tonnes	200	71	264
Cost per tonnes	₹ 100	₹ 300	₹ 250
Direct wages	₹ 8,000	₹ 3,490	₹ 2,850
Direct expenses	₹ 2,520	₹ 2,400	₹ 3,820
Finished product sold	25%	50%	100%
Finished product transferred to next process	75%	50%	Nil
Sales of scrap per tonne	₹ 80	₹ 100	₹ 120
Weight loss	6%	6%	6%
Scrap loss	8%	8%	8%

All the sales are made at 20% profit on process cost. Prepare necessary ledger account.

Solution:

Dr. **Process A-1 A/c** **Cr.**

Particulars	**Qty**	**Amt**	**Particulars**	**Qty**	**Amt**
To RM introduced	200	20,000	By Normal loss:		
To DM		8,000	(a) Weight loss (6% of 200)	12	Nil
To DE		2,520	(b) Scrap (8% of 200 16 × 80)	16	1,280
			By Output c/d (C.P.U. = 170)	172	29,240
	200	**30,520**		**200**	**30,520**
To Output b/d	172	29,240	By Sales (43 × 204)	43	8,773

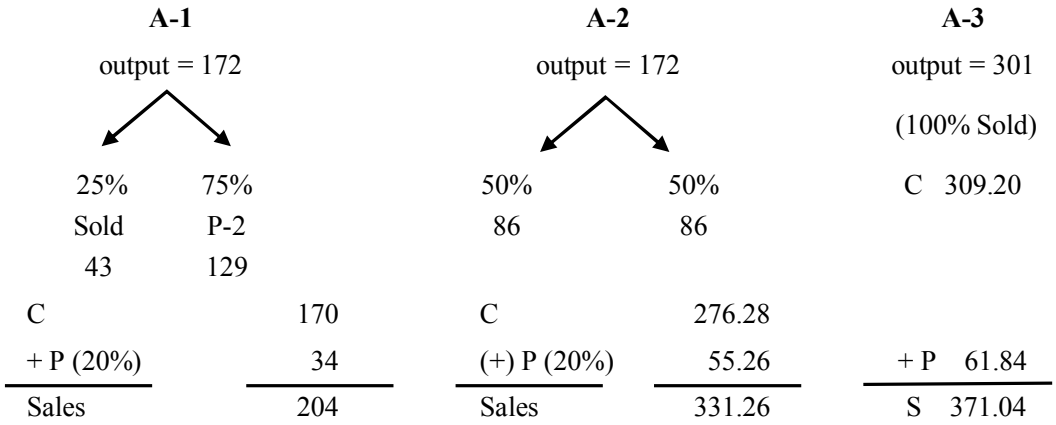
To Costing P & L A/c (43 × 34)		1,462	By Output transferred to A-2 A/c (C.P.U. = 170)	129	21,930
	172	**30,702**		**172**	**30,702**

Dr. Process A-2 A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from A-1	129	21,930	By Normal loss:		
To RM	71	21,300	(a) Weight loss	12	Nil
To DW		3,490	6% of 200)		
To DE		2,400	(b) Scrap	16	1,600
			(8% of 200		
			16 × 100)		
			By Output c/d (C.P.U. = 276.28)	172	47,520
	200	**49,120**		**200**	**49,120**
To Output b/d	172	47,520	By Sales (86 × 331.54)	86	28,512
To Costing P & L A/c		4,752			
(86 × 55.54)			By Output transferred to A-3 A/c (C.P.U. = 276.28)	86	23,760
	172	**52,272**		**172**	**52,272**

Dr. Process A-3 A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from A-2	86	23,760	By Normal loss:		
To RM (264 × 250)	264	66,000	(a) Weight loss	21	Nil
To DW		2,850	(6% of 350)		
To DE		3,820	(b) Scrap loss	28	3,360
			(8% of 350		
			28 × 120)		
			By Output c/d	301	93,070
			(C.P.U. = 309-20)		
	350	**96,430**		**350**	**96,430**
To Output c/d	301	93,070	By Sales	301	1,11,684
To Costing P & L A/c		18,614	(307 × 371.04)		
(301 × 61.84)					
	301	**1,11,684**		**301**	**1,11,684**



Note: In this question, weight loss and scrap will be calculated on the total input raw material quality for Process A-2 and A-3.

Illustration 6

A manufacturing company passes a product in three ways and it is also sold directly by transferred to the warehouse. The information is for the month of August 2013.

Particulars	**Process 1**	**Process 2**	**Process 3**
RM used (tonnes)	1,400	160	1,260
Rate per tonne (₹)	1,000	1,600	7,100
Wages (₹)	4,00,000	2,00,000	2,00,000
Other expenses (₹)	1,14,200	1,14,000	44,800
Transferred to next process	66 2/3%	60%	-
Sales	33 1/3%	40%	100%
Loss in weight	4%	4%	4%
Scrap	6%	6%	6%
Scrap value per tonne (₹)	300	500	600
Opening stock (₹)	25,000	33,000	37,000
Closing stock (tonnes) (Valued at cost)	10	15	20

Total sales = 1,42,000

Administration expenses = 3,00,000 and Selling expenses = 3,50,000

Calculate cost per tonne for process 1, 2, 3 and also find net profit.

Dr. **Process I A/c** **Cr.**

Particulars	**Qty**	**Amt**	**Particulars**	**Qty**	**Amt**
To RM introduced (1,400 × 1,000)	1,400	14,00,000	By Normal loss:		
			(a) Weight loss (4% of 1,400)	56	Nil
To Wages		4,00,000			

To Other expenses		1,14,200	(b) Scrap (6% of 1,400 84 × 300)	84	25,200
			By Output c/d (C.P.U. = 1,499.21)	1,260	18,89,000
	1,400	**19,14,200**		**1,400**	**19,14,200**
To Output b/d	1,260	18,89,000	By WH (420 × 1,499.21)	420	6,29,668
			By Output transferred to Process 2 (C.P.U. = 1,499.20)	840	12,59,332
Total	**1,260**	**18,89,000**	**Total**	**1,260**	**18,89,000**

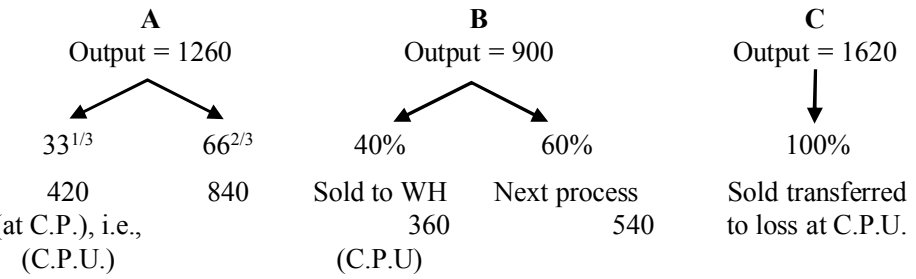
Dr. **Process 2 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from A	840	12,59,332	By Normal loss:		
To DM (160 × 1600)	160	2,56,000	(a) Weight loss (4% × 1,000)	40	Nil
To Wages		2,00,000	(b) Scrap		
To Other expenses		1,14,000	(6% × 1,000 (6% × 1,000 60 × 500)	60	30,000
			By Output c/d (C.P.U. = 1,999.26)	900	17,99,332
	1,000	**18,29,332**		**1,000**	**18,29,332**
To output b/d	900	17,99,332	By WH (360 × 1999.26)	360	7,19,734
			By Output transferred to Process 3 (C.U.P. = ₹ 1,999.26)	540	10,79,598
	900	**17,99,332**		**900**	**17,99,332**

Dr. **Process 3 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process 2 A/c	540	10,79,598	(a) By Normal loss:		
To Raw Material introduced	1,260	89,46,000	Weight loss (4% × 80)	72	Nil
To Wages		2,00,000	(b) Scrap		
To Other expenses		44,800	(6% × 1,800) (108 × 600)	108	64,800
			By Output c/d (C.P.U. = 6,299.75)	1,620	1,02,05,598
	1,800	**1,02,70,398**		**1,800**	**1,02,70,398**
To Output b/d	1,620	1,02,05,598	By WH (1,620 × 6,299.75)	1,620	1,02,05,598
	1,620	**1,02,05,598**		**1,620**	**1,02,05,598**

Working Notes:



Dr. **Costing, Trading and P & L A/c** **Cr.**

Particulars		₹	Particulars		₹
To Opening Stock:			By Sales		1,42,00,000
A	25,000		By Closing stock (at cost)		
B	33,000		A (10 × 1,499.21)	14,992	
C	37,000	95,000	B (15 × 1,999.26)	2,99,899	
To transfer from WH:			C (20 × 6,299.75)	1,25,995	1,70,976
A	6,29,668				
B	7,19,734				
C	1,02,05,598	1,15,55,000			
To Gross Profit c/d		27,20,976			
		1,43,70,976			**1,43,70,976**
To Adm. expenses		3,00,000	By Gross Profit b/d		27,20,976
To Selling expenses		3,50,000			
To Net Profit c/d		20,70,976			
		27,20,976			**27,20,976**

Illustration 7

Particulars	A	B	C
RM used (in tonnes)	250	152	145
Cost per tonnes in ₹	600	400	250
DW	4,29,000	1,01,250	52,800
DE	69,000	69,850	11,250
Loss on tonnage due to processing	4%	5%	2.5%
Transfer to next process	20%	50%	–
Transfer to wholesale warehouse	80%	50%	100%
Wholesale warehouse:			
Stock tonnes (01.01.13)	5	6	20
At cost	12,500	10,800	22,000
Stock (31.12.13) tonnes (valued at cost)	10	20	24

Total sales ₹ 20,00,000, Salary ₹ 2,00,000, Administration expenses ₹ 1,00,000. Prepare respective process accounts and also calculate net profit.

Solution:

Dr. Process A A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To RM introduced (250 × 600)	250	1,50,000	By Normal loss: Weight loss (4% of 250)	10	NIL
To DW		4,29,000			
To DE		69,000	By Output c/d (C.P.U. = 2,700)	240	6,48,000
	250	**6,48,000**		**250**	**6,48,000**
To Output b/d	240	6,48,000	By WH (192 × 2,700)	192	5,18,400
			By Output transferred to Process B A/c (C.P.U.= ₹ 2,700)		
	240	**6,48,000**		**240**	**6,48,000**

Dr. Process A Stock A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Opening stock	5	12,500	By Costing P & L A/c	187	5,03,900
To Process A A/c	192	5,18,400	By Closing stock (10 × 2,700)	10	27,000
	197	**5,30,900**		**197**	**5,30,900**

Dr. Process B A/c Cr.

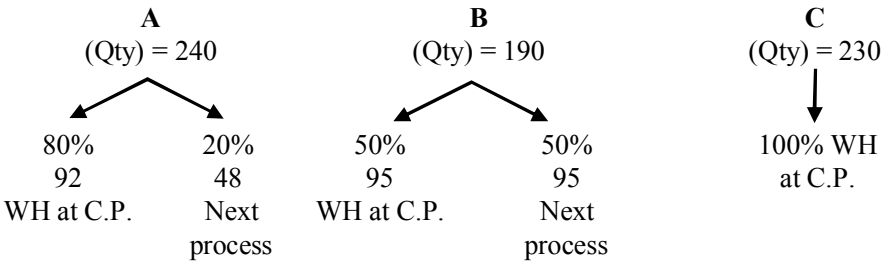
Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from A	48	1,29,600	By Normal loss:		
To DM (152 × 400)	152	60,800	Weight loss (5% of 200)	10	NIL
To DW		1,01,250	By Output c/d	190	3,61,500
To DE		69,850	(C.P.U. = 1,902.63)		
	200	**3,61,500**		**200**	**3,61,500**
To Output b/d	190	3,61,500	By WH (95 × 1902.63)	95	1,80,750
			By Output transferred to Process C A/c (C.P.U. = 1902.63)	95	1,80,750
	190	**3,61,500**		**190**	**3,61,500**

Dr. Process B Stock A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To Opening stock	06	10,800	By Costing P & L A/c	81	1,53,497
To Process B A/c	95	1,80,750			

			By Closing Stock (20 × 1902.63)	20	38,053
	101	**1,91,550**		**101**	**1,91,550**

Working Note:



Dr. **Process C A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from B	95	1,80,750	By Normal loss:		
To DM (145 × 250)	145	36,250	Weight loss (2.5% of 240)	06	NIL
To DW		52,800			
To DE		11,250			
			By Output c/d (C.P.U. = ₹ 1201.07)	234	2,81,050
	240	**2,81,050**		**240**	**2,81,050**
To Output b/d	234	2,81,050	By WH (234 × 1,201.07)	234	2,81,050
	234	**2,81,050**		**234**	**2,81,050**

Dr. **Process C Stock A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Opening stock	20	22,000	By Costing P & L A/c	230	2,74,224
To Process B A/c	234	2,81,050	By Closing stock (24 × 1,201.07)	24	28,826
	254	**3,03,050**		**254**	**3,03,050**

Dr. **Costing, Trading and P & L A/c** **Cr.**

Particulars		Amt	Particulars		Amt
To Opening Stock:			By Sales		20,00,000
A	12,500		By Closing stock		
B	10,800		A	27,000	
C	22,000	45,300	B	38,053	
To Process Stock A/c:			C	28,826	93,879
A	5,03,900				
B	1,53,497				
C	2,74,224	9,31,621			

To Gross Profit c/d	11,16,958		
	20,93,879		**20,93,879**
To Administration Expenses	1,00,000	By Gross Profit b/d	11,16,958
To Salary	2,00,000		
To Net profit c/d	8,16,958		
	11,16,958		**11,16,958**

Note: In this question, opening stock and closing stock is given. Therefore, a separate Process Stock A/c will be prepared for respective process accounts. The Balancing figure of Process Stock A/c will be taken to "Costing Profit & Loss A/c".

Illustration 8

A product passes through 3 process before being finally transferred to Finished Stock A/c 10,000 units @ ₹ 5 was introduced in Process 1 A/c.

No.	Particulars	1	2	3
1	Sundry Material (₹)	5,000	8,000	6,000
2	Direct Labour (₹)	10,000	12,000	15,000
3	Direct Expenses (₹)	4,000	5,000	7,000
4	Actual output (unit)	9,000	8,550	8,210
5	Normal wastage	10%	5%	4%
6	Value of scrap per unit	5	6	5

Production Overheads are charged at 60% of the DL for each process. Semi-finished product of each process being saleable 1/3 of the output of process 1 and 2/3 of the output of process 2 was sold in the market at the profit of 20% and 25% on cost respectively. Remaining output was transferred to the next process. Output of last process was sold at ₹ 30 per unit. Calculate cost per unit for each process.

Solution:

Dr. Process 1 A/c Cr.

Particulars	Qty	Amt	Particulars	Qty	Amt
To R/M introduced (10,000 × 5)	10,000	50,000	By Normal loss:		
To DM		5,000	Scrap	1,000	5,000
To DL		10,000	(10% of 10,000)		
To DE		4,000	(1,000 × 5)		
To Production Overheads		6,000			
(60 % of DL)			By Output c/d	9,000	70,000
			(C.P.U. = 7.78)		
	10,000	**75,000**		**10,000**	**75,000**
To Output b/d	9,000	70,000	By Sales (3,000 × 9.34)	3,000	28,020
To Costing P & L A/c		4,680	By Output transferred		
(3,000 × 1.56)			to Process 2 A/c	6,000	46,660
			(C.P.U. = 7.78)		
	9,000	**74,680**		**9,000**	**74,680**

Dr. **Process 2 A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process 1 A/c	6,000	46,660	By Normal loss:		
To DM		8,000	Scrap (5% of 6,000) (300 × 68)	300	1,800
To DL		12,000			
To DE		5,000	By Output c/d (C.P.U. = 13.52)	8,550	1,15,590
To Production Overheads (60% of DL)		7,200			
To Abnormal Gain	2,850	38,530 (Formula)			
	8,850	**1,17,390**		**8,850**	**1,17,390**
To Output b/d	8,850	1,15,590	By Sales (5,700 × 16.90)	5,700	96,330
To Costing P & L A/c (5700 × 3.38)		19,266	By Output transferred to Process 3 A/c (C.P.U. = 13.52)	2,850	38,526
	8,850	**1,34,856**		**8,550**	**1,34,856**

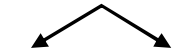
Dr. **Process 3 A/c** **Cr.**

Particulars	Qty.	Amt.	Particulars	Qty.	Amt.
To Input from Process 2 A/c	2,850	38,526	By Normal loss:		
			Scrap	114	570
To DM		6,000	(4% × 2,850)		
To DL		15,000	(114 × ₹ 5)		
To DL		7,000			
To Production Overheads (60% of DL)		9,000 (Formula)	By Output c/d (C.P.U. = ₹ 27.40)	8,210	2,24,923
To Abnormal Gain	5,474	1,49,967			
	8,324	**2,25,493**		**8,324**	**2,25,493**
To Output b/d	8,210	2,24,932	By Sales A/c	8,210	2,46,300
To Costing P & L A/c (Balancing figure)		21,377			
	8,210	**2,46,300**		**8,210**	**2,46,300**

Note: In this question, first time closing the Quality column of Process 1 A/c, the quantity column tallies. Therefore, there is no balancing figure in Qty column. Hence, no abnormal loss or abnormal gain.

WN 1 Process 1

Output = 9000



1/3	Balance
6000	
Sold	Process 2
3000 (at S.P.)	

C	7.78
+ P	1.56 (20%)
= Sales	9.34

WN 2 Process 2 A/c

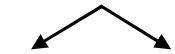
$$\text{Abnormal Gain (Amt)} = \frac{\text{Dr} - \text{Cr (Amt column)}}{\text{Dr} - \text{Cr (Qty column)}} \times \text{Abnormal Gain (Qty)}$$

$$= \frac{78{,}860 - 1{,}800}{6{,}000 - 300} \times 2{,}850$$

$$= \frac{77{,}060}{5{,}700} \times 2{,}850$$

$$= ₹\ 38{,}530$$

Output = 8550



2/3	Balance
Sold	2850
5700	Process 3
(at S.P.)	

C	13.52
+ P	3.38 (25%)
S	16.90

WN 3 Process 3 A/c

$$\text{Abnormal Gain (Amt)} = \frac{\text{Dr} - \text{Cr (Amt. Column)} \times \text{Ab. Gain (Qty)}}{\text{Dr} - \text{Cr (Qty Column)}}$$

$$= \frac{75{,}526 - 570}{2{,}850 - 114} \times 5{,}474$$

$$= ₹\ 1{,}49{,}967$$

Process 3

Output = 8210

↓

Assume 100% sold

= 8210 (at S.P.)

C	27.40
+ P	2.60
S	30.00 (Given)

Illustration 9

Particulars	A	B	C
Sundry material (in ₹)	1,000	1,500	1,480
Direct wages	5,000	8,000	6,500
Direct expenses	1,050	1,188	1,605
Normal wastage	5%	4%	5%
Selling price of normal wastage per unit	₹ 0.25	₹ 0.50	₹ 1

10,000 units @ ₹ 1 per unit was introduced in Product A.

Factory overheads are 168% of direct wages. The final product was sold at ₹ 10 per unit fetching a profit of 20% on sales. Find the percentage of normal loss for Process C.

Solution:

Dr. **Process A A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Raw materials	10,000	10,000	By Normal loss:		
To Sundry material		1,000	Scrap		
To Direct wages		5,000	(5% of 10,000)	500	125
To Direct expenses		1,050	(500 × 0.25)		
To Factory Overheads		8,400	By Output transferred to Process B A/c	9,500	25,325
	10,000	**25,450**		**10,000**	**25,450**

Dr. **Process B A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process A A/c	9,500	25,325	By Normal loss:		
To Direct materials		1,500	Scrap	380	190
To Direct wages		8,000	(4% of 9,500)		
To Direct expenses		1,188	(380 × 0.50)		
To Factory Overheads (168% of DW)		13,440	By Output transferred to Process C	9,120	49,263
	9,500	**49,453**		**9,500**	**49,453**

Dr. **Process C A/c** **Cr.**

Particulars	Qty	Amt	Particulars	Qty	Amt
To Input from Process B	9,120	49,263	By Normal loss		
To Direct materials		1,480	(5% of 9,120)	456	456
To Direct wages		6,500	(456 × ₹ 1)		
To Direct expenses		1,605	By Output transferred	8,664	69,312
To Factory Overheads (16 8% of DW)		10,920	to Finished Stock A/c		
	9,120	**69,768**		**9,120**	**69,768**

Working Notes:

C	8	80
+ P	2	20
S	10	100

We know, C.P.U. $= \frac{\text{Amt}}{\text{Qty}} = \frac{(\text{Dr} - \text{Cr})\,\text{Amt}}{(\text{Dr} - \text{Cr})\,\text{Qty}}$ $8 = \left[\frac{69{,}768 - ₹\ x}{9{,}120 - x}\right]$

Assumed Normal lost Qty × unit

Amt = x units × 1.00 = ₹ x

C.P.U. $= \frac{\text{Amt}}{\text{Qty}} \frac{(\text{Dr} - \text{Cr})}{(\text{Dr} - \text{Cr})}$

$8 = \left[\frac{69{,}768 - ₹\ x}{9{,}120 - x}\right]$

$= 72960 - 8x = 69768 - x$

$= 72960 - 69768 = -x + 8x$

$= 3192 = 7x$

$x = \frac{3{,}192}{7}$

$\therefore x = 456$

Illustration 10

A Ltd. manufactures a chemical product which passes through three processes. The cost records show the following particulars for the year ended 30th June, 2013.

Input to process 20,000 units @ ₹ 28 per unit.

Particulars	Process X (₹)	Process Y (₹)	Process Z (₹)
Materials	48,620	1,08,259	1,03,345
Labour	32,865	84,553	77,180
Expenses	2,515	10,588	16,275

Normal Loss	20%	15%	10%
Scrap value per unit	1	2	3
Actual Output (Units)	18,000	16,000	15,000

Prepare Process Accounts, Abnormal Gain/Loss Account. Also show process cost per unit for each process.

Solution:

Dr. **Process X Account** **Cr.**

Particulars	Unit	₹	Particulars	Unit	₹
To Input	20,000	5,60,000	By Normal Loss @ 20%	4,000	4,000
To Material		48,620	By Output to Process Y Per Unit @ ₹ 40	18,000	7,20,000
To Labour		32,865			
To Expenses		2,515			
To Sub Total	20,000	6,44,000			
To Abnormal Gain @ ₹ 40	2,000	80,000 (Formula)			
	22,000	**7,24,000**		**22,000**	**7,24,000**

Dr. **Process Y Account** **Cr.**

Particulars	Unit	₹	Particulars	Unit	₹
To Output from Process X	18,000	7,20,000	By Normal Loss @ 15%	2,700	5,400
To Material		1,08,259	By Output to Process Z Per Unit @ ₹ 60	16,000	9,60,000
To Labour		84,553			
To Expenses		10,588			
To Sub Total	18,000	9,23,400			
To Abnormal Gain @ ₹ 60	700	42,000 (Formula)			
	18,700	**9,65,400**		**18,700**	**9,65,400**

Dr. **Process Z Account** **Cr.**

Particulars	Unit	₹	Particulars	Unit	₹
To Output from Y A/c	16,000	9,60,000	By Normal Loss @ 10%	1600	4,800
To Material		1,03,345	By Output Per Unit @ ₹ 80	15,000	12,00,000
To Labour		77,180			
To Expenses		16,275			
To Sub Total	16,000	11,56,800			
To Abnormal Gain @ ₹ 80	600	48,000 (Formula)			
	16,600	**12,04,800**		**16,600**	**12,04,800**

Dr. Abnormal Gain Account Cr.

Particulars	Unit	₹	Particulars	Unit	₹
To Normal Loss:			By Output From		
Process X A/c	2000	2000	Process X A/c	2000	80,000
Process Y A/c	700	1400	Process Y A/c	700	42,000
Process Z A/c	600	1800	Process Z A/c	600	48,000
To Costing Profit & Loss A/c		1,64,800			
	3,300	**1,70,000**		**3,300**	**1,70,000**

Working Notes:

$$\text{Abnormal gain} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal gain (Qty)}$$

$$\text{Abnormal loss} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal loss (Qty)}$$

∴ Process X A/c

$$\text{Abnormal gain (₹)} = \left[\frac{64,400 - 4,000}{20,000 - 4,000}\right] \times 2,000$$

$$= ₹\ 80,000$$

∴ Process Y A/c

$$\text{Abnormal gain (₹)} = \left[\frac{9,23,400 - 5,400}{18,000 - 2,700}\right] \times 700$$

$$= ₹\ 42,000$$

∴ Process Z A/c

$$\text{Abnormal gain (₹)} = \left[\frac{11,56,800 - 4,800}{16,000 - 1,600}\right] \times 6,000$$

$$= ₹\ 48,000$$

Illustration 11

Product "GUM" passes through three stages. The following information is obtained from the records of a company for the year ended 31.12.13.

Particulars	Process A (₹)	Process B (₹)	Process C (₹)
Direct Material	2,500	2,000	3,000
Direct Wages	2,000	3,000	4,000

Product overheads are ₹ 9,000, 1,000 units at ₹ 5 each were introduced to Process A. There was no stock of materials or work-in-progress at the beginning and at the end of the year. The output of each process direct passes to the next process and finally to the Finished Stock A/c. Production overheads are recovered on 100% of direct wages. The following additional data is available:

Particulars	Output during the week	Percentages of normal loss to input	Value of scrap per Unit (₹)
Process A	950	5%	3
Process B	840	10%	5
Process C	750	15%	5

Prepare Process Cost Accounts and Abnormal Gain or Loss Accounts for the year ended 31st December, 2013.

Solution:

Dr. **Process A Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Units Introduced	1,000	5	5,000	By Normal Loss/Scrap (5% of 1,000)	50	3.00	150
To Direct Materials			2,500	To Transfer to Process B	950	11.95	11,350
To Direct Wages			2,000				
To Production Overheads (100% of Wages)			2,000				
	1,000		**11,500**		**1,000**		**11,500**

Dr. **Process B Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process A	950	11.95	11,350	By Normal Loss/Scrap (10% of 950)	95	5.00	475
To Direct Materials			2,000	By Abnormal Loss (Note)	15	22.07	331 (Formula)
To Direct Wages			3,000	By Transfer to Process C	840	22.07	18,544
To Production Overhead (100% of Wages)			3,000				
Total	**950**		**19,350**		**950**		**19,350**

Abnormal Loss Account

Dr. **Process C Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process B	840	22.07	18,544	By Normal Loss/Scrap (15% of 840)	126	5.00	630

To Direct Materials			3,000	By Finished Stock A/c	750	40.49	30,372
To Direct Wages			4,000				
To Production Overheads (100% of Wages)			4,000				
To Abnormal Gain	36 (Note)	40.49	1,458 (Formula)				
	876		**31,002**		**876**		**31,002**

Dr. **Abnormal Loss Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Process B A/c	15	22.07	331	By Actual Sale B	15	5.00	75
				By Costing P & L A/c			256
	15		**331**		**15**		**331**

Dr. **Abnormal Gain Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Actual Sale	36	5.00	180	By Process C	36	40.49	1,458
To Costing P & L A/c			1,278				
Total	**36**		**1,458**	**Total**	**36**		**1,458**

Working Note:

Process B A/c

$$\text{Abnormal Loss (₹)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal loss (Qty)}$$

$$= \left[\frac{19,350 - 475}{950 - 95}\right] \times 15$$

$$= 331.14$$

$$= ₹\ 331$$

$$\text{Abnormal Gain (Process C A/c)} = \frac{28,914 - 630}{840 - 126} \times 36$$

$$= 1,457.8$$

$$= ₹\ 1,458$$

Illustration 12. (Abnormal Loss/Gain)

Product X is obtained after it is processed through three distinct processes.

The following information is available for the month of March, 2013:

Particulars	**Total ₹**	**Processes**		
		A	**B**	**C**
Material Consumed	11,250	5,200	4,000	2,050
Direct Labour	14,660	4,500	7,360	2,800
Production Overheads	14,660	–	–	–

1,000 units at ₹ 2 per unit were introduced in Process A. Production overheads to be distributed as 100% on direct labour. The actual output and normal loss of the respective processes are:

Processes	**Output in Units**	**Normal Loss on Inputs**	**Value of Scrap Per unit (₹)**
Process A	900	10%	1.00
Process B	680	20%	2.00
Process C	540	25%	2.50

There is no stock or work-in-progress in any process. You are required to prepare process Account.

Solution:

Dr. **Process A Account** **Cr.**

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Units Introduced	1,000	2.00	2,000	By Normal Loss (10% of 1,000)	100	1.00	100
To Materials consumed			5,200	By Transfer to Process B	900	17.89	16,100
To Direct Labour			4,500				
To Production Overheads			4,500				
	1,000		**16,200**		**1,000**		**16,200**

Dr. **Process B Account** **Cr.**

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Transfer from Process A	900		16,100	By Normal Loss (20% of 900)	180	2.00	360
To Materials Consumed			4,000	By Abnormal Loss (Notes)	40	47.85	1,914
To Direct Labour			7,360	By Transfer to Process C	680	47.86	32546
To Production Overheads			7,360				
Total	**900**		**34,820**	**Total**	**900**		**34,820**

Dr. Process C Account Cr

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer From Process B	680		32,546	By Normal Loss (25% of 680)	170	2.50	425
To Materials Consumed			2,050	By Finished Stock A/c	540	72.49	39,146
To Direct Labour			1,400				
To Production Overheads			1,400				
To Abnormal Gain	30	72.50	2,175				
	710		**39,571**		**710**		**39,571**

Working Notes:

Process B A/c

$$\text{Abnormal loss} = \left(\frac{34,820 - 360}{900 - 180}\right) \times 40$$

$$= \frac{34,460}{720} \times 40$$

$$= 1,914$$

Process C A/c

$$\text{Abnormal gain} = \left(\frac{37,396 - 425}{680 - 170}\right) \times 30$$

$$= \frac{36,971}{510} \times 30$$

$$= ₹\ 2,175$$

Illustration 13

Product 'A' is obtained after it is processed through process X, Y, and Z.

The following cost information is available for the month ended 31st March, 2013.

Particulars	Processes		
	X	Y	Z
Number of Units introduced in the process	1,000	–	–
Rate per Unit of units introduced (₹)	08	–	–
Cost of Material	5,200	4,000	2,050
Direct Wages	4,500	7,360	2,800
Production Overheads	4,500	7,360	2,800
Normal Loss (% on units introduced in each process, i.e., input)	10%	20%	25%
Value of Scrap per unit	04	08	10
Output in units	900	680	540

There is no stock in any process.

You are required to prepare the Process Accounts.

Solution

Dr. **Process X Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Materials Introduced	1,000	8.00	8,000	By Normal Loss (10% of Input)	100	4.00	400
To Direct Materials			5,200	By Transfer to Process Y	900	24.22	21,800
To Direct wages			4,500				
To Production Overheads			4,500				
	1,000		**22,200**		**1,000**		**22,200**

Dr. **Process Y Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process X	900	24.22	21,800	By Normal Loss (20% of Input)	180	8.00	1440
To Direct Materials			4,000	By Abnormal Loss (See Note)	40	54.28	2,171 (Formula)
To Direct Wages			7,360	By Transfer to Process Z	680	54.28	36,909
To Production Overheads			7,360				
	900		**40,520**		**900**		**40,520**

Dr. **Process Z Account** **Cr.**

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process Y	680	54.28	36,909	By Normal Loss (25% of Input)	170	10	1,700
To Direct Materials			2,050	By Finished Stock A/c	540	84.03	45,380
To Direct Wages			2,800				
To Production Overheads			2,800				
To Abnormal Gain	30	84.03	2,521 (Formula)				
	710		**47,080**		**710**		**47,080**

Working Notes:

Process Y A/c

$$\text{Abnormal Loss (₹)} = \left[\frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}}\right] \times \text{Abnormal loss (Qty)}$$

$$= \left(\frac{40{,}520 - 1{,}440}{900 - 180}\right) \times 40$$

$$= \frac{39{,}080}{720} \times 40$$

$$= ₹\ 2{,}171$$

Process Z A/c

$$\text{Abnormal Gain (₹)} = \left(\frac{44{,}559 - 1{,}700}{680 - 170}\right) \times 30$$

$$= \frac{42{,}859}{570} \times 30$$

$$= ₹\ 2{,}521$$

Illustration 14

A product passes through three distinct process X, Y and Z. It is known that wastage is incurred in each process as follows:

Process X – 2%, Y – 4%, Z – 10%

The wastage at each process possesses scrap value. The wastage of processes X and Y is sold at 5.00 per unit, and that of process Z at 10.00 per unit. The output of each process passes immediately to the next process and finished units are transferred from process Z into stock. The following information is obtained.

Particulars	**X (₹)**	**Y (₹)**	**Z (₹)**
Material	5,40,000	5,20,000	2,40,000
Wages	8,60,000	4,80,000	2,60,000
Direct Expenses	2,75,000	2,90,000	3,60,000

1,00,000 units were put in Process X at a cost of 20 per unit. The output of each process is as follows:

Process X – 97,500 units, Process Y – 94,000 units, Process Z – 84,000 units.

There is no stock of work-in-progress. Prepare the process accounts, abnormal gain account and abnormal loss account.

Solution:

Dr. Process 'X' Account Dr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Materials Introduced	1,00,000	20.00	20,00,000	By Normal Loss (2% of 1,00,000)	2,000	5.00	10,000
To Direct Material			5,40,000	By Abnormal Loss	500	37.40	18,699 (Formula)
To Direct Wages			8,60,000	By Transfer to Process Y	97,500	37.40	36,46,301
To Direct Expenses			2,75,000				
	1,00,000		**36,75,000**		**1,00,000**		**36,75,000**

Dr. Process 'Y' Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process X	97,500		36,46,301	By Normal Loss (4% 97,500)	3,900	5.00	19,500
To Direct Material			5,20,000	By Transfer to Process Z	94,000	52.53	49,37,813
To Direct Wages			4,80,000				
To Direct Expenses			2,90,000				
To Abnormal Gain	400	52.53	21,012 (Formula)				
	97,900		**49,57,313**		**97,900**		**49,57,313**

Dr. Process 'Z' Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Transfer from Process Y	94,000		49,37,813	By Normal Loss (10% of 94,000)	9,400	10.00	94,000
To Direct Material			240,000	By Abnormal Loss	600	67.42	40,453 (Formula)
To Direct Wages			2,60,000	By Transfer to Finished Stock	84,000	67.42	56,63,360
To Direct Expenses			3,60,000				
	94,000		**57,97,813**		**94,000**		**57,97,813**

Abnormal Loss Account

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Process X	500	37.40	18,699	By Cash			
				Process X	500	5.00	2,500
				Process Z	600	10	6,000
To Process Z	600	67.42	40,453	By Costing P &L A/c			50,652
Total	**1,100**		**59,152**	**Total**	**1,100**		**59,152**

Working Notes:

Process X A/c

$$\text{Abnormal Loss (₹)} = \left[\frac{36,75,000 - 10,000}{1,00,000 - 2,000}\right] \times 500$$

$$= \frac{36,65,000}{98,000} \times 500$$

$$= 18,699$$

Process Y A/c

$$\text{Abnormal gain (₹)} = \left[\frac{36,75,000 - 10,000}{1,00,000 - 2,000}\right] \times 500$$

$$= \frac{36,65,000}{98,000} \times 500$$

$$= 21,012$$

Dr. Abnormal Gain Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Normal Loss	400	5.00	2,000	By Process Y	400	52.53	21,012
To Costing P & L A/c			19,012				
	400		**21,012**		**400**		**21,012**

Working Note:

Process Z A/c

$$\text{Abnormal loss (₹)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal Loss (Qty)}$$

$$= \left[\frac{57,97,813 - 94,000}{94,000 - 9,400}\right] \times 600$$

$$= \frac{57,03,813}{84,600} \times 600$$

$$= ₹\ 40,453$$

Illustrations – Transfers/Stock/Sale

Part Transfer to Warehouse at Cost

Illustration 15

PROCTER & GAMBLE LTD. manufactures a chemical which passes through three processes. The following particulars gathered for the month of January, 2013:

Particulars	Process I	Process II	Process III
Materials (Kgs)	200	104	84
Materials Cost	19,200	9,400	3,000
Wages	3,840	3,800	1,100
Normal Loss (% of input)	4%	5%	5%
Scrap Sale Value (per Kg)	–	₹ 1.5	–
Output transferred to next process	50%	40%	-
Output transferred to warehouse	50%	60%	100%

Overheads are charged @ 50% of Direct Wages.

You are required to prepare Process Accounts.

Solution:

(1) Dr. Process I Account Cr.

Particulars	Kgs	Rate	₹	Particulars	Kgs	Rate	₹
To Materials	200		19,200	By Normal Loss (4% × 200)	08	–	NIL
To Wages			3,840	By Transfer to Process II (50%)	96	130	12,480
To Overheads (50% of Wages)			1,930	By Transfer to Ware-house (50%)	96	130	12,480
	200		**24,970**		**200**		**24,960**

(2) Dr. Process II Account Cr.

Particulars	Kgs	Rate	₹	Particulars	Kgs	Rate	₹
To Transfer from Process I	96	130.00	12,480	By Normal Loss (5% × 200)	10	1.50	15
To Materials	104		9,400	By Transfer to Process III (40% × 200)	80	137.83	11,026
To Wages			3,800	By Transfer to Ware-house (60% × 200)	120	137.83	16,539
To Overheads (50% of Wages)			1,900				
	200		**27,580**		**200**		**27,580**

(3) Dr. Process III Account Cr.

Particulars	Kgs	Rate	₹	Particulars	Kgs	Rate	₹
To Transfer from Process II	80		11,026	By Normal Loss (5% × 164)	08	–	NIL
To Materials	84		3,000	By Transfer to Warehouse (100%)	156	100.49	15,676
To Wages			1,100				
To Overheads			550				

(50% of Wages)							
	164		**15,676**		**164**		**15,676**

Illustration 16

The product of a company passes through three direct processes, called respectively A, B, and C. From the past experience, it is ascertained that wastage incurred in each process is as under: Process A 2%; Process B 5%; Process C 20%.

The percentage of wastage is computed on the number of units entering the process concerned.

The wastage of processes A and B is sold at ₹ 25 per 50 units and that of process C at ₹ 0.75 per unit.

Following information was obtained for the month of March 2013. 10,000 units of crude materials were introduced in Process 'A' at the cost of ₹ 4,000.

Particulars	**Process A (₹)**	**Process B (₹)**	**Process C (₹)**
Materials Consumed	2,000	750	500
Direct Labour	3,000	2,000	1,500
Manufacturing Expenses	9000	1,750	500
Output in Units	9750	10,500	7,950
Finished Product Stock:			
1st March, 2008	1,000	1,500	2,500
31st March, 2008	750	2,000	?

Stock valuation on 1st March, 2013 per unit ₹ 1.00, ₹ 1.50 and ₹ 2.00 respectively in Process A, B and C. Stocks on 31st March are to be valued as per valuation as on 1st March, 2013. Draw process accounts A, B and C and process stock accounts of process A, B and C.

Solution:

Dr. Process A Account Cr.

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Materials Introduced	10,000		4,000	By Normal Loss (2% of Input)	200	0.50	100
To Direct Materials			2,000	By Abnormal Loss	50	1.00	50 (Formula)
To Direct Labour			3,000	By Transfer to Stock A/c	9,750	1.00	9,750
To Manufacturing Expenses			900				
	10,000		**9,900**		**10,000**		**9,900**

Dr. Process A Stock Account Cr.

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Opening Balance b/d	1,000	1.00	1,000	By Process B A/c	10,000	1.00	10,000

To Process A A/c	9,750	1.00	9,750	By Closing Balance c/d	750	1.00	750
	10,750		**10,750**		**10,750**		**10,750**

Dr. **Process B Account** **Cr.**

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Transfer from Process A	10,000	1.00	10,000	By Normal Loss (5% of Input)	500	0.50	250
To Direct Materials			750	By Transfer to Stock	10,500	1.50	15,750
To Direct Labour			2,000				
To Manufacturing Expenses			1,750				
To Abnormal Gain	1,000	1.50	1,500 (Formula)				
	11,000				**11,000**		

Dr. **Process B Stock Account** **Cr.**

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Opening Balance b/d	1,500	1.50	2,150	By Process C A/c	10,000	1.50	15,000
To Process B A/c	10,500	1.50	15,750	By Closing Balance c/d	2,000	1.50	3,000
	12,000		**18,000**		**12,000**		**18,000**

Process C Account

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Transfer from Process B	10,000	1.50	15,000	By Normal Loss (20% of Input)	2,000	0.75	1,500
To Direct Materials			500	By Abnormal Loss (See Note 1, 2)	500	2.00	100 (Formula)
To Direct Wages			1,500	By Transfer to Stock A/c	7,950	2.00	15,900
To Manufacturing Expenses			500				
	10,000		**17,500**		**10,000**		**17,500**

Dr. **Process C Stock Account** **Cr.**

Particulars	**Units**	**Rate**	**₹**	**Particulars**	**Units**	**Rate**	**₹**
To Opening Balance b/d	2,500	2.00	5,000	By Transfer to Finished Stock A/c	10,450	2.00	20,900
To Process C A/c	7,950	2.00	15,900				
	10,450		**20,900**		**10,450**		**20,900**

Dr. Normal Loss Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Process A A/c	200	0.50	100	By Actual Sale – A	200	0.50	100
To Process B A/c	500	0.50	250	By Actual Sale – B	–	–	–
To Process C A/c	2,000	0.75	1,500	By Abnormal Gain – B	500	0.50	250
				By Actual Sale – C	2,000	0.75	1,500
	2,700		**1,850**		**2,700**		**1,850**

Dr. Abnormal Gain Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Normal Loss A/c – B	500	0.50	250	By Process B A/c (Cost)	1,000	1.50	1,500
To Costing P & L A/c			1,250				
			1,500				**1,500**

Dr. Abnormal Loss Account Cr.

Particulars	Units	Rate	₹	Particulars	Units	Rate	₹
To Process A A/c	50	1.00	50	By Actual Sale – A	50	0.50	25
To Process C A/c (Cost)	50	2.00	100	By Actual sale – C	50	0.75	37.5
				By Costing P & L A/c			87.50
	100		**150**		**100**		**150**

Illustration 17

The product passes through three consecutive processes F.Y., S.Y. and T.Y. Relevant details for the month of March, 2013 are as under:

Particulars	F.Y	S.Y.	T.Y.
Quantitative Information in Kilograms:			
Basic Input Kilograms @ ₹ 10 per Kilogram	2,000	–	–
Output during the month	1,950	1,925	1,679
Stock of Process:			
On 1st March, 2013	200	300 100	
On 31st March, 2013	150	400	59
Percentage of Normal Loss to Input in Process	2%	5%	8%
Monetary Information:	₹	₹	₹
Process Material	9,000	2,100	2,716
Wages	9,064	1,860	4,000
Value of Opening Stock	3,880	6,720	2,800

Scrap Value per Kilogram	₹ 1	₹ 2	₹ 4

Closing stock is to be valued at the respective cost of each process.

Prepare Process Accounts, Process Stock Accounts, Abnormal Loss and Abnormal Gain Account.

Find out the costing profit, when the sales out of T.Y. process stock are made at ₹ 40 per kilogram.

Solution:

Reliable Yarn Limited

Dr. **F.Y. Process Account** **Cr.**

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To Units Introduced	2,000	10	20,000	By Normal Loss (2% of 2,000)	40	1.00	40
To Process Material			9,000	By Abnormal Loss A/c	10	19.40	194
To Wages			9,064	By Transfer to F.Y. Process Stock	1,950	19.40	37,830
	2,000		**38,064**		**2,000**		**38,064**

Dr. **F.Y. Process Stock Account** **Cr.**

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To Balance b/d	200		3,880	Bt Transfer to S.Y.			
To Transfer from F.Y.				Process	2,000	19.40	38,800
Process	1950	19.40	37,830	By Balance c/d	150	19.40	2,910
	2,150		**41,710**		**2,150**		**41,710**

Dr. **S.Y. Process Account** **Dr.**

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To F.Y. Process Stock	2,000	19.40	38,800	By Normal Loss (5% of 2,000)	100	2,00	200
To Process Material			2,100				
To Wages			1,860	By Transfer to S.Y. Process Stock	1,925	22.40	43,120
To Abnormal Gain	25	22.40	560 (Formula)				
	2,025		**43,320**		**2,025**		**43,320**

Dr. **S.Y. Process Stock Account** **Cr.**

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To Balance b/d	300		6,720	By Transfer to T.Y.			
To Transfer from S.Y.				Process	1,825	22.40	40,880
Process	1,925	22.40	43,120	By Balance c/d	400	22.40	8,960

	2,225		**49,840**		**2,225**		**49,840**

Dr. T.Y. Process Account Dr.

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To S.Y. Process Stock	1,825	22.40	40,880	By Normal Loss (8% of 1,825)	146	4.00	584
To Process Material			2,716				
To Wages			4,000	By Transfer to T.Y. Process Stock	1,679	28.00	47.012
	1,825		**47,596**		**1,825**		**47,596**

Dr. T.Y. Process Stock Account Cr.

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To Balance b/d	100		2,800	By Transfer to Costing			
To Transfer from T.Y.				P & L A/c	1,720	28.00	48,160
Process	1,679	28.00	47,012	By Balance c/d	59	28.00	1,652
	1,779		**49,812**		**1,779**		**49,812**

Dr. Normal Loss Account Cr.

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To F.Y. Process A/c	40	1.00	40	By Abnormal Gain A/c	25	2.00	50
To S.Y. Process A/c	100	2.00	200				
To T.Y. Process A/c	146	4.00	584	By Cash (Sale)	261		774
	286		**824**		**286**		**824**

Dr. Abnormal Loss Account Cr.

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To F.Y. Process A/c	10	19.40	194	By Cash (Sale)	10	1.00	10
				By Costing P&L A/c			184
	10		**194**		**10**		**194**

Dr. Abnormal Gain A/c Cr.

Particulars	Kgs.	Rate	₹	Particulars	Kgs.	Rate	₹
To Normal Loss A/c	25	2.00	50	By S.Y. Process A/c	25	22.40	560
To Costing P & L A/c			510				
	25		**560**		**25**		**560**

Dr. Costing Profit & Loss A/c Cr.

Particulars	₹	Particulars	₹
To Cost of T.Y. Stock	48,160	By Sales A/c	68,800
To Abnormal Loss A/c	184	By Abnormal Gain A/c	
To Net Profit	20,966		

	69,310		**69,310**

Working Note:

F.Y. Process

$$\text{Abnormal Loss (Amt)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal Loss (Qty)} = ₹\ 194$$

S.Y. Process

$$\text{Abnormal Gain (Amt)} = \frac{\text{Dr} - \text{Cr (Amt Column)}}{\text{Dr} - \text{Cr (Qty Column)}} \times \text{Abnormal gain (Qty)} = ₹\ 560$$

Illustration 18

Product P is obtained finally after it passes through Process A, Process B and Process C. 4,000 units @ ₹ 10/- per unit were introduced in the process A.

Other details pertaining to each process were as under:

	Process A (₹)	**Process B (₹)**	**Process C (₹)**
Sundry Materials	8,000	5,000	10,000
Direct Wages	10,000	15,000	12,000
Direct Expenses	7,000	9,000	8,000

Production overheads were charged to each process at 10% of direct wages.

The actual output was:

Process A 3,800 units

Process B 3,400 units

Process C 2,900 units

The percentage of normal loss in each process was:

Process A 5%

Process B 10%

Process C 15%

And the value of scrap per unit in each process was:

Process A ₹ 3

Process B ₹ 5

Process C ₹ 10

You are required to prepare all the three Process Accounts and Abnormal Loss and Abnormal Gain Account.

Solution:

Dr. Process A A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Introduced	4,000	40,000	By Normal Loss	200	600
To Material		8,000	By Units Transferred to Process B (17.21)	3,800	65,400
To Direct Wages		10,000			
To Direct Expenses		7,000			
To Production Overheads (10% of Direct Wages)		1,000			
	4,000	**66,000**		**4,000**	**66,000**

Working Notes:

Input	4,000
(–) Normal Loss	200
Expected	3,800
Actual	3,800
Abnormal Loss/Gain	–

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap (if any)}}{\text{Expected No. of Units}}$$

$$= \frac{66{,}000 - 600}{3{,}800}$$

$$= 17.21 \text{(approx.)}$$

Dr. Process B A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process A	3,800	65,400	By Normal Loss	380	1,900
To Materials		5,000	By Abnormal Loss	20	550
To Direct Wages		15,000	By Units Transferred to Process C (27.48)	3,400	93,450
To Direct Expenses		9,000			
To Production Overheads (10% of Direct Wages)		1,500			
	3,800	**95,900**		**3,800**	**95,900**

Working Notes

Input	3,800

(–) Normal Loss	380
Expected	3,420
Actual	3,420
Abnormal Loss	20

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap (if any)}}{\text{Expected No. of Units}}$$

$$= \frac{95,900 - 1,900}{3,420}$$

$$= 27.48 \text{ (approx.)}$$

Process C A/c

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process B	3,400	93,450	By Normal Loss	510	5,100
To Materials		10,000	By Units Transferred to Finished Stock A/c (41.37)	2,900	1,19,964
To Direct Expenses		8,000			
To Direct Wages		12,000			
To Production Overheads (10% of Direct Wages)		1,200			
To Abnormal Gain	10	414			
	3,410	**1,25,064**		**3,410**	**1,25,064**

Working Note:

Input	3,400
(–) Normal Loss	510
Expected	2,890
Actual	2,900
Abnormal	10

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{1,24,650 - 5,100}{2,890}$$

$$= 41.37 \text{ (approx.)}$$

Dr. **Abnormal Loss A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process B A/c	20	550	By Cash (Sale) A/c	20	100

			By Costing P & L A/c (Loss)		450
	20	**550**		**20**	**550**

Dr. **Abnormal Gain A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Normal Loss A/c	10	100	By Process C A/c	10	414
To Costing P & L A/c (Profit)		314			
	10	**414**		**10**	**414**

Illustration 19

Product 'P' passes through three processes for completion. The following are the relevant details:

(a) Elements of Cost

Particulars	Process			
	Total (₹)	No. 1 (₹)	No. 2 (₹)	No. 3 (₹)
Direct Materials	8,482	2,000	3,020	3,462
Direct Labour	12,000	3,000	4,000	5,000
Direct Expenses	726	500	226	----
Production Overhead	6,000	---	----	----

(b) 1,000 units at ₹ 5 each were issued to Process No. 1.

(c) Output from each process was:

Process No. 1 920 units

Process No. 2 870 units

Process No. 3 800 units

(d) Normal Loss per process was estimated as:

Process No. 1 10% of units introduced

Process No. 2 5% of units introduced

Process No. 3 10% of units introduced

(e) The loss in each process represented scrap which could be sold to merchant at value as follows:

Process No. 1 ₹ 3 per unit

Process No. 2 ₹ 3 per unit

Process No. 3 ₹ 6 per unit

(f) There was no stock of materials or works-in-progress in any department at the beginning or end of the period. The output of each process passes direct to the next process and finally stock. Production overhead is allocated to each process on the basis of 50% of the cost of direct labour.

Solution:

Dr. **Process No. 1 A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount

To Units introduced	1,000	5,000	By Normal loss	100	300
To Direct Material		2,000	By Units Transferred to Process No. 2 A/c (13)	920	11,960
To Direct Labour		3,000			
To Direct Expenses		500			
To Production overheads		1,500			
To Abnormal Gain	20	260			
	1,020	**12,260**		**1,020**	**12,260**

Working Note:

Input	1,000
(–) Normal Loss	100
Expected	900
Actual	920
Abnormal Gain	20

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{12{,}000 - 300}{900}$$

= 13/-

Dr. **Process No. 2 A/c** **Cr.**

	Units	**Amount**		**Units**	**Amount**
To Units Transferred from Process No. 1	920	11,960	By Normal Loss	46	138
To Direct Materials		3,020	By Abnormal Loss	4	96
To Direct Labour		4,000	By Units Transferred to Process No. 3 A/c (24.10)	870	20,972
To Direct Expenses		226			
To Production overheads		2,000			
	920	**21,206**		**920**	**21,206**

Working Note:

Input	920
(–) Normal Loss	46
Expected	874
Actual	870
Abnormal Loss	4

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{21{,}206 - 138}{874}$$

$$= 24.10 \text{ (approx.)}$$

Dr. Process No. 3 A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process No. 2	870	20,972	By Normal Loss	87	522
To Direct Material		3,462	By Units Transferred to Finished Stock A/c (40.11)	800	32,094
To Direct Labour		5,000			
To Direct Expenses		—			
To Production Overheads		2,500			
To Abnormal Gain	17	682			
	887	**32,616**		**887**	**32,616**

Working Note:

Input	870
(–) Normal Loss	87
Expected	783
Actual	800
Abnormal Loss/gain	17

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{31{,}934 - 522}{783}$$

$$= 40.11 \text{ (approx.)}$$

Dr. Abnormal Gain A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Normal Loss A/c	20	60	By Process No. 1 A/c	20	260
To Normal Loss A/c	17	102	By Process No. 3 A/c	17	682
To Costing P & L A/c		780			
	37	**942**		**37**	**942**

Dr. **Abnormal Loss A/c** **Cr.**

	Units	Amount		Units	Amount
To Process No. 2 A/c	4	96	By Normal Loss	4	12
			By Costing P & L A/c (Loss)		84
	4	**96**		**4**	**96**

Illustration 20

The product of a manufacturing unit passes through two distinct processes. From past experience, the incidence of wastage is ascertained as under:

Process A 2 per cent

Process B 10 per cent

In each case, the percentage of wastage is computed on the number of units entering the process concerned. Th sales realisation of wastage in process A and B are ₹ 25 per 100 units and ₹ 50 per 100 units respectively.

The following information is obtained for the month April, 1985; 40,000 units of crude material were introduced in Process A at a cost of ₹ 16,000.

Particulars	Process A	Process B
Other Materials	16,000	5,000
Direct Labour	9,000	8,000
Direct Expenses	8,200	1,500
	Units	Units
Output	39,000	36,500
Finished Product Stock:		
April 1	6,000	5,000
April 30	5,000	8,000
Value of Stock per unit on April 1	₹ 1.20	₹ 1.60

Stocks are valued and transferred to subsequent process at weighted average costs.

Prepare respective process accounts and stock accounts.

Solution:

Dr. **Process 'A' A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units introduced	40,000	16,000	By Normal Loss	800	200
To Materials		16,000	By Abnormal Loss	200	250
To Direct Labour		9,000	By Units Transferred to Process A Stock	39,000	48,750
To Direct Expenses		8,200			

	40,000	**49,200**		**40,000**	**49,200**

Dr. **Process 'A' Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	6,000	7,200	By Process 'B' A/c	40,000	49,733
To Process A A/c	39,000	48,750	By Closing Stock	5,000	6,217
	45,000	**55,950**		**45,000**	**55,950**

Working Note:

Input	40,000
(–) Normal Loss	800
Expected	39,200
Actual	39,000
Abnormal Loss	200

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{49,200 - 200}{39,200}$$

$$= 1.25$$

$$\text{Weighted Average cost per unit} = \frac{\text{Total Cost of All Units}}{\text{Total No. of Units}}$$

$$= \frac{55,950}{45,000}$$

$$= 1.243 \text{ (approx.)}$$

Dr. **Process 'B' A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process A Stock A/c	40,000	49,733	By Normal Loss	4,000	2,000
To Materials		5,000	By Units Transferred to Process B Stock (1.73)	36,500	63,097
To Direct Labour		8,000			
To Direct Expenses		1,500			
To Abnormal Gain	500	864			
	40,500	**65,097**		**40,500**	**65,097**

Dr. **Process 'B' Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	5,000	8,000	By Units Transferred to Finished Stock	33,500	57,392
To Process B A/c	36,500	63,097	By Closing Stock	8,000	13,750
	41,500	**71,097**		**41,500**	**71,097**

Working Note:

Input	40,000
(–) Normal Loss	4,000
Expected	36,000
Actual	36,500
Abnormal Gain	500

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{64,233 - 2,000}{36,000}$$

$$= 1.73 \text{ (approx.)}$$

$$\text{Weighted Average cost per unit} = \frac{\text{Total Cost of All Unit}}{\text{Total No. of Unit}}$$

$$= \frac{71,097}{41,500}$$

$$= 1.713 \text{ (approx.)}$$

Illustration 21

The product of a company passes through three different processes P, Q and R. It is ascertained from the past experience that loss in each process is incurred as under:

Process P – 2%; Process Q – 5%; Process R – 10%. The percentage of loss in each process is computed on the basis of number of units entering the process concerned. The loss of each has a scrap value.

The loss of Process P and Q is sold at ₹ 3 per unit and that of Process R at ₹ 12 per unit. The company gives you the following information for the month of March, 1992: 2,000 units crude material were introduced in process at a cost of ₹ 24 per unit. Besides this, the following were other expenses:

Particulars	Process P (₹)	Process Q (₹)	Process R (₹)
Materials consumed	24,000	9,000	6,000
Direct labour	36,000	24,000	18,000
Works expenses	6,000	3,000	9,000
	Units	Units	Units
Output	1950	1925	1590
Stock: March 1	200	300	500
Stock: March 31	150	400	------
Stock: Valuation on March 1 per unit	57	81	109.5

Stock on March 31, 1992 to be valued at cost as shown by month's production accounts.

Prepare the process accounts.

Solution:

Dr. Process 'P' A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units introduced	2,000	48,000	By Normal Loss	40	120
To Material Consumed		24,000	By Abnormal Loss	10	581
To Direct Labour		36,000	By Units Transferred to Process 'P' Stock (58.10)	1,950	1,13,299
To Work Expenses		6,000			
	2,000	**1,14,000**		**2,000**	**1,14,000**

Dr. Process 'P' Stock A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	200	11,400	By Process Q A/c	2,000	1,15,984
To Process 'P' A/c	1,950	1,13,299	By Closing Stock	150	8,715
	2,150	**1,24,699**		**2,150**	**1,24,699**

Working Note:

Input	2,000
(–) Normal Loss	40
Expected	1,960
Actual	1,950
Abnormal Loss	10

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{1,14,000 - 120}{1,960}$$

= 58.10 (approx.)

Dr. **Process 'Q' A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process P Stock A/c	2,000	1,15,984	By Normal Loss	100	300
To Material Consumed		9,000	By Units Transferred to Process 'Q' Stock A/c (79.83)	1,925	1,53,680
To Direct Labour		24,000			
To Work Expenses		3,000			
To Abnormal Gain	25	1,996			
	2,025	**1,53,980**		**2,025**	**1,53,980**

Dr. **Process 'Q' Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	300	24,300	By Process R A/c	1,825	1,46,048
To Process 'Q' A/c	1,925	1,53,680	By Closing Stock	400	31,932
	2,225	**1,77,980**		**2,225**	**1,77,980**

Working Note:

Input	2,000
(–) Normal Loss	100
Expected	1,900
Actual	1,925
Abnormal Gain	25

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{1,15,984 - 300}{1,900}$$

= 79.83 (approx.)

Dr. **Process 'R' A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process Q Stock	1,825	1,46,048	By Normal Loss	183	2,196
To Material Consumed		6,000	By Abnormal Loss	52	5,600
To Direct Labour		18,000	By Units Transferred to Process R Stock A/c	1,590	1,71,252

			(107.70)		
To Work Expenses		9,000			
	1,825	**1,79,048**		**1,825**	**1,79,048**

Dr. **Process 'R' Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	500	54,750	By Finished Stock A/c	2,090	2,26,002
To Process R A/c	1,590	1,71,252			
	2,090	**2,26,002**		**2,090**	**2,26,002**

Working Note:

Input	1,825
(–) Normal Loss	183
Expected	1,642
Actual	1,590
Abnormal Gain	52

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{1,79,046 - 2,196}{1,642}$$

= 107.70 (approx.)

Illustration 22

In a process engineering factory, a product has to pass through three distinct processes before it is ready for sale. From the information appended below, work out the selling price if the management decides to have a mark up of 25% over its works cost.

1. Stages of Production	I	II	III
2. Input of Raw Materials at ₹ 4 per kg.	1,00,000 kg.		
3. Normal Loss on input of each stage	5%	5%	5%
4. Delivered to Net Process (kg.)	90,000	80,000	—
5. Direct Labour cost (Rupees)	14,000	15,000	30,000
6. Variable overheads % on Direct labours	150	120	100
7. Fixed Overheads % on Direct Labour	250	140	200
8. Finished Stocks held back at the stage (units)	4,000	4,000	—

For the purpose of this exercise, abnormal loss, if, any, may be charged to the respective stages.

Solution:

Dr. **Process I A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount

To Raw Materials	1,00,000	4,00,000	By Normal Loss	5,000	—
To Direct Labour		14,000	By Abnormal Loss	1,000	—
To Variable Overheads		21,000	By Units Transferred to Process II	90,000	4,50,000
To Fixed Overheads		35,000	By Closing Stock (5)	4,000	20,000
	1,00,000	**4,70,000**		**1,00,000**	**4,70,000**

Process II A/c

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process I	90,000	4,50,000	By Normal Loss	4,500	—
To Direct Labour		15,000	By Abnormal Loss (Bal. fig.)	1,500	—
To Variable Overheads		18,000	By Units Transferred to Process III	80,000	4,80,000
To Fixed Overheads		21,000	By Closing Stock (6)	4,000	24,000
	90,000	**5,04,000**		**90,000**	**5,04,000**

Note: It is given in question that cost of Abnormal loss to be charged to that particular stage only, i.e., not to be shown separately. Therefore, total cost is divided by actual number of units of output, to arrive at PCPU.

Illustration 23

The output from Process X totalled 3,500 units. It was considered that 100 units were an abnormal loss. Normal loss allowed was 10%. The other information is given below:

Material	₹ 5 per unit
Labour	₹ 4,000
Overheads	₹ 3,350
Wastage realised	₹ 2.30 per unit
Direct Expenses	₹ 650

The output from Process Y is normally 95% of input process. The actual output, however, was of 3,350 units. The costs incurred in Process Y were:

Labour	₹ 5,250
Overheads	10% of the cost of units transferred from Process X plus labour cost but after deducting the overheads
Direct Expenses	₹ 2,736

The units scrapped are sold @ ₹ 3 per unit, from Process Y, the finished output is obtained

Prepare Process X, Process Y, Abnormal Gain and Abnormal Loss Accounts. Also show the workings.

Solution:

Process X

Input	4,000	100
(–) Normal Loss	400	10
Expected	3,600	90
Actual	3,500	
Abnormal Loss	100	Given

Dr. **Process X A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Introduced	4,000	20,000	By Normal Loss	400	920
To Labour		4,000	By Abnormal Loss	100	752
To Overheads		3,350	By Units Transferred to Process Y (7.52)	3,500	26,328
To Direct Expenses		650			
	4,000	**28,000**		**4,000**	**28,000**

Working Note:

Process Y

Input	3,500	100
(-) Normal Loss	175	5
Expected	3,325	95
	3,350	
	25	

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{28,000 - 920}{3,600}$$

$$= 7.52 \text{ (approx.)}$$

Dr. **Process Y A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process X	3,500	26,328	By Normal Loss	175	525
To Labour		5,250	By Units Transferred to Finished STOCK A/c (11.11)	3,350	37,225
To Overheads		3,158			

To Direct Expenses		2,736			
To Abnormal Gain	25	278			
	3,525	**37,750**		**3,525**	**37,750**

Working Note:

Calculation of Overheads

Overheads = 10% (26,328 + 5,250)

= 3,158

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{37,472 - 525}{3,325}$$

= 11.11 (approx.)

Dr. **Abnormal Loss A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process X	100	752	By Cash A/c	100	230
			By Costing P & L A/c		522
	100	**752**		**100**	**752**

Dr. **Abnormal Gain A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Normal Loss	25	75	By Process Y	25	278
To Costing P & L A/c		203			
	25	**278**		**25**	**278**

Illustration 24

A company within the food industry mixes powered ingredients in two different process to produce one product. The output of Process 1 becomes the input of Process 2 and the output of Process 2 is transferred to the packing department.

From the information given below, you are required to open accounts for Process 1, Process 2, abnormal loss and packing department and to record the transactions for the week ended 11th May, 2013.

Process 1

Input:

Material A	6,000 kilograms at 50 paise per kilogram
Material B	4,000 kilograms at rupee 1 per kilogram
Mixing Labour	430 hours at ₹ 2 per hour
Normal Loss	5% of weight input, disposed off at 16 paise per kilogram
Output	9,200 kilograms

Process 2

Input:

Material C	6,600 kilograms at ₹ 125 per kilogram
Material D	4,200 kilograms at ₹ 0.75 per kilogram
Flavouring Essence	₹ 300
Mixing Labour	370 hours at ₹ 2 per hour
Normal waste	5% of weight input with no disposal value
Output	18,000 kilograms

Overhead of ₹ 3,200 incurred by the two processes to be absorbed on the basis of mixing labour hours.

Solution:

Dr. **Process I A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Material A	6,000	3,000	By Normal Loss	500	80
To Material B	4,000	4,000	By Abnormal Loss	300	300
To Mixing Labour		860	By Units Transferred to Process II (1/-)	9,200	9,200
To Overheads		1,720			
	10,000	**9,580**		**10,000**	**9,580**

Working Note:

Input	10,000
(–) Normal	500
Expected	9,500
Actual	9,200
Abnormal Loss	300

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{9,580 - 80}{9,500}$$

$$= 1$$

Calculation of Overheads	**Process I**	**Process II**
Labour Hours	430	370

Overheads $\frac{3,200}{800} \times 430$	(1,720)	—	
Overheads $\frac{3,200}{800} \times 370$	—	(1,480)	

Dr. **Process II A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process I	9,200	9,200	By Normal Loss	1,000	—
To Material C	6,600	8,250	By Abnormal Loss	1,000	1,217
To Material D	4,200	3,150	By Units Transferred to Finished Stock A/c (1.22)	18,000	21,903
To Flavouring Essence					
To Mixing Labour		740			
To Overheads		1,480			
	20,000	**23,120**		**20,000**	**23,120**

Working Note:

Input	20,000
(–) Normal Loss	1,000
Expected	19,000
Actual	18,000
Abnormal Loss	1,000

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{23,120 - \text{Nil}}{19,000}$$

= 1.22 (approx.)

Dr. **Abnormal Loss A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process I	300	300	By Cash A/c	300	48
To Process II	1,000	1,217	By Cash A/c	1,000	—
			By Costing P & L A/c		1,469
	1,300	**1,517**		**1,300**	**1,517**

Illustration 25

A product passes through three process A, B and C. 10,000 units at a cost of ₹ 1.25 each were issued to Process A. The other direct expenses were:

Particulars	Process A	Process B	Process C
Sundry Materials	1,000	1,500	2,000
Direct Labour	5,000	7,000	9,000
Direct Expenses	1,750	1,714	1,779

The normal loss in Process 'A' was 5% and Process 'B' 4%. Abnormal loss in Process 'C' was 180 units. The normal loss of Process A was sold at ₹ 1/- p.u. And that of B and C at ₹ 1.50 per unit respectively. Actual production were 9,600 units and 9,100 units respectively in Process 'A' and Process 'B'.

The overhead changes under each process were 175% of direct labour. The final product was sold at ₹ 15 per unit, fetching a profit of 40% on sales.

You are required to:

1. Find out the percentage of normal loss under Process 'C'.
2. Prepare Accounts for Process A, B and C.

Solution:

Dr. **Process A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units introduced	10,000	12,500	By Normal Loss	500	500
To Sundry Material		1,000	By Units Transferred to Process B A/c (3)	9,600	28,800
To Direct Labour		5,000			
To Direct Expenses		1,750			
To Overheads (175% of Direct Labour)		8,750			
To Abnormal	100	300			
	10,100	**29,300**		**10,100**	**29,300**

Working Note:

Input	10,000
(–) Normal Loss	500
Expected	9,500
Actual	9,600
Abnormal Gain	100

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{29,000 - 500}{9,500}$$

$$= 3/-$$

Dr. **Process B A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process A A/c	9,600	28,800	By Normal Loss	384	576
To Sundry Material		1,500	By Abnormal Loss	116	638
To Direct Labour		7,000	By Units Transferred to Process C A/c (5.5)	9,100	50,050
To Direct Expenses		1,714			
To Overheads (175% of Direct Labour)		12,250			
	9,600	**51,264**		**9,600**	**51,264**

Working Note:

Input	9,600
(–) Normal Loss	384
Expected	9,216
Actual	9,100
Abnormal Loss	116

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{51,264 - 576}{9,216}$$

$$= 5.5$$

Dr. **Process C A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process B	9,100	50,050	By Normal Loss	455	774
To Sundry Material		2,000	By Abnormal Loss	180	1,620
To Direct Labour		9,000	By Units Transferred to Finished Stock A/c (9)	8,465	76,185
To Direct Expenses		1,779			
To Overheads (175% of Direct Labour)		15,750			
	9,100	**78,750**		**9,100**	**78,579**

Working Note:

Let Normal Loss in Process C be 'x' units.

$$\therefore \text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$9 = \frac{78,579 - 1.7x}{9,100 - x}$$

$$\therefore 81,900 - 9x = 78,579 - 1.7x$$

$$7.3x = 3,321 \text{ (approx.)}$$

% of Normal loss under Process C = 455/9,100 × 100 = 5%

Calculation of PCPU

S.P.	15
(–) Profit @ 40%	6
Process cost per unit	9

Illustration 26

A product passes through two processes. The stocks at te beginning and at the end are valued at cost at the beginning of the process. From the following particulars prepare the process accounts, showing the cost of output and the cost per unit at each stage of production.

Particulars		Process A	Process B
Labour	₹	12,800	24,000
Direct Expense	₹	7,200	6,000
Overheads	₹	4,000	4,500
Materials	₹	48,000	Nil
Production	Units	72,000	?
Stock at the beginning	Units	—	8,000
Wastage	Units	2,000	3,000
Stock at the end	Units	—	2,000

Solution:

Process A A/c

Particulars	Units	Amount	Particulars	Units	Amount
To Units introduced (Bal. fig.)	74,000	48,000	By Wastage	2,000	—
To Labour		12,800	By Units Transferred to Process 'B' (1/-)	72,000	72,000
To Expenses		7,200			
To Overheads		4,000			
	74,000	**72,000**		**74,000**	**72,000**

There is neither opening stock nor closing stock in Process A A/c. Hence, Stock A/c is not required for Process 'A'.

Dr. **Process B A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from 'A'	72,000	72,000	By Wastage	3,000	—
To Labour		24,000	By Units Transferred to Process B Stock A/c (1.543)	69,000	1,06,500
To Expenses		6,000			
To Overheads		4,500			
	72,000	**1,06,500**		**72,000**	**1,06,500**

Dr. **Process B Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	8,000	8,000	By Closing Stock	2,000	2,000
To Units Transferred from 'B' A/c	69,000	1,06,500	By Units Transferred to Finished Stock	75,000	1,12,500
	77,000	**1,14,500**		**77,000**	**1,14,500**

Note: As per information given, opening stock as well as closing stock in Process B Stock A/c is valued at the cost at the begining of Process 'B', i.e., PCPU @ 1/-.

Illustration 27

The following details are extracted from the costing records of an oil refinery for the week ended September 30.

Purchase of 500 tonnes of copra ₹ 2,00,000.

	Crushing (₹)	Refining (₹)	Finishing (₹)
Cost of Labour	2,500	1,000	1,500
Electric Power	600	360	240
Sundry Material	100	2,000	–
Repairs to Machinery and Plant	280	330	140
Steam	600	450	450
Factory Expenses	1,320	660	220
Cost of Casks	–	–	750

300 tonnes of crude oil was produced.

250 tonnes of oil was produced by refining process.

248 tonnes refined oil was finished for delivery.

Copra stock sold ₹ 400.

175 tons of copra residue sold ₹ 11,000.

Loss in weight in crushing 25 tonnes.

45 tonnes by-product was obtained from refining process valued at ₹ 6,700.

You are required to show the accounts in respect of each of the following stages of manufacture for the purpose of arriving at the cost per tonne of each process and also the total cost per tonne of finished oil.

(a) Copra Crushing Process A/c

(b) Refining Process A/c

(c) Finishing Process A/c

Solution:

Dr. Crushing Process A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Purchase of Copra	500	2,00,000	By Loss	25	—
To Labour		2,500	By Sales of Copra	175	11,000
To Electricity		600	By Sale of Copra Sacks		400
To Sundry Material		100	By Units Transferred to Refining Process (646.67)	300	1,94,000
To Repairs		280			
To Steam		600			
To Factory Expenses		1,320			
	500	**2,05,400**		**500**	**2,05,400**

Dr. Refining Progress A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Crushing Process	300	1,94,000	By Loss	5	—
To Labour		1,000	By By-product	45	6,700
To Electricity		360	By Units Transferred to Finishing Process A/c (768.4)	250	1,92,100
To Sundry Material		2,000			
To Repairs		330			
To Steam		450			
To Factory Expenses		660			
	300	**1,98,800**		**300**	**1,98,800**

Dr. Finishing Process A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred Refining Process A/c	250	1,92,100	By Loss by Units Transferred to Finished Stock A/c (787.90)	2	—
To Labour		1,500		248	1,95,400
To Electricity		240			
To Sundry Material		—			

To Repairs		140			
To Steam		450			
To Factory Expenses		220			
To Cost of Sacks		750			
	250	**1,95,400**		**250**	**1,95,400**

$$\text{Total Cost per tonne of finished oil} = \frac{1,95,400}{248}$$

$$= 787.90$$

Illustration 28

A product passes through three processes. The normal wastage of each process is as follows:

Process I	2%
Process II	4%
Process III	6%

Sale of Wastage:

Process I	₹ 1 per unit
Process II	₹ 1.50 per unit and
Process III	₹ 4 per unit

10,000 units were issued in the beginning at ₹ 2 per unit. The other expenses were as follows:

	Process I (₹)	**Process II (₹)**	**Process III (₹)**
Sundry Materials	1,000	500	500
Labour	5,000	9,000	6,000
Direct Expenses	1,100	1,200	2,000
Actual Output (units)	9,600	9,000	8,500

Prepare process accounts assuming that there were no opening or closing stocks. Also show the abnormal wastage and abnormal gain accounts.

Solution:

Dr. **Process I A/c** **Cr.**

Particulars	**Units**	**Amount**	**Particulars**	**Units**	**Amount**
To Units introduced	10,000	20,000	By Normal Loss	200	200
To Sundry Material		1,000	By Abnormal Loss	200	549
To Labour		5,000	By Units Transferred Process II A/c (2.74)	9,600	26,351
To Direct Expenses		1,100			
	10,000	**27,100**		**10,000**	**27,100**

Working Note:

Input	10,000
(–) Normal Loss	200
Expected	9,800
Actual	9,600
Abnormal Loss	200

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{27{,}100 - 200}{9{,}800}$$

$$= 2.74 \text{ (approx.)}$$

Dr. **Process II A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process I A/c	9,600	26,351	By Normal Loss	384	576
To Sundry Material		500	By Abnormal Loss	216	855
To Labour		9,000	By Units Transferred to Process III A/c (3.96)	9,000	35,620
To Direct Expenses		1,200			
	9,600	**37,051**		**9,600**	**37,051**

Working Note:

Input	9,600
(–) Normal Loss	384
Expected	9,216
Actual	9,000
Abnormal Loss	216

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{37{,}057 - 576}{9{,}216}$$

$$= 3.96 \text{ (approx.)}$$

Dr. **Process III A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process II A/c	9,000	35,620	By Normal Loss	540	2,160

To Sundry Material		500	By Units Transferred to Finished Stock A/c (4.96)	8,500	42,158
To Labour		6,000			
To Direct Expenses		2,000			
To Abnormal Gain	40	198			
	9,040	**44,318**		**9,040**	**44,316**

Working Note:

Input	9,000
(–) Normal Loss	540
Expected	8,460
Actual	8,500
Abnormal Gain	40

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{44{,}120 - 2{,}160}{8{,}460}$$

$$= 4.96 \text{ (approx.)}$$

Dr. **Abnormal Loss A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process I A/c	200	549	By Cash A/c	200	200
To Process II A/c	216	855	By Cash A/c	216	324
			By Costing P & L A/c (Loss)		880
	416	**1,404**		**416**	**1,404**

Dr. **Abnormal Gain A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Normal A/c	40	160	By Process III A/c	40	198
To Costing P & L A/c (Profit)		38			
	40	**198**		**40**	**198**

Illustration 29

In a factory, the product passes through two processes, A and B. A loss of 5% is allowed in Process A and 2% in Process B, nothing being realised by disposal of the wastage.

During April, 2013, 10,000 units of material costing ₹ 6 each were introduced in Process A. The other costs were as follows:

	Process A (₹)	Process B (₹)
Materials	–	6,140
Labour	10,000	6,000
Overheads	6,000	4,600

The output was 9,300 units from Process A, 9,200 units were produced by Process B which were transferred to warehouse.

8,000 units of the finished product were sold @ ₹ 15 per unit, the selling and distribution expenses being ₹ 2 per unit.

Prepare:

(i) Process Account; and

(ii) A statement of profit or loss of the firm for April, 1994, assuming there were no opening stocks of any type.

Solution:

Dr. Process A A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Introduced	10,000	60,000	By Normal Loss	500	—
To Material		—	By Abnormal Loss	200	1,600
To Labour		10,000	By Units Transferred to Process B A/c (8)	9,300	74,400
To Overheads		6,000			
	10,000	**76,000**		**10,000**	**76,000**

Working Note:

Input	10,000
(–) Normal Loss	500
Expected	9,500
Actual	9,300
Abnormal	200

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{76{,}000 - \text{Nil}}{9{,}500}$$

= 8 (approx.)

Dr. **Process B A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process A A/c	9,300	74,400	By Normal Loss	186	—
To Materials		6,140	By Units Transferred to Warehouse A/c (100)	9,200	92,000
To Labour		6,000			
To Overheads		4,600			
To Abnormal Gain	86	860			
	9,386	**92,000**		**9,386**	**92,000**

Working Note:

Input	9,300
(–) Normal Loss	186
Expected	9,114
Actual	9,200
Abnormal Gain	86

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{91,140 - \text{Nil}}{9,114}$$

$$= 10$$

Dr. **Warehouse A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred Process B A/c	9,200	92,000	By Sales	8,000	1,20,000
To Gross profit c/d		40,000	By Closing Stock	1,200	12,000
	9,200	**1,32,000**		**9,200**	**1,32,000**
To Selling & Distribution Expenses		16,000	By Gross Profit b/d		40,000
To Net Profit c/d		24,000			
		40,000			**40,000**

Illustration 30

Triplex Industries produces a forged product 'Subeam' after it passes through three distinct processes.

The following information has been obtained from the cost accounts for 31st December, 2013:

Items	Total Amount	Process		
		Process I	Process II	Process III
Direct Materials	₹ 7,542	₹ 2,600	₹ 1,980	₹ 2,962
Direct Wages	9,000	2,000	3,000	4,000
Production Overheads	6,300			

1,000 units at ₹ 3 each were introduced in Process I. There was no stock of materials, work-in-progress and finished goods at the beginning or at the end of the period. The output of each processes passes direct to the next processes and finally to finished stock. Production overheads are recovered at 70% of direct wages. The following additional data are obtained:

Process	Output During the Month	Percentage of Normal Loss	Value of Scrap
Process I	950	5%	2
Process II	840	10%	4
Process III	750	15%	5

Prepare process cost accounts.

Solution:

Dr. **Process I A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units introduced	1,000	3,000	By Normal loss	50	100
To Direct Material		2,600	By Units Transferred to Process II A/c (9.37)	950	8,900
To Direct Labour		2,000			
To Production Overheads		1,400			
	1,000	**9,000**		**1,000**	**9,000**

Working Note:

Input	1,000
(–) Normal Loss	50
Expected	950
Actual	950
Abnormal Loss/Gain	—

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{9{,}000 - 100}{950}$$

$$= 9.37 \text{ (approx.)}$$

Dr. **Process II A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process I A/c	950	8,900	By Normal Loss	95	380
To Direct Material		1,980	By Abnormal Loss	15	274
To Direct Labour		3,000	By Units Transferred to Process III A/c (18.25)	840	15,326
To Production Overheads		2,100			
	950	**15,98**		**950**	**15,980**

Working Note:

Input	950
(–) Normal Loss	95
Expected	855
Actual	840
Abnormal Loss/Gain	15

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{15{,}980 - 380}{855}$$

$$= 18.25 \text{ (approx.)}$$

Dr. **Process III A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process II A/c	840	15,326	By Normal Loss	126	630
To Sundry Material		2,962	By Units Transferred to Finished Stock A/c (34.25)	750	25,691
To Direct Labour		4,000			
To Production Overheads		2,800			
To Abnormal Gain	36	1,233			
	876	**26,321**		**876**	**26,321**

Working Note:

Input	840
(–) Normal Loss	126
Expected	714
Actual	750

Abnormal Loss/Gain 36

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{25{,}088 - 630}{714}$$

= 34.25 (approx.)

Illustration 31

A product passes through three process A, B and C. The details of expenses incurred on the three processes during the year 2013 were as under:

	Process A	Process B	Process C
Units issued/introduced	10,000		
Cost per unit ₹ 100			
	₹	₹	₹
Sundry Materials	10,000	15,000	5,000
Labour	30,000	80,000	65,000
Direct Expenses	6,000	18,150	27,200
Selling Price per unit of output	120	165	250

Management expenses during the year were ₹ 80,000 and selling expenses were ₹ 50,000. These are not allocable to the processes.

Actual output of the three processes was:

A – 9,300 units, B – 5,400 units and C – 2,100 units.

Two-thirds of the output of Process A and one-half of the output of Process B was passed on to the next process and the balance was sold. The entire output of Process C was sold.

The normal loss of the three processes, calculated on the input of every process, was:

Process A – 5%; B – 15% and C – 20%.

The loss of Process A was sold at ₹ 2 per unit, that of Process B at ₹ 5 per unit and of Process C at ₹ 10 per unit.

Prepare the Three Process Accounts and the Profit and Loss Account.

Solution:

Dr. Process 'A' A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Units Introduced	10,000	10,00,000	By Normal Loss	500	1,000
To Sundry Material		10,000	By Abnormal Loss	200	22,000
To Labour		30,000	By Units Transferred to Finished Stock A/c	3,100	3,41,000
To Direct Expenses		6,000	By Units Transferred to Process B A/c (110)	6,200	6,82,000
	10,000	**10,46,000**		**10,000**	**10,46,000**

Working Note:

Input	10,000
(–) Normal Loss	500
Expected	9,500
Actual	9,300
Abnormal Loss/Gain	200

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{10,46,000 - 1,000}{9,500}$$

$$= 110$$

Dr. **Process B A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process A A/c	6,200	6,82,000	By Normal Loss	930	4,650
To Sundry Material		15,000	By Units Transferred to Finished Stock A/c	2,700	4,05,000
To Labour		80,000	By Units Transferred to Process C A/c (150)	2,700	4,05,000
To Direct Expenses		18,150			
To Abnormal Gain	130	19,500			
	6,330	**8,14,650**		**6,330**	**8,14,500**

Working Note:

Input	6,200
(–) Normal Loss	930
Expected	5,270
Actual	5,400
Abnormal Loss/Gain	130

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{7,95,150 - 4,650}{5,270}$$

$$= 150$$

Dr. **Process C A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Units Transferred from Process B A/c	2,700	4,05,000	By Normal Loss	540	5,400
To Sundry Material		5,000	By Abnormal Loss	60	13,800
To Direct Labour		65,000	By Units Transferred to Finished Stock A/c (230)	2,100	4,83,000
To Direct Expenses		27,200			
	2,700	**5,02,200**		**2,700**	**5,02,200**

Working Note:

Input	2,700
(–) Normal Loss	540
Expected	2,160
Actual	2,100
Abnormal Loss/Gain	60

$$\text{PCPU} = \frac{\text{Total Expenses} - \text{Scrap}}{\text{Expected No. of Units}}$$

$$= \frac{5,02,200 - 5,400}{2,160}$$

$$= 230$$

Dr. **Finished Stock A/c** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Process A A/c	3,100	3,41,000	By Sales A/c		
To Process B A/c	2,700	4,05,000	Process A	3,100	3,72,000
To Process C A/c	2,100	4,83,000	Process B	2,700	4,45,500
To Gross Profit c/d		1,13,500	Process C	2,100	5,25,000
	7,900	**13,42,500**		**7,900**	**13,42,500**

Dr. **Profit and Loss A/c** **Cr.**

Particulars	₹	Particulars	Amount
To Management Expenses	80,000	By Gross Profit b/d	1,13,500
To Selling Expenses	50,000	By Net Loss c/d	16,500
	1,30,000		**1,30,000**

Excersise

1. ABC LTD. submits the following information in respect of its product which passes through three consecutive processes, viz., Ingestion Process, Digestion Process and Assimilation Process, for the month ended 31st January, 2013.

Particulars	**Ingestion Process**	**Digestion Process**	**Assimilation Process**
Quantitative Information (Kgs)			
Raw Material @ ₹ 40 per Kg	80,000	–	–
Normal Yield	80%	60%	50%
Output during the month	62,000	36,000	21,000
Stock of Process Output:			
31-12-2009	8,000	8,000	5,000
31-01-2010	10,000	4,000	4,000
Other Additional Information			
Process Material	₹ 3,45,000	₹ 8,26,000	₹ 6,17,000
Labour Man Days	2,400	1,500	1,000
Labour Rate per Man Days	₹ 80	₹ 100	₹ 150
Machine Overheads Materials	60% of wages	50% of Process	₹ 2,34,000
Other Manufacturing Overheads	₹ 2,75,800	₹ 1,63,000	₹ 1,27,000
Value of Opening Stock Per Kg	₹ 60	₹ 140	₹ 300
Scrap Value per Kg	₹ 10	₹ 150	₹ 20

Finished stock of assimilation process was sold at ₹ 350 per Kg.

Prepare the Process Accounts, Process Stock account, Normal Loss Account and the Abnormal Gain/Loss Account.

[***Ans.: C.P.U. - 62,136, 310***]

2. ADITYA Industries Ltd. is manufacturing a product which passes through three consecutive processes, FIRST Process SECOND Process and THIRD Process. The following figures have been taken from their books for the year 31st March, 2013:

Particulars	**FIRSTP Process**	**SECOND Process**	**THIRD Process**
Quantitative Details			
Basic Input @ ₹ 300 per unit	4,500	–	–
Output during the year	4,000	3,000	2,500
% of Normal waste	10%	25%	15%
Process Stock – Opening	150	250	50
Process Stock – Closing	250	150	200
Monetary Information	₹	₹	₹
Process Materials	2,10,000	3,30,000	4,36,500
Wages	1,33,500	1,86,750	1,55,500
Manufacturing Overheads	1,20,000	1,26,750	1,20,950

Value of Opening Stock per unit	420	680	900
Scrap Value per unit	250	300	400

Closing stock is to be valued at respective cost of each process (as per the respective process accounts for the year ended 31st March, 2013

You are required to prepare – (a) Process Accounts, (b) Process Stock Accounts, (c) Abnormal Loss Account and (d) Abnormal Gain Account.

[*Ans.: C.P.U. - 420, 680, 1,000*]

3.

Particulars	**Process A** ₹	**Process B** ₹	**Process C** ₹
Indirect Material	50,000	9,375	8,275
Direct Wages	28,125	17,500	22,450
Direct Expenses	25,625	3,438	5,750
Value of Opening Stock per Unit	25	31	40
Scrap Value per Unit	13.50	11.25	21.00
Output (Units)	4,875	4,813	4,000
Stock of Process Output:			
01-01-2005 (Units)	750	687	1,000
31-12-2005 (Units)	625	1,000	500
Percentage of Wastage	2	5	10

5,000 units of Direct Material were introduced in Process A at the rate of ₹ 5 per unit. The percentage of wastage is computed on the number of units entering the process concerned. From the above information of RAJESH LTD., prepare: (1) Process Accounts, (2) Process Stock Accounts, (3) Normal Loss Account, (4) Abnormal Loss Account, and (5) Abnormal Gain Account. Value closing stock at the respective Process Cost.

[*Ans.: C.P.U. - 26, 33, 43*]

4. The following details for the year ending 31st December, 2013 are available from the books of a trader having three workshops and a wholesale warehouse.

Details for year ending 31.12.13

Particulars	**Workshop A**	**Workshop B**	**Workshop C**
Raw Material Used (Tonnes)	250	152	145
Cost per tonne (₹)	600	400	250
Direct wages (₹)	4,29,000	1,01,250	52,800
Direct Expenses (₹)	69,000	88,350	13.450
Loss of Tonne due to Processing	4%	5%	2.5%
Proportion of Production transferred			
To Workshop B at Cost	20%		
To Workshop C at Cost		50%	
Proportion of Production transferred			

To Wholesale Warehouse	80%	50%	100%
Wholesale Warehouse:			
Stock on 1-1-2003 at cost	12,500	10,000	20,000
Stock on 31-12-2003 in tonne	10	20	

Sales were ₹ 20,00,000, Salaries ₹ 2,00,000 and Administrative Expenses ₹ 1,00,00. Prepare the respective Workshop Accounts showing the cost per tonne in each workshop and an account showing the net profit of the firm for the year 2013. Closing stock in warehouse to be valued at the cost per ton in each workshop.

[*Ans.: C.P.U. - 2,700, 1250, P & L A/c – Net Profit ₹ 7,23,000*]

5. A Manufacturer manufactures a product in two grades, Grade I and Grade II from common raw material. Raw material is introduced in 'Basic Process' the produce of which is dealt with as follows:

25% sold in open market.

24% transferred to Grade I Process and the balance 50% transferred to Grade II Process.

The details of processes are as follows:

Particulars	**Basic Process**	**Grade I Process**	**II Process Grade**
Raw materials	500 units	–	–
Cost per unit	₹ 200	–	–
Other materials	₹ 12,500	₹ 15,000	₹ 15,000
Labour	₹ 30,000	₹ 25,000	₹ 25,000
Manufacturing Overheads	₹ 37500	₹ 30,000	₹ 30,000
Sale Price per unit	₹ 400	₹ 1,400	₹ 900

Prepare process accounts and determine total profit earned by him assuming that there is no stock in any process. **[*Ans.: Net Profit – ₹ 1,30,000*]**

6. KT Ltd. provides you the following information for the year ended 31st March, 2013.

Particulars	**Processes**		
	A	**B**	**C**
Raw materials (units)	12,000	2,440	2,600
Cost of Raw Material per unit (₹)	5	5	5
Direct Wages (₹)	34,000	24,000	15,000
Production Overheads (₹)	16,160	16,200	9,600
Normal Loss (% of total no. of units entering to the process)	4%	5%	3%
Wastage (% of total no. of units entering to the process)	6%	5%	4%
Scrap per unit of wastages (₹)	3	4	5
Output transferred to subsequent process	70%	60%	-
Output sold at the end of the process	30%	40%	100%
Selling price per unit (₹)	12	16	17

Prepare Process A, B and C Account.

[*Ans.: C.P.U. – 10, 14, S.P.P.U. – 12, 16, 17*]

7. Assemblers Ltd. have three Assembly shops, viz., General Assembly, Lower Assembly and Higher Assembly. Part of the output is transferred to the next assembly and part is sold directly. The company furnished the following information.

Particulars	**General**	**Lower**	**Higher**
Raw Material (in Litres)	5,000	1,9,20	3,576
Material Cost per Litre	₹ 60	₹ 40	₹ 80
Labour Cost	₹ 4,28,000	1,60,000	2,10,000
Direct Expenses	88,000	2,85,200	1,04,800
Wastage as percentage of Total Input	4%	5%	10%
(a) Output Transferred			
To Lower Assembly	60%	–	–
To Higher Assembly	–	40%	–
(b) Output sold in market	40%	60%	100%
Sale Price per litre	₹ 200	₹ 205	₹ 250
Administration overheads ₹ 36,000			
Marketing overheads ₹ 48,000			

Prepare various Assembly Accounts and Costing Profit & Loss Account.

[*Ans.: C.P.U. – 170, 210, 202.45; S.P.U. – 200, 205, 250; Net Profit – ₹ 1,91,000*]

8. TAZA Ltd. manufactures flavoured Tea which passes through three processes. The following particulars are available for the year ended 30-06-2013.

Particulars		**Process**	
	I	**II**	**III**
Raw Material (Kg)	10,000	4,600	1,500
Cost of Raw Materials per Kg (₹)	5	6	8
Direct Wages (₹)	24,000	18,000	12,250
Direct Expenses (₹)	15,200	10,736	8,590
Factory Expenses (₹)	20,960	6,000	42,555
Normal Loss (1%)	4%	8%	5%
Weight Loss (%)	6%	2%	NIL
Scrap Value per kg (₹)	1.80	2.50	4
Output Transferred to next Process	60%	50%	NIL
Output Sold	40%	50%	80%
Selling Price of Output per kg	14	16	17
Transferred to Finished Stock	NIL	NIL	20%

% of normal loss and % of weight loss are based on total input in the process.

Prepare Process Account and Profit and Loss Account.

[*Ans.: C.P.U. – 12.16, 14, 17.35; Costing P & L A/c – ₹ 14,028*]

9. M/s Navin Ltd. provides you the following data for the month of January, 2013, about processes R_1, R_2, and R_3.

Particulars		**Process R_1**	**Process R_2**	**Process R_3**
Basic Raw Material Introduced	(Units)	9,000	1,578	1,725
Cost of basic raw material per unit	(₹)	5.00	6.00	7.00
Labour Charges	(₹)	26,000	18,000	15,000
Factory Overheads	(₹)	15,220	7,437	7,830
Normal Loss (% on total number of units input)		6%	5%	4%
Scrap Value per unit	(₹)	3.00	4.00	5.00
Output sold at the end of process	(%)	30%	40%	100%
Output Transferred to next process	(%)	70%	60%	–
Selling price per unit of the output sold at the end of process	(₹)	13.50	17.50	18.50

Other common expenses not chargeable to process accounts:

Office and Administrative overheads ₹ 15,000

Selling and Distribution overheads ₹ 11,818

You are required to prepare process R_1, R_2, and R_3 accounts indicating clearly profit or loss in each process and Costing Profit and Loss Account.

[*Ans.: C.P.U. – 10, 13; S.P.P.U. – 13.50, 17.50, 18.50; Net Profit – ₹12,170*]

Objective Type

(A) State True/False

1. Stock reserve is created for unrealised profit where the output of one process is transferred to the next process at cost. (False)
2. Process costing is used in industries working against specific orders. (False)
3. The sales value of scrap is credited to Process A/c. (True)
4. The sale value in units of abnormal loss is credited to Abnormal Loss A/c. (True)
5. The cost of units of abnormal loss is credited to Process A/c. (True)
6. The cost of abnormal gain is debited to Process A/c. (False)
7. Cement companies follow practice process costing. (True)
8. Separate A/c is not necessary for each process. (False)
9. Abnormal loss is non-controllable. (False)
10. Normal loss is controllable. (False)
11. In Abnormal Loss A/c, the balancing figure is transferred to Costing P & L A/c. (True)
12. In Abnormal Gain A/c, the balancing figure is taken to costing P & L A/c. (False)
13. Abnormal gain is excess of normal output over actual output. (False)
14. Normal loss is debited to Process A/c. (False)

15. Cost accounting includes process costing. (True)
16. Process costing, by-products and job costing are same. (False)

[*Ans.:* ***True: 3,4,5,7,11,15***
False: 1,2,6,8,9,10,12,13,14,16]

(B) Multiple Choice Questions

1. Abnormal loss is charged to
   (a) Process A/c
   (b) Costing P & L A/c
   (c) Normal Loss A/c
2. The stage where joint products are separated from each other is known as
   (a) BEP
   (b) Angle of incidence
   (c) Split-off point
3. Process costing is followed when
   (a) standardised goods are produced
   (b) perishable goods are manufactured
   (c) consumer goods are manufactured
4. Scrap value of normal loss is
   (a) debited to Process A/c
   (b) credited to Process A/c
   (c) debited to Financial A/c
5. Normal loss is a
   (a) Valuation A/c
   (b) Nominal A/c
   (c) Real A/c
6. Abnormal gain occurs due to
   (a) good supervision
   (b) efficiency of production department
   (c) control over material cost
7. Abnormal loss arises due to
   (a) normal situations
   (b) abnormal situations
   (c) unavoidable conditions
8. Abnormal loss is valued at
   (a) market rate
   (b) scrap value
   (c) cost of output

9. Process costing is applied when
   (a) large number of identical units are manufactured
   (b) large number of different units are manufactured
   (c) small number of different units are manufactured
10. Process cost is based on the concept of
   (a) average cost
   (b) marginal cost
   (c) standard cost

[*Ans. 1. (a), 2. (c), 3. (a), 4. (b), 5. (b), 6. (b), 7. (b), 8. (c), 9. (a), 10. (a).*]

(C) Match the Column

A	B
1. Process costing	(a) non-controllable
2. Normal loss	(b) abnormal conditions
3. Abnormal loss	(c) excess of actual output over normal output
4. Abnormal gain	(d) stages of production
	(e) at market price of output
	(f) standardized costing

[*Ans. 1. (d), 2. (a), 3. (b), 4. (c).*]

(D) Match the Pair

A	B
1. Abnormal loss	(a) Normal cost/normal output
2. Abnormal gain	(b) Input × % of normal loss
3. Normal loss	(c) Actual output – Normal output
4. Unit cost	(d) Normal output – Actual output
	(e) Unit cost × Unit of Abnormal loss
	(f) Unit cost × Unit of Abnormal gains

[*Ans. 1. (e), 2. (f), 3. (b), 4. (a).*]

4
Chapter

Contract Costing

Meaning

In contract costing, the work is carried on at the construction site and at times it takes more than one accounting year for its completion. It is a method of costing in order to calculate the total cost, both direct and indirect, to a contract in order to fix a contract price for it. The output of contract costing is mainly fixed, errected and fabricated at one place and it cannot be moved, i.e., Building, Hospital, Schools, Dams etc.

Contract costing is a variation of job costing. A contract means a large job. A contract usually takes a longer time for completion and often extends to more than one financial year. A contract is usually undertaken for a fixed price known as "contract price" which is payable either on completion of the contract or by instalments according to the progress of the work done and approved. There are two parties to a contract namely the Contractor and the Contractee. When a work is undertaken, the contractor has to submit a tender for the work. When it is accepted by the contractee, an agreement is entered into by both the parties. The date of completion of work is usually fixed in advance.

Definition

According to CIMA London, "Contract costing refers to the form of specific order costing which applies where work is undertaken to customers' special requirements and each order is of long duration (compared with those to which job costing applies)." Contract costing is also known as Terminal Costing because costs incurred on a contract relate to a job which is definitely terminable. Like job costing, contract costing falls under the broad category of specific order costing. Persons involved in carrying out the activities, i.e., contractors use contract costing. Contract costing is used in following industries:

(a) Construction of plant,
(b) Construction of bridges, roads and dams,
(c) Shipbuilders,
(d) Civil contractors,
(e) Mechanical engineering firms.

Objective

The main objective of contract costing is to ascertain the cost of each contract. Actual cost may be compared with estimated cost which facilitates the estimation of cost of similar contracts to be undertaken in future. Contract: costing aims at calculating the profit which may be taken to each year's Profit and Loss Account in case of a long-term contract.

Distinction between Job Costing and Contract Costing

Basis	Job Costing	Contract Costing
1. Costs	A job involves a lesser cost because the size of a job is much smaller.	A contract involves much larger because the size of a contract is much larger.
2. Cost unit	Its cost unit is a job.	Its cost unit is a contract which is comparatively bigger than a job.
3. Place of work	Work is carried on within the factory premises.	Work is carried on outside the factory premises, i.e., at the contractee's place.
4. Time span	Time for completion of a job is less.	A contract takes a longer time to complete.
5. Payment	Payment is made in lump sum after the completion of job.	Contract price is payable in instalments according to the progress of work done and approved by the contractee.
6. Allocation and accumulation of costs	The process of allocation and accumulation of costs is more complicated.	The process of allocation and accumulation of costs is simple because most of the costs are direct.
7. Profit	Profit is ascertained on the completion of the job.	Profit is ascertained even on the incomplete contracts.
8. Work-in-progress	Normally, a job is completed with in the year. Hence, there is no or negligible work-in-progress.	Normally, a contract is completed in two or more years. Hence, a contract involves a much larger work-in-progress.

Type of Contracts

There are three types of contracts:

(i) Fixed Price contract.

(ii) Fixed Price contract subject to Escalation clause and/or De-escalation clause.

(iii) Cost plus contract.

Fixed Price Contract

Normally, a contract is a fixed price contract indicating the amount of consideration. When a fixed price of the contract is agreed upon between the contractee and the contractor, it is known as a fixed price contract. When the contract is completed, agreed price is paid by the contractee to the contractor. Contractor receives payment for execution of contract in instalments based on the extent of completion of contract as certified by the contract. Hence, the payment of the contractee is always linked to the value of work certified. However, full amount of the work certified is not paid to contractor. A certain percentage (say 20%) c f the amount is retained by the contractee which is known as retention money. At the completion of the contract, the entire amount of balance is paid to the contractor. However, deductions may be made for defectives and penalties for delay and extra payment is made for additional work.

Fixed Price Contract with Escalation and/or De-escalation Clause

A fixed price contract may contain an escalation and/or de-escalation clause. The purpose of escalation or de-escalation clause is to safeguard the interest of both the parties against unforeseen changes in the prices of materials labour etc. Escalation clause is a clause under which the fixed contract price is subject to enhancement on likely increase in the prices of materials and labour beyond a certain percentage. As a result of an escalation clause, the contractee will compensate the contractor for increase in price beyond a certain limit. Escalation clause protects the interest of the contractor. Let us take an example. The current price of cement is ₹ 150 per bag. Escalation clause may provide that if the price rises beyond 10%, the additional cost (in full or in part) will be borne by the contractee. Generally, escalation clause contains the aspect of prices of materials and labour. In addition, the escalation clause may cover the aspect of quantity of materials and labour.

Following are the circumstances which make it desirable to have an escalation clause in the contract:

(i) When the contract is likely to run for a long period.
(ii) When cost of raw material is expected to increase.
(iii) When wage rates are subject to frequent upward revisions by the regulatory authorities.
(iv) When other inputs like power fuel etc. are subject to frequent price hikes.
(v) When it is not possible to ascertain the quantity of materials and labour to be used for the contract with reasonable accuracy.

De-escalation clause is a clause under which the contract price is subject to reduction on likely decrease in the prices of materials and labour beyond a certain percentage. As a result of de-escalation clause, the contractee will be entitled to a rebate in the event of prices going down beyond a certain percentage. It implies that downward adjustment will be made. De-escalation clause protects the interests of the contractee because benefit of decline in the prices is passed on to the contractee.

Cost Plus Contract

Cost plus contract is the reverse of a fixed price contact. A cost plus contract refers to a contract under which a contractee agrees to pay the contractor a certain percentage of profit over and above the total cost of the work done. Under this system, the contractee does not settle with the contractor any fixed contract price. Contract price will be the actual cost plus a certain percentage to cover profit. Cost plus contract involves an agreement as to the items of cost to be included in the actual cost and the percentage of profit to be added to the actual cost.

Cost plus contracts are suitable in following cases:

(i) When it is not possible to estimate its cost with a reasonable degree of accuracy due to long period of time, wide fluctuations in prices of materials and wage rates etc.
(ii) When there is an emergency and there is no time to negotiate a contract price.
(iii) When work is more important than its cost.
(iv) When work is of new character, design etc. like of which has not been undertaken before.
(v) When frequent modifications are done in the work.

Procedure for Contract Costing

The basic principles applied in contract costing are the same as those used in job costing but these are modified to suit the particular requirements of the contracts. A contract differs from a job

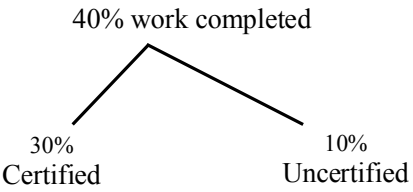
only in size. Normally, the number of jobs in hand at any time in a concern may be large but only a few contracts are undertaken at a time. Since the number of contracts in hand is not likely to be large, it is not necessary to maintain separate books of account for costing purposes. Financial books are sufficient but these are remodeled to give the required information. A contract ledger is maintained in which a separate account is opened for each contract undertaken by a contractor. Cost is ascertained for each contract separately. A contract ledger is so ruled out so as to give maximum information. Following is the specimen of contract Ledger:

Contract Ledger											
Contract No. ……				Contract Price …….……							
Date of completion ……..……..				Terms of payment ……..							
Site ……...				Work certified : ……...							
Remark ……				Date ……..₹……..							
……...				Date ……..……..₹.……..……							
Date	**Particulars**	**Material ₹**		**Wages ₹**		**Direct**	**Plant Charges ₹**		**Indirect Expenses**		**Total ₹**
	Total ₹										

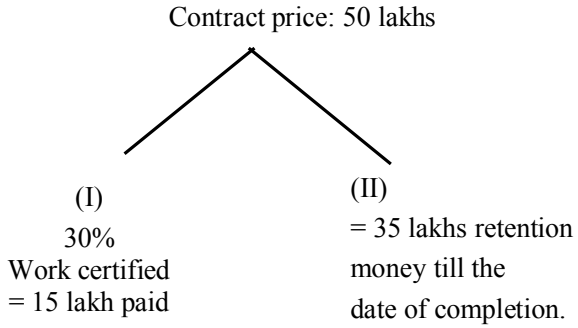
A separate number is given for each contract in order to facilitate reference in the books. A separate contract account is prepared for each contract The cost unit is each contract. All costs relating to a contract are charged to the respective contract accounts. All costs are debited to the contract account on the basis to accruals. Most of the expenses relating to a contract are easily identified with the contract and are debited directly to the contract. Common expenses engaged on two or more contracts are apportioned to all the contracts on some logical basis. Indirect costs constitute only a small proportion of the cost of a contract.

Terminologies

1. **What is a contract?:** It is a task or a assignment undertaken to complete a construction work within a period of specified time.
2. **Contractor:** It is the construction company or an individual who undertakes the construction work.
3. **Contractee:** He is a party or person who has assigned the contract to the contractor.
4. **Contract Price:** It is the consideration for which the contract is undertaken on completion of the contract. As per the terms, the contractee pays to the contractor the full amount of contract price.
5. **Work Certified:** It is the portion of the completed work which is certified by an architect, engineer or surveyor.
6. **Work Uncertified:** It is that portion of the work completed by the contractor but not yet certified by the architect.



7. **Retention Money:** It is the percentage of the amount of the work certified with, held by the contractee till the completion of the work.



8. **Escalation Clause:** In this case, a contractor is required to get into agreement to increase the contract price if there is increase in the elements of cost (increase in the element of cost) beyond a % over the prices prevailing at the time of signing the contract.
9. **Notional Profit:** It is an estimated profit in respect of work certified and cost of work certified. It is the balancing figure on the debit side of Contract A/c.

Features of Contract Costing

1. Each contract is considered as a separate unit of cost.
2. A separate ledger account is kept for each contract and is allocated a distinguished number.
3. Usually, contract work is carried out at the customer's site.
4. Since major contract work is done at site, most of the expenses are directly allocated to the contract.
5. A contract usually takes more than one accounting period.
6. Most of the expenses like electricity, telephone, insurance, etc. are also direct.
7. Such contractors may be employed for electrical fittings, welding, glasswork, plumbing, etc.
8. Plant and equipment may be purchased on hire basis for the purpose of contract work.
9. Penalties may be incurred by the contractor for failing to complete the work within the specified period.
10. Calculation of profit on incomplete contract is a distinguishing feature of this method.

Proforma:

Dr **Contract A/c** **Cr**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Opening stock of material	××	By Material transfer to another contract at cost price	××
To Purchase of material	××	By Return of material	××
To Transfer from stores	××	By Material returned to stores	××
To Transfer from another contract to notional profit	××	By Material cost or distroyed by fire	××
		By Material sold	××
		By Closing stock of material	××
		By Notional loss	××
Total	×××	**Total**	×××
To Reserve A/c		By Notional Profit b/d	××
To P & L A/c	××		
Total		**Total**	×××

Formula for Calculation of Profit

1. This formula will be applicable only when there is notional profit.
   WC is less than 25% = The entire balance is treated as reserve.
2. Work cost is greater than equal to 25% but less than 50%.
   $$\text{Profit} = 1/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}} [\text{balance is taken as reserve}]$$
3. Work cost is equal to or greater than 50% but less than 100%
   $$\text{Profit} = 2/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}} [\text{balance is taken as reserve}]$$
4. When work cost is equal to 100%, the entire balance is taken to Profit and Loss A/c. For all the above formula, percentage of work certified is calculated as:
   $$\text{Percentage of Work Certified} = \frac{\text{Cash Received}}{\text{Work Certified}} \times 100$$

Case 1

Contract price = ₹ 50,000, Cash received = ₹ 10,000

Notional profit = ₹ 25,000, Work certified = ₹ 35,000

Solution:

$$\text{Percentage of Work Certified} = \frac{\text{Cash Received}}{\text{Work Certified}} \times 100$$

$$= \frac{10,000}{50,000} \times 100$$

$$= 20\%$$

$$= 10,000$$

$$= 20\% \text{ (Range less than 25\%)}$$

Case 2

Contract price = ₹ 50,000, Cash received = ₹ 30,000

Notional profit = ₹ 25,000, Work certified = ₹ 35,000

Solution:

$$\text{Percentage of Work Certified} = \frac{\text{Cash received}}{\text{Contract price}} \times 100$$

$$= \frac{30,000}{50,000} \times 100 = 60\%$$

(Range between 50-100)

$$\text{Profit} = \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= \frac{2}{3} \times 25,000 \times \frac{30,000}{35,000} = ₹14,286$$

Dr. **Contract A/c** **Cr.**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Net Profit c/d	25,000	By Net Profit b/d	25,000
To Profit/Loss (case 2)	14,286		
To Reserve	10,714		

Case 3

Contract price = ₹ 50,000, Cash received = ₹ 22,000

Notional profit = ₹ 25,000, Work certified = ₹ 35,000

Solution:

Percentage of Work Certified

$$= \frac{\text{Cash Received}}{\text{Contract Price}} \times 100$$

$$= \frac{22,000}{50,000} \times 100 = 44\%$$

(Range between 25-50)

$$\text{Profit} = \frac{1}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= \frac{1}{3} \times 25{,}000 \times \frac{22{,}000}{35{,}000} = ₹ 5{,}238$$

Dr. **Contract A/c** **Cr.**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Net Profit c/d	25,000	By Net Profit b/d	25,000
To Profit/Loss (profit) (case 3)	5,238		
To Reserve	19,762		

Case 4

Cash received = ₹ 50,000, Contract price = ₹ 50,000, Notional profit = ₹ 50,000

Solution:

$$\text{Percentage of Work Certified} = \frac{\text{Cash received}}{\text{Contract price}} \times 100$$

$$= \frac{50{,}000}{50{,}000} \times 100$$

Contract price = 100% (Range = 100%)

Dr. **Contract A/c** **Cr.**

Particulars	Amt. (₹)	Particulars	Amt. (₹)
To Net Profit c/d	25,000	By Net Profit b/d	25,000
To Profit/Loss	25,000		

Note: The above formula is not applicable if the balance in Contract A/c is a notional loss.

Accounting Procedure

1. **Material:** Purchase of material, transfer from stores, transfer from another account will be debited to Contract A/c.
2. **Direct Labour:** Wages and salaries of staff related to the contract debit to Contract A/c.
3. **Direct expenses:** Insurance, engineer's salary, watch and ward staff etc. debited to Contract A/c.
4. **Indirect expenses or overheads:**
   (a) Stores expense: like storekeeper's salary.
   (b) Salary of manager, architect, surveyer, engineer, supervisor etc.
   (c) Administration overheads: Rent, salary

   All the above three are debited to Contract A/c.
5. **Plant and Machinery:**
   (a) Plant issued to site.

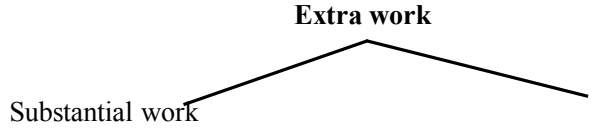
(b) Plant purchased exclusively for the contract.

(c) Transfer of plant from other contract.

6. **Return of plant to stores:** Credit to Contract A/c to the WDV amount.
7. **Sale of Plant:** Credit with the selling price. Profit on sale or loss on sale of plant will be recorded on the credit or debit side respectively.
8. **Plant at side (Closing stock of plant):** Credit side of Contract A/c with WDV amount.
9. **Loss of Plant:** Plant may be destroyed by accident or by fire or it may be stolen from the site, when the work is in progress. So, Contract A/c will be credited with the WDV amount.

   If the plant is insured, then compensation received from insurance company will also be credited to the Contract A/c.
10. **Material:** Transferred to another contract, return of material, material returned to stores, material lost by fire, theft or accident and material sold will be credited to Contract A/c. Profit or loss on sale of material will be credited or debited to Contract A/c respectively.

    If the material is insured, Contract A/c Cr., P & L A/c Dr., Balance sheet will be credited to contract A/c.
11. **Sub-contract cost:** It is debited to Contract A/c. A contractor may not be an expert in all the work assigned to him, e.g.: installation of lift, electrical fitting, door fittings etc. which he may pass on to other contractors, such sub-contract cost is treated as direct cost.
12. **Extra work done:**



Substantial work	Not substantial
It is a huge cost for which a separate account should be opened. E.g.: Change from spartex flooring to marble flooring	It is comparatively less and so debit Contract A/c. E.g.: Change from brown glass to black glass.

Such additional work is subject to separate charges.

13. **Cost + contract:** It includes profit element other than cost.

TC (FC + VC)
+ P
= CP

14. **De-escalation cost:** It means decrease in the prices of raw material as per the prevailing prices in the agreement. Such decrease in cost of raw material is a rare case and if it occurs then it is profit for the contractor.

Illustration 01

The following are the particulars relating to a contract which has begun on 1st April, 2013.

Particulars	**₹**
Contract price	15,00,000
Machinery	90,000

Materials	5,11,800
Wages	4,46,250
Direct expenses	18,990
Outstanding wages	16,140
Uncertified work	27,000
Overheads	24,720
Materials returned	4,800
Materials on hand 31.3.2008	11,100
Machinery on hand 31.3.2008	66,000
Value of work certified	11,70,000
Cash received	10,53,000

Prepare the Contract Account for the year ending 31st March, 2014 showing the amount of profit that may be taken to the credit of Profit and Loss A/c for the year. Also show the amount of the work-in-progress as it would appear in the Balance Sheet.

Solution:

Contract Account

Dr. **for the year ending 31st March, 2014** **Cr.**

Particulars		**₹**	**Particulars**		**₹**
To Materials		5,11,800	By Materials returned		4,800
To Wages	4,46,250		By Materials on hand		11,100
Add: Outstanding	16,140	4,62,390	By Work-in-progress:		
To Direct Expenses		18,990	Certified	11,70,000	
To Overhead		24,720	Uncertified	27,000	11,97,000
To Depreciation on machinery		24,000			
To Balance c/d (Notional Profit)		1,71,000			
		12,12,900			**12,12,900**
To P & L A/c $\left(1,71,000 \times \frac{2}{3} \times \frac{10,53,000}{11,70,000}\right) =$		1,02,600	By Balance b/d		1,71,000
To Reserves A/c		68,400			
		1,71,000			**1,71,000**

Illustration 02

The following is the summary of the entries in a contract ledger as on 31st Dec., 2014 in respect of Contract No. 51. Prepare a Contract Account.

Particulars	**₹**
Material bought directly	45,000
Materials from stores	7,000
Wages	18,000
Direct expenses	7,000
Establishment charges	8,000

Plant	34,200
Scrap sold	1,820
Cost of subcontract	7500

You are further supplied with the following information:

1. Accruals on 30.12.2013 are wages ₹ 900 and direct expenses ₹ 1,200.
2. Included in the above summary of entries are wages ₹ 1,000 and other expenses ₹ 1,500. The value of materials used since certification is 2,200.
3. Depreciation till 31.12.2013 on plant is ₹ 10,000.
4. Materials on Hand on 31.12.2013 is ₹ 10,000.
5. The total contract price is ₹ 1,00,000.
6. ₹ 62,50 had been certified up to 31.12.2014 when 5/8th contract had been completed.

Solution:

Contract A/c for the ended 31.12.12 **C.P. = 1,00,000**

Particulars	₹	Particulars	₹
To Materials bought	45,000	By W.I.P.:	
To Material from stores	7,000	Works Certified	62,500
To Wages (including outstanding)	18,900	Work Uncertified	4,700
To Direct Expenses (incl. O/s)	8,200	Material at Site	10,000
To Establishment Charges	8,000	Plant at Site (34,200 – 8,600)	25,600
To Plant	34,200	By Scrap Sale	1,820
To Cost of Subcontract	7,500	By P & L A/c (Loss)	24,180
	1,28,800		**1,28,800**
	======		======

Working Note:

1. Calculation of Work Uncertified

Expenses incurred after certification:

Materials	2,200
Labour	1,000
Expenses	1,500
Total	4,700

Illustration 03

M/s Skyscrappers Ltd. engaged on two contracts namely AB and PQ furnish following information for the year ended 31st December, 2014.

Particulars	AB	PQ
Contract Price	1,80,00,000	1,50,00,000
Material Purchased	48,00,000	18,00,000
Wages Paid	46,32,000	13,74,000
Material Returned	1,20,000	60,000

Direct expenses	18,00,000	9,00,000
Establishment Charges	8,10,000	2,40,000
Material on site on 31.12.2014	6,60,000	2,40,000
Plant and Equipment Installed	24,00,000	21,00,000
Accrued wages	48,000	36,000
Work Certified	1,26,00,000	40,50,000
Amounts Received	1,13,40,000	37,50,000
Plant Value as on 31st December, 2014	19,50,000	19,20,000
Uncertified work	6,90,000	3,00,000

On 25th October 2013, materials costing ₹ 2,70,000 was transferred to Contract PQ from Contract AB. Prepare Contract Account and Contractee's Accounts and show how the relevant figures would appear in their Balance Sheet as on 31st December.

Solution:

M/s Skyscrappers Ltd.
Contract A/c Account for the year 32/12/2014 [AB]

C.P. = 18,00,000

Dr. **Cr.**

Particulars	**₹**	**Particulars**		**₹**
To Material	48,00,000	By W.I.P.:		
To Wages (incl. outstanding)	46,80,000	Work Certified	1,26,00,000	
To Direct Expenses	18,00,000	Work Uncertified	6,90,000	
To Establishment Expenses	8,10,000	Material at Site	6,60,000	
To Plant Issued	24,00,000	Plant at Site	19,50,000	1,59,00,000
To Notional Profit c/d	18,00,000	By Material Returned		1,20,000
		By Material Transferred		2,70,000
	1,62,90,000			1,62,90,000
To Profit & Loss A/c	10,80,000	By Balance b/d		18,00,000
To Reserves c/d	7,20,000			
	18,00,000			**18,00,000**

Working Note:

Calculation of Profit Transferred to P & L A/c

Work Completed $\frac{\text{Work Certified}}{\text{Contract Price}} \times 100$ — Contract Price ₹ 180 lakhs

$= \frac{1,26,00,000}{1,80,00,000} \times 100$ — Work certified ₹ 126 lakhs

$= 70\%$ — ∴ 70% work over

∴ 2/3 profit allowed

∴ Profit transferred to P & L A/c $= 2/3 \times \frac{18,00,000}{1,260} \times \frac{1,134}{1,260} = 10,80,000$

Dr. Contract A/c Cr.

	₹	Particulars	₹
To Balance c/d	1,13,40,000	By Cash	1,13,40,000
	1,13,40,000		**1,13,40,000**

Illustration 04

Rainbow Ltd. undertook a contract to construct a bridge at a contract price of ₹ 15,00,000. The contractee has to make progress payment of 75% of the work certified and the remaining amount is to be paid on completion of contract.

The contract was commenced on 1.1.14 and the following information is available in respect of contract for the year ended 31.12.2014.

Particulars	₹
Amount received from contractee upto 31.12.14 (75% of work certified)	3,37,500
Uncertified work on 31.12.14	30,000
Materials unused at site on 31.12.14	9,500
Plant at site 31.12.13 (depreciated value)	25,500
Wages due but not paid on 31.12.14	2,600
Profit reserve for the year 2014	25,000

The following information is supplied in respect of contract for the year ended 31st December, 2015.

Particulars	₹
Materials supplied	1,70,000
Materials transferred to other contracts	32,000
Materials transferred from other contracts	95,000
Overhead chargeable to contract	45,000
Materials returned to stores	3,200
Materials stolen away from site at cost	2,800
Sales of materials (cost ₹ 6,800)	8,000
Wages paid	90,200
Other expenses	11,800
Other plant issued on 1.9.15	12,000
Work certified 31.12.15	10,00,000
Uncertified work on 31.12.15	27,000
Materials unused at site on 31.12.15	23,925
Wages due but not paid on 31.12.15	7,400

Provide depreciation on plant at 15% by diminishing balance method.

Prepare contract account for the year 2015, assuming that the contractor takes two-third profit on cash basis to Profit and Loss Account.

Solution:

Contract A/c for the year ended 31.12.15 C.P. = 15,00,000

Particulars	₹	Particulars	₹
To W.I.P. (Opening):		By Reserves c/d	25,000
Work Certified	4,50,000	By W.I.P. (Closing):	
Work Uncertified	30,000	Work Certified	10,00,000
Material at Site	9,500	Work Uncertified	27,000
Plant at Site	25,500	Material at Site	23,925
To Material Supplied	1,70,000	Plant at Site	33,075
To Material Transferred from Other Contracts	95,000	By Material Transferred to Other Contracts	32,000
To Overheads	45,000	By Material Returned	3,200
To Wages (90,200 + 7,400 – 2,600)	95,000	By Material Stolen	2,800
To Other Expenses	11,800	By Material Sold (at cost)	6,800
To Plant Issued	12,000		
To Balance c/d (Notional Profit)	2,10,000		
	11,53,800		**11,53,800**
To P & L A/c	1,05,000	By Balance b/d	2,10,000
To Reserves c/d	1,05,000		
	2,10,000		**2,10,000**

Contractee's A/c

Particulars	₹	Particulars	₹
To Balanced b/d	7,50,000	By Balance b/d	3,37,500
		By Cash	4,12,500
	7,50,000		**7,50,000**
	======		======

Working Notes:

1. **Calculation of 2014**

Total paid	90,200
(+) Outstanding of 2013	7,400
(–) Outstanding of 2013	2,600
	95,000

2. **Calculation of Depreciation on Plant**

25,500 × 15/100 × 12/12	=	3,825
12,000 × 15/100 × 4/12	=	600
		4,425

3. Calculation of Profit Transferred to P & L A/c

$$= 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 2,10,000 \times \frac{7,50,000}{10,00,000}$$

$$= 1,05,000$$

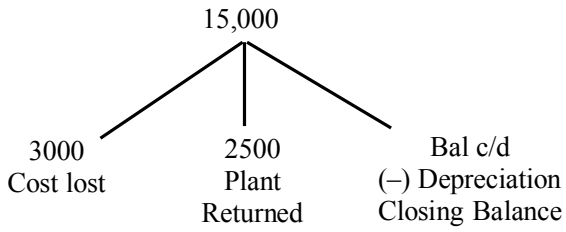
Illustration 05

M/s Bricks & Stones began to trade on 1/04/13. The following was expense on the contract for 3,00,000.

Material issued to contract	₹ 51,000
Plant used for contract	₹ 15,000
Wages	₹ 81,000
Other Expenses	₹ 5,000

Cash received. On 31/03/14 amounted, ₹ 1,28,000 being 80% of work certified. Out of the plant and material charged to the contract plant which cost ₹ 3,000 and material costing ₹ 2,500 were lost. On 31/3/14, plant which cost ₹ 2,500 was returned to stores, the cost of work done but uncertified was ₹ 1,000 and material was ₹ 2,300 on site. Charge 15% depreciation on plant. Prepare Contract A/c.

Solution:



Working Notes:

1. $\text{WC (Amt.)} = \frac{\text{Cash Received}}{\%\text{ of WC}} = \frac{1,28,000}{80\%} = 1,60,000$

2. Plant (w.d.v.):

Plant (cost)	15,000		Cost	15,000
(–) Plant cost	(3,000)		(–) Plant	(3,000)
= WDV	12,000		= Cost	12,000
(-) 15% depreciation	(1,800)	OR	(–) Plant returned	(2,500)
= w.d.v.	10,200			9,500
(–) plant returned to stores	(2,125)		(–) Depreciation 15%	(1,425)
= Plant (w.d.v.)	8,075			= 8,075

Working Note:

$$\%\,WC = \frac{CR}{CP} \times 100 = \frac{1,28,000}{3,00,000} \times 100 = 42.67\%$$

Range more than 25% but less than 50% P/L × Notional Profit × $\frac{1}{3} \times 27,000 \times \frac{1,28,000}{1,68,000}$ ₹ 7,200

Dr. **Contract A/c for the year ended 31/3/14** **Cr.**

Particulars	Amt	Particulars		Amt
To Material issued to contract	51,000	**By Profit/Loss A/c:**		
To Plant	15,000	Material cost	3,000	
To Wages	81,000	Plant Lost	2,500	5,500
To Other expenses	5,000	By Plant returned to stores		2,125
To Notional profit b/d	27,000	(w.d.v) (2,500 – 15%)		
		By Closing balances:		
		Material	2,300	
		Plant (w.d.v.) (WN)	8,075	
		Work certified	1,60,000	
		Uncertified		1,71,375
			1,000	
	1,79,000			**1,79,000**
To P & L A/c (WN)	7,200	By Notional Profit b/d		
To Reserves A/c	19,800			27,000
	27,000			**27,000**

Illustration 06

A firm tendered for a contract putting in a tender price ₹ 25,00,000. After mutual discussions, the price tendered was reduced by 20% and the firm started work on the contract on 1st January, 2014. The following information is available for the year ending 31st December, 2013.

	₹
Materials purchased for contract	5,00,000
Stores and spares consumed	45,000
Wages	2,64,000
Plant and Machinery	1,20,000
Overhead Expenses	51,000
Stock of materials on 31st December, 2013	25,000

The machinery was purchased on 1st April, 2014. It has a working life of five years and its scrap value has been estimated at ₹ 20,000. By 31st December, 2013, the contract had received ₹ 8,00,000 which represented 80% of the value of work certified on 15th December, 2013.

Expenses incurred after 15th December, 2014 were as follows:

(i) Materials ₹ 12,000

(ii) Wages ₹ 1,000

(iii) Overheads Expenses ₹ 7,000

Prepare the Contract Accounts showing the calculation of the profit if any to be taken credit for.

Solution:

Contract A/c for the year ended 31.12.2014

C.P. = 20,00,000

Particulars	₹	Particulars	₹
To Materials	5,00,000	By W.I.P.:	
To Store and Spares	45,000	Works Certified	10,00,000
To Wages	2,64,000	Works Uncertified	30,000
To Plant and Machinery	1,20,000	Material at site	25,000
To Overheads Expenses	51,000	Machine at Site	1,05,000
To Balance c/d (Notional profit)	1,80,000	(1,20,000 – 15,000)	
	11,60,000		**11,60,000**
To P & L A/c	96,000	By Balance b/d	1,80,000
To Reserves c/d	84,000		
	1,80,000		**1,80,000**

Contractee A/c

Particulars	₹	Particulars	₹
To Balance c/d	8,00,000	By Cash	8,00,000
	8,00,000		8,00,000

Working Notes:

1. Depreciation on Machinery

$$\text{Depreciation for one year} = \frac{\text{Cost} - \text{Scrap}}{\text{Life}}$$

$$= \frac{1,20,000 - 20,000}{5} = 20,000$$

$\therefore$ Depreciation for 9 months = 20,000 × 9/12 = 15,000

2. Calculation of Profit transferred to P & L A/c

$$\text{Work completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{10,00,000}{20,00,000} \times 100$$

$$= 50\%$$

$$\therefore \text{ Profit transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 1,80,000 \times \frac{8,00,000}{10,00,000}$$

$$= 96,000$$

Illustration 07

Trial Balance as on 31st December, 14 from the books of a contractor.

Particulars	Debit	Credit
Share capital (shares of ₹ 10 each)		3,51,800
P & L A/c (1/1/14)		25,000
Provision of Depreciation of Machinery		63,000
Cash received on contract		12,80,000
Creditors		81,200
Land and building (cost)	74,000	
Machinery in stores (Purchases 31.12.14)	52,000	
Bank	45,000	
Material	6,00,000	
Direct Labour	8,30,000	
Expenses	40,000	
Machinery on site (cost)	1,60,000	
Total	**18,01,000**	**18,01,000**

The contract began on 1st January, 14 and the contract price is ₹ 24,00,000 for which the customer paid ₹ 12,80,000. Being 80% of the work certified. The cost of work done since certification is estimated at ₹ 16,000. On 31/12/14, Machinery ₹ 42,000 was returned to stores, material on site ₹ 27,000, provision for direct labour accrued ₹ 6,000 and depreciation at $12\frac{1}{2}\%$ on cost on machinery. Prepare Contract A/c, P & L A/c and B/S for the year 31/12/14.

Solution:

Dr. **Contract A/c** **Cr.**

Particulars		Amt	Particulars	Amt
To Material		6,00,000	By Closing Balance:	
To Direct labour	8,30,000		Material	27,000
(+) O/S	6,000	8,36,000	Work Certified (WN)	16,00,000
To Expenses		40,000	uncertified	16,000
To Machinery Depreciation		20,000		
To Notional Profit c/d		1,47,500		
		18,28,500		**18,28,500**
To Profit & Loss A/c (WN)	(3)	78,400	By Notional Profit b/d	1,47,000

To Reserves A/c	68,600		
	1,47,000		**1,47,000**

Dr. Profit & Loss A/c Cr.

Particulars	Amt	Particulars	Amt
To Depreciation Plant at Store	6,500	By Opening Balance	25,000
To Balance c/d	96,900	By Contract A/c	78,400
	1,03,400		**1,03,400**

Dr. Balance Sheet as on 31/12/08 Cr.

Liabilities		Amt	Asset		Amt
Share capital		3,51,800	Land (cost)		74,000
PFD	63,000		Machinery (cost)		52,000
(+) Depr.	26,500	89,500	Bank		45,000
Creditors		81,200	Machinery on site (cost)		1,60,000
O/S Direct labour		6,000	WIP:		
P & L A/c		96,900	Work certified	16,00,000	
			Uncertified	(+) 16,000	
				= 16,16,000	
			(–) Reserves	(68,600)	
				= 15,50,433	
			(–) Cash received	(12,80,000)	2,67,400
			Material at site		27,000
		6,25,400			**6,25,400**

Working Notes:

1. Working cost (Amt.) $= \frac{CR}{\%\,WC} = \frac{12,80,000}{80\%} = 16,00,000$

2. Plant (cost) = 52,000 at store: Depreciation to P & L A/c @ 12.50%, 6,500 at site and Depreciation to Contract A/c @ 12% 20,000

3. $\%\,\text{Work done} = \frac{WC}{CP} \times 100$

$$= \frac{16,00,000}{24,00,000} \times 100$$

$$= 66.67\%$$

(Range more than 50% but less than 100%)

$$P\ \&\ L = \frac{2}{3} \times NP \times \frac{CR}{WC}$$

$$= \frac{2}{3} \times 1,47,000 \times \frac{12,80,000}{16,00,000}$$

$$= 78,400$$

Illustration 8

The Bhargava Construction Ltd. have undertaken the construction of a bridge over the river Narmada for the State Government. The value of the contract is ₹ 25,00,000, subject to a retention of 20% until one year the certified completion of the contract and final approval of the Government's engineer. The following are the details as shown in the books on 30th June, 2014:

Particulars	₹
Labour on site	8,10,000
Materials direct to site less returns	8,40,000
Materials from stores	1,62,400
Hire and use of plant – plant upkeep account	24,200
Direct Expenses	46,000
General overhead allocated to contract	74,200
Materials in hand on June, 30, 2014	12,600
Wages accrued on June 30, 2014	15,600
Direct expenses accrued on June 30, 2014	3,200
Work not yet certified at cost	33,000
Amount certified by the Government's Engineer	22,00,000
Cash received on account	17,60,000

Show:

(a) Contract account,

(b) Contractee's account and

(c) How the relevant items would appear in the balance sheet?

Solution:

Contract A/c for the year ended 30.6.2014

C.P. = 25,00,000

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Materials	8,40,000	By W.I.P.:	
To Material from stores	1,62,400	Work Certified	22,00,000
To Hire and Use of Plant Upkeep A/c	24,200	Work Uncertified	33,000
To Wages (including outstanding)	8,25,600	Material at Site	12,600
To Direct Expenses (incl. o/s)	49,200		
To General overheads	74,200		
To Balance c/d (Notional profit)	2,70,000		
	22,45,600		**22,45,600**
To P & L A/c	1,44,000	By Balance b/d	2,70,000
To Reserves c/d	1,26,000		
	2,70,000		**2,70,000**

Working Notes:

Calculation of Profit transferred to P & L A/c

$$\text{Work Completed} = \frac{\text{Work certifird}}{\text{Total Contract price}} \times 100$$

$$= \frac{22,00,000}{25,00,000} \times 100$$

$$= 88\%$$

$$\therefore \text{ Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 2,70,000 \times \frac{17,60,000}{22,00,000}$$

$$= 1,44,000$$

Contractee's A/c

Particulars	₹	Particulars	₹
To Balanced b/d	17,60,000	By Cash	17,60,000
	17,60,000		**17,60,000**

BALANCE SHEET PRESENTATION...

Liabilities	₹	Assets		₹
		W.I.P		
		Work Certified	22,00,000	
		Work Uncertified	33,000	
		Material at Site	12,600	
		Plant at Site	–	
			22,45,600	
		(–) Reserve	1,26,000	
		(–) Contractee's A/c	17,60,000	3,59,600

Illustration 9

A company undertook a contract for construction of a large building complex. The construction work commenced on 1st April, 2014 and the following date are available for the year ended 31st March, 2015.

Particulars	₹ '000
Contract Price	35,000
Work Certified	20,000
Progress Payments Received	15,000
Materials Issued to Site	7,500
Planning and Estimating Costs	1,000
Direct Wages Paid	4,000
Materials Returned from site	250

Plant Hire charges	1,750
Wage Related costs	500
Head office expenses apportioned	678
Direct expenses incurred	902
Work Not Certified	149

The Contractors own a plant which originally cost ₹ 2 lakhs has been continuously in use in the contract throughout the year. The residual value of the plant after 5 years of life is expected to be ₹ 5 lakhs. Straight line method of depreciation is in use.

As on 31st March, 2015, the direct wages due and payable amounted to ₹ 2,70,000 and the materials at site were estimated at ₹ 2,00,000.

You are required:

(i) Prepare the contract account for the year ended 31st March, 2015.

(ii) Show the calculation of profit to be taken to the Profit and Loss Account of the year.

(iii) Show the relevant balance sheet entries.

Solution:

Contract A/c for the year ended 31,3,2015

C.P. = 3,50,00,000
(Figures in '000)

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Materials	7,500	By W.I.P.:	
To Planning Cost	1,000	Work Certified	20,000
To Wages (including outstanding)	4,270	Work Uncertified	149
To Plant Hire Charge	1,750	Material at Site	200
To Wage Related Cost	500	Plant at Site (2,000 -300)	1,700
To Head Office Expenses	678	By Material Return	250
To Direct Expenses	902		
To Plant	2,000		
To Balance c/d (Notional Profit)	3,699		
	22,299		**22,299**
To P & L A/c	1,849.5	By Balance b/d	3,699
To Reserves c/d	1,849.5		
	3,699		**3,699**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	15,000	By Cash	15,000
	15,000		**15,000**

Working Notes:

1. **Calculation of Depreciation on Plant**

Depreciation for one year $= \frac{\text{Cost} - \text{Scrap}}{\text{Life}}$

$= \frac{2,000 - 500}{5} = 300$

Depreciation for one year/12 months = 300

2. **Calculation of Profit Transferred to P & L A/c**

Work Completed $= \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$

$= \frac{20,000}{35,000} \times 100$

$= 57.14\%$

$\therefore$ Transfer of Profit to P & L A/c $= 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$

$= 2/3 \times 3,699 \times \frac{15,000}{20,000}$

$= 1,849.5$

Balance Sheet Presentation

Liabilities	₹	Assets		₹
		W.I.P.:		
		Work Certified	20,000	
		Work Uncertified	149	
		Material at Site	200	
		Plant at Site	1,700	
			22,049	
		(–) Reserves	1,849.5	
		(–) Contractee' A/c	15,000	5,199.5

Illustration 10

Construction Ltd. engaged in contract work has the following trial balance as on 31st December, 2014.

Particulars	₹	₹
Share capital – Shares of ₹ 10 each		1,00,000
Profit and Loss A/c as on 1.1.2014		4,500
Provision for depreciation on plant		7,000
Contractee's Account – Contract No. 100		2,56,000
Creditors		13,900
Land and Building (at Cost)	40,000	

Plant and Tools (at Cost)	10,400	
Bank Balance	5,000	
Contract No. 100:		
Materials issued	1,20,000	
Direct Labour	1,66,000	
Expenses	8,000	
Plant and Tools at site (at cost)	32,000	
	3,81,400	**3,81,400**

Contract No. 100 having a contract price of ₹ 4,80,000 was started on 1st January, 2014 and the contractee paid 8% of the work certified. The cost of work done since certification is estimated to be ₹ 3,200 after the above Trial Balance was extracted on 31st December, 2014. Plant costing ₹ 6,400 was returned to the stores and materials at site on that date were valued at ₹ 6,000. Provision is to be made for depreciation of all plant tools @ 10% on cost.

Prepare Contract No. 100 Account showing the computation of profit, if any for which credit may properly be taken in 1986 and prepare the Balance Sheet as on 31st December, 2014.

Solution:

Dr. **Contract A/c for the year ended 31.12.14** **Cr.**

Particulars	₹	Particulars	₹
To Material Issued	1,20,000	By W.I.P.:	
To Direct Labour	1,66,000	Work Certified	3,20,000
To Expenses	8,000	Work Uncertified	3,200
To Depreciation	3,200	Material at Site	6,000
To Balance c/d (Notional Profit)	32,000		
	3,29,200		**3,29,200**
To P & L A/c	17,067	By Balance b/d	32,000
To Reserves c/d	14,933		
	32,000		**32,000**

Contactee's A/c

Particulars	₹	Particulars	₹
To Balance c/d	2,56,000	By Cash	2,56,000
	2,56,000		**2,56,000**

Working Note:

1. Calculation of Depreciation on Plant

Total		
42,400		
H.O.	Site	
10,400	32,000	
(+) 6,400	(–) 6,400	
16,800	25,600	
∴ Depreciation = 10,400 × 10,100	=	1040 (P & L A/c)
(+) 32,000 × 10/100	=	3800 (Contract A/c)
∴ Total Depreciation	=	4240

2. Calculation of Profit Transferred to P & L A/c

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{3,20,000}{4,80,000} \times 100$$

$$= 66.66\%$$

$$\therefore \text{Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 32,000 \times \frac{2,56,000}{3,20,000}$$

$$= 17,067$$

Dr. **Profit & Loss A/c** **Cr.**

	₹	Particulars	₹
To Depreciation	1,040	By Balance b/d	4,500
To Balance c/d	20,527	By Contract A/c	17,067
	21,567		**21,567**

Balance Sheet as on 31.12.13

Particulars	₹	Assets		₹
Share Capital	1,00,000	Plant: H.O	16,800	
P & L A/c	20,527	Site	25,600	
Creditors	13,900		42,400	
		(–) Provision for Last Year	7,000	
		(+) Provision for Current Year	4,240	31,160
		Land & Building		40,000
		Bank		5,000

		W.I.P.:		
		Work Certified	3,20,000	
		Work Uncertified	3,200	
		Material at Site	6,000	
			3,29,200	
		(–) Reserves	14,933	
		(–) Contractee's A/c	2,56,000	58,267
	1,34,427			**1,34,427**

Illustration 11

The following is the Trial Balance of Premier Construction Company engaged on the execution of Contract No. 747 for the year ended 31st March, 2014.

Particulars	**₹**	**₹**
Contractee's Account (being 75% of Work Certified		3,00,000
Buildings	160,000	
Creditors		72,000
Bank Balance	35,000	
Capital Account		5,00,000
Materials	2,00,000	
Wages	1,80,000	
Expenses	47,000	
Plant	2,50,000	
	8,72,000	**8,72,000**

The work on Contract No. 747 commenced on 1st April, 2013. Materials costing ₹ 1,70,000 were sent to the site of the Contract but those of ₹ 6,000 were destroyed in an accident.

Wages of ₹ 1,8,000 were paid during the year. Plant costing ₹ 50,000 was used on the contract all through out the year. Plant with a cost of ₹ 2 lakhs was used from 1st April to 31st December and was then returned to the stores. Materials of the cost of ₹ 4,000 were at site on 31st March, 2014.

Expenses are charged to the contract at 25% of Wages. Plant is to be depreciated at 10% for the entire year.

Prepare Contract No. 747 Account for the year 2013-14 and make out the Balance Sheet as on 31st March, 2014 in the books of Premier Construction Co.Solution:

Contract (747) A/c for the year ended 31.3.12

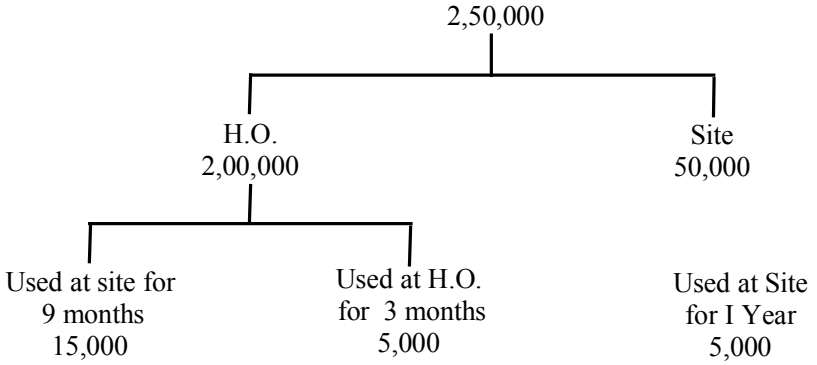
Particulars	**₹**	**Particulars**	**₹**
To Materials	1,70,,000	By W.I.P.:	
To Direct Labour	1,80,000	Work Certified	4,00,000
To Expenses	45,00	Work Uncertified	—
To Depreciation on Plant	20,000	Material Site	4,000
		By Material Destroyed	6,000
		By Loss	5,000
	4,15,000		**4,15,000**

Contactee's A/c

Particulars	₹	Particulars	₹
To Balance	3,00,000	By Cash	3,00,000
	3,00,000		**3,00,000**

Working Note:

Calculation of Depreciation on Plant



Profit & Loss A/c

Particulars	₹	Particulars	₹
To Expenses (H.O.)	2,000	By Balance c/d (net loss)	18,000
To Material Destroyed	6,000		
To Depreciation	5,000		
To Contract A/c	5,000		
	18,000		**18,000**

Balance Sheet as on 31.3.12

Liabilities	₹	Assets		₹
Capital	5,00,000	Building		1,60,000
Creditors	72,000	Bank		35,000
		Stock of Material		30,000
		Plant: H.O.	2,00,000	
		Site	50,000	
			2,50,000	
		(–) Depreciation	25,000	2,25,000
		P & L A/c (Dr. Balance)		18,000
		W.I.P.:		
		Work Certified	4,00,000	
		Work Uncertified	—	
		Material at Site	4,000	

			4,04,000	
		(–) Reserve	—	
		(–) Contractee's A/c	3,00,000	1,04,000
	5,72,000			**5,72,000**

Illustration 12

Alcon Construction Company Ltd. commenced its business of construction on 1.1.13. The trial balance as on 31.12.13 showed the following balances:

Particulars	**Dr. (₹)**	**Cr. (₹)**
Paid-up share capital		1,00,000
Cash received on account of contract (80% of Work Certified)		1,20,000
Land and Buildings	30.000	
Machinery at cost (75% at site)	40,000	
Bank	4,000	
Materials	40,000	
Direct Labour	55,000	
Expenses at site	2,000	
Lorries and vehicles	30,000	
Furniture	1,000	
Office Equipment	10,000	
Postage and Telegrams	500	
Office Expenses	2,000	
Rate and Taxes	3,000	
Fuel and Power	2,500	
	2,20,000	**2,20,000**

The Contract price is ₹ 3,00,000 and work certified is ₹ 1,50,000. The work completed since certification is estimated at ₹ 1,000 (at cost). Machinery costing ₹ 2,000 was returned to stores at the end of the year. Stock of Material at site on 31.12.2013 was of the value of ₹ 5,000. Wages outstanding were ₹ 200. Depreciation on Machinery at 10%. You are required to calculate the profit from the contract and show how the work-in-progress will appear in the Balance Sheet as on 31.12.2013.

Solution:

Contract A/c for the year ended 31.12.2013

C.P. = 3,00,000

Dr **Cr**

Particulars	**₹**	**Particulars**	**₹**
To Materials	40,000	By W.I.P.:	
To Direct Labour (including outstanding)	55,200	Work Certified	1,50,000
To Expenses	2,000	Work Uncertified	1,000
To Depreciation on Machinery	3,000	Material Site	5,000
To Balance c/d (Notional Profit)	55,800		
	1,58,000		**1,58,000**
To P & L A/c	29,760	By Balance b/d	55,800

To Reserves c/d	26,040		
	55,800		**55,800**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	1,20,000	By Balance b/d	1,20,000
	1,20,000		**1,20,000**

Working Notes:

1. Calculation of Depreciation on Plant

	Total		
	40,000		
	Site	H.O	
	30,000	10,000	
	(-) 2,000	(-) 2,000	
	28,000	12,000	
∴ Depreciation = 30,000 × 10/100	=	3,000	(Contract A/c)
10,000 × 10/100	=	1,000	(P & L A/c)
∴ Total Depreciation	=	4,000	

2. Calculation of Profit to be Transferred to P& L A/c

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{1,50,000}{3,00,000} \times 100$$

$$= 50\%$$

$$\therefore \text{Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 55,800 \times \frac{1,20,000}{1,50,000}$$

$$= 29,760$$

Dr. **Profit & Loss A/c** **Cr.**

Particulars	₹	Particulars	₹
To Postage	500	By Contract A/c	29,760
To Other Expenses	2,000		
To Rates & Taxes	3,000		—
To Depreciation on Machinery	1,000		

To Fuel & Power	2,500		
To Balance c/d	20,760		
	29,760		**29,760**

Balance Sheet as on 31.12.2013

Liabilities	**₹**	**Assets**		**₹**
Paid-up Capital	1,00,000	Land & Building		30,000
P & L A/c	20,760	Machinery:		
Outstanding Wages	200	Site	28,000	
		H.O.	12,000	
			40,000	
		(–) Depreciation	4,000	36,000
		Bank		4,000
		Lorry and Vehicles		30,000
		Furniture		1,000
		Equipments		10,000
		W.I.P.:		
		Work Certified	1,50,000	
		Work Uncertified	1,000	
		Material at Site	5,000	
			1,56,000	
		(–) Reserves	26,040	
		(–) Contractee	1,20,000	9,960
	1,20,960			**1,20,960**

Illustration 13

A Construction company have three contracts for the year ended 31st December.

Particulars	**A**	**B**	**C**
Contract price	10,00,000	25,00,000	7,50,000
Material issued to contract	1,65,200	2,24,500	1,89,600
Labour	1,02,800	1,26,500	1,75,500
Subcontract charges	72,800	65,900	28,500
Supervision charges	12,000	18,000	15,000
Architect fees	10,000	15,000	25,000
Insurance charges	3,000	6,100	7,400
Work certified	4,00,000	5,00,000	5,00,000
Work uncertified	35,000	40,000	25,000
Amount received from contractee	3,20,000	4,50,000	3,75,000
Closing stock of material	9,000	10,000	20,000

Total Depreciation ₹ 11,200 should be allocated to all the contracts in the ratio of work certified. Prepare Contract A/c and Balance Sheet extract.

Solution:

Calculation of Profit:

$$\frac{1}{3}\times NP\times\frac{CR}{WC}=\frac{1}{3}\times 75{,}000\times\frac{3{,}20{,}000}{4{,}00{,}000}=₹\,20{,}000$$

Balance Less than 25%, therefore entire balance to reserves:

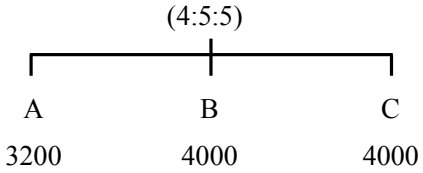
$$\frac{2}{3}\times NP\times\frac{CR}{WC}=\frac{2}{3}\times 10{,}000\times\frac{3{,}75{,}000}{5{,}00{,}000}=₹\,50{,}000$$

Dr. **Contract A/c** **Cr.**

Particulars	**A**	**B**	**C**	**Particulars**	**A**	**B**	**C**
To Material	1,65,200	2,24,500	1,89,600	By Closing Balance			
To Depreciation	3,200	4,000	4,000	WC	4,00,000	5,00,000	5,00,000
To Labour	1,02,800	1,26,500	1,75,500	Uncertified	35,000	40,000	25,000
To Subcontract charges	72,800	65,900	28,500	Material	9,000	10,000	20,000
To Supervision charges	12,000	18,000	15,000				
To Architect fees	10,000	15,000	25,000				
To Insurance charges	3,000	6,100	7,400				
To Notional Profit c/d	75,000	90,000	1,00,000				
	4,44,000	**5,55,000**	**5,45,000**		**4,44,000**	**5,55,000**	**5,45,000**
To P & L A/c	20,000	–	50,000	To Notional Profit b/d	75,000	90,000	1,00,000
To Reserves A/c	55,000	90,000	50,000				
	75,000	**90,000**	**1,00,000**		**75,000**	**90,000**	**1,00,000**

Working Note:

Depreciation: ₹ 11,200



Dr. **Profit & Loss A/c** **Cr.**

Particulars	Amt	Particulars		Amt
By Balance c/d (Net profit)	70,000	By Contract A/c		
		A	20,000	
		C	50,000	70,000
	70,000			**70,000**

Dr. **Balance Sheet Extract** **Cr.**

Liabilities	Amt	Assets		Amt
P & L A/c	70,000	**Closing Stock material**		
		A	9,000	
		B	10,000	
		C	20,000	39,000
		W.I.P. (A):		
		WC	4,00,000	
		(+) Work Uncertified	35,000	
		(–) Reserves	(55,000)	
		(–) Cash received	(3,20,000)	60,000
		W.I.P (B):		
		Work	5,00,000	
		(+) Work uncertified	40,000	
		(–) Reserves	(90,000)	
		(–) Cash received	(4,50,000)	NIL
		WIP (C): WC	5,00,000	
		W.uncertified	25,000	
		(–) Reserves	(68,000)	
		(–) Cash received	(3,75,000)	1,00,000

$$\% \text{ WC} = \frac{\text{WC}}{\text{CP}} \times 100$$

(1) $\therefore A = \frac{4,00,000}{10,00,000} \times 100 = 40\%$ (Range more than 25% but less than 50%)

$$\text{Profit/Loss} = \frac{1}{3} \times \text{NP} \times \frac{\text{CR}}{\text{WC}} = \frac{1}{3} \times 75,000 \times \frac{3,20,000}{4,00,000} = ₹\ 20,000$$

(2) $\therefore B = \frac{5,00,000}{25,00,000} \times 100 = 20\ \%$ (Range less than 25%. Entire balance will go to Reserves A/c)

(3) $\therefore C = \frac{5,00,000}{7,50,000} \times 100 = 66.6\%$ (Range greater than equal to 50% but less than 100%)

$$\text{P/L} = \frac{2}{3} \times \text{NP} \times \frac{\text{CR}}{\text{WC}} = \frac{2}{3} \times 1,00,000 \times \frac{3,75,000}{5,00,000} = ₹\ 50,000$$

Illustration 14

Particulars for the year ended 31/3/14

Particulars	Contract A	Contract B
Date of Commencement	01/07/03	01/12/03
Contract price	600000	500000
Material sent to site	160000	60000
Material returned	4000	2000
Closing stock of material	22000	8000
Direct labour	150000	42000
Direct expenses	66000	35000
Establishment expenses	25000	7000
Plant installed at site	80000	72000
Work uncertified	23000	10000
Work certified	420000	135000
Architect fees	2000	1000

During the year, material costing ₹ 9,000 has been transferred From A to B. The contractor charges 25% depreciation on plant. Prepare Contract A/c, P & L A/c, and B/S extract assuming that contractee has paid 90% of WC.

Solution:

Dr. Profit & Loss A/c Cr.

Particulars	Cont A	Cont B	Particulars	Cont A	Cont B
To Material sent to site	1,60,000	60,000	By Material returned	4,000	2,000
To Direct labour	1,50,000	42,000	By Transfer from A to	9,000	–
To Direct expenses	66,000	35,000	B		
To Establishment expenses	25,000	7,000			
To Plant (Cost)	80,000	72,000	By Closing Balance:		
To Transfer from A to B	–	9,000	WC	4,20,000	1,35,000
To Architect fees	2,000	1,000	Uncertified	23,000	10,000
To Notional Profit c/d	60,000	–	Material	22,000	8,000
			Plant (w.d.v.)	65,000	66,000
			By P & L A/c (loss)		5,000
	5,43,000	**2,26,000**		**5,43,000**	**2,26,000**
To P & L A/c	36,000	–	By Notional Profit	60,000	–
To Reserves A/c	24,000	–			
	60,000			**60,000**	

Dr. Profit & Loss A/c Cr.

Particulars	Amt	Particulars	Amt
To Contract B A/c	5,000	By Contract A A/c	36,000
To Net Profit c/d	31,000		
	36,000		**36,000**

Depreciation	**Contract A**	**Contract B**
Plant (cost)	80000	72000
(-) Depreciation (25%)	(9 months)	(4 months)
	15000	6000
= w.d.v.	**65000**	**66000**

$$\text{Check} = \%\ \text{WC} = \times \frac{\text{WC}}{\text{CP}} \times 100$$

A = CR = 90% WC = 4,20,000 × 90% = 3,78,000

$$\%\ \text{WC} = \times \frac{4,20,000}{6,00,000} \times 100 = 70\%$$

B = CR = 90% WC = 1,35,000 × 90% = 1,21,500

$$\%\ \text{WC} = \times \frac{1,21,500}{5,00,00} \times 100 = 27\%$$

(A) Range more than 50% less than 100%

$$\therefore\ \text{P/L} = \frac{2}{3} \times \text{NP} \times \frac{\text{CR}}{\text{WC}}$$

$$\frac{2}{3} \times 60,000 \times \frac{3,78,000}{4,20,000}$$

= ₹ 36,000

(B) Range more than 25% less than 50% but loss in contract B

Balance Sheet Extract as on 31/3/14

Liabilities	**₹**	**Assets**		**₹**
		Closing stock of material:		
		A	22,000	
		B	8,000	30,000
		Work-in-progress (A)		
		WC	4,20,000	
		(+) Uncertified	23,000	
		(–) CR	3,78,000	
		(–) Reserves	24,000	41,000
		Plant (A) (w.d.v.)		65,000
		Work-in-progress (B)		
		WC	1,35,000	

		(+) Uncertified	10,000	
		(–) CR	1,21,500	
		(–) Reserves	NIL	23,500
		Plant (B) (w.d.v.)		66,000

Dr. Contractee A/c (Contract A) Cr.

Particulars	Amt	Particulars	Amt
To Balance c/d	3,78,000	By Cash/Bank	3,78,000
	3,78,000		**3,78,000**

Dr. Contractee A/c (Contract A) Cr.

Particulars	Amt	Particulars	Amt
To Balance c/d	1,21,500	By Cash/Bank A/c	1,21,500
	1,21,500		**1,21,500**

Illustration 15

Navnirman Ltd. has undertaken three contracts. It furnishes the following information for the year ended 31st March.

Particulars	(Figures in '000)		
	Goa Contract (₹)	Roha Contract (₹)	Surat Contract (₹)
1. Balances on 1st April:	100	2,000	—
Material at site	2,500	4,000	—
Uncertified work	2,200	3,100	—
Plant at site	19,500	1,400	—
Work certified	1,000	600	—
Provision for contingencies			
2. Transactions during the year:			
Material issued	—	6,200	8,000
Subcontract charges	600	11,800	9,000
3. Balances on 31st March, 2013			
Material at site	—	1,000	800
Uncertified work	—	1,000	3,850
Plant at site	—	2,000	950
Work certified	25,000	30,000	12,000
4. Contract price	25,000	40,000	50,000
5. Amount received	25,000	27,000	10,800
6. Value of plant transferred from Goa contract to Surat contract	₹ 1,550		

The company consistently adopts the policy of taking credit for the contract profit considering the proportion of amounts received to the contract price.

You are required to:

(A) Prepare the respective contract accounts for the year ended 31st March, 2013.

(B) Find the net profit as per Profit and Loss Account.

Solution:

"GOA" Contract A/c for the year

C.P. = 25,000

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Opening W.I.P.:		By Reserves	1,000
Work Certified	19,500	By Contactee	25,000
Work Uncertified	2,500	By Surat Contract A/c	1,550
Material at Site	100		
Plant at Site	2,200		
To Material Issued	—		
To Subcontract Charges	600		
TOTAL COST	24,900		
To P & L A/c (Profit)	2,650		
	27,550		**27,550**

Note: Full contract is completed. ∴ Entire profit transferred to P & L A/c.

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Contract A/c	25,000	By Cash (Total)	25,000
	25,000		**25,000**

Cr. **Roha Contractee's A/c for the year** **Cr.**

Particulars	₹	Particulars	₹
To Opening W.I.P.:		By Reserves b/d	600
Work Certified	1,400	By Closing W.I.P.:	
Work Uncertified	4,000	Work Certified	30,000
Material at Site	2,000	Work Uncertified	1,000
Plant at Site	3,100	Material at Site	1,000
To Material Issued	6,200	Plant at Site	2,000
To Subcontract Charges	11,800		
To Notional Profit	6,100		
	34,600		**34,600**
To P & L A/c	2,745	By Balance b/d	6100
To Reserves c/d	3,355		
	6,100		**6,100**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	27,000	By Cash	27,000
	27,000		**27,000**

Working Note:

Calculation of Profit to be Transferred:

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Contract Price}} \times 100$$

$$= \frac{30,000}{40,000} \times 100 = 75\%$$

$$\text{Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Contract Price}}$$

$$= 2/3 \times 6,100 \times \frac{27,000}{40,000}$$

$$= 2,745$$

Surat Contract A/c for the Year Ended

C.P. = 50,000/-

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Materials Issued	8,000	By Closing W.I.P	
To Sub-Contract Charges	9,000	Work Certified	12,000
To Goa Contract A/c	1,550	Work Uncertified	3,850
(Transfer to Plant)		Material at Site	800
		Plant at Site	950
		By P & L A/c (Loss)	950
	18,550		**18,500**

Note: Loss should be Transferred to P & L A/c.

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	10,800	By Cash	10,800
	10,800		**10,800**

Illustration 16

The following information relates to building contract for ₹ 10,00,000 and for which 80% of the value of work-in-progress as certified by the architect is being paid by the contractee.

Particulars	1 Year ₹	II Year ₹	III Year ₹
Material issued	1,20,000	1,45,000	84,000
Direct wages	1,10,000	1,55,000	1,10,000
Direct expenses	5,000	17,000	6,000
Indirect expenses	2,000	2,600	500
Work certified	2,53,000	7,50,000	10,00,000
Uncertified work	3,000	8,000	------
Plant issued	14,000	Nil	------
Material on site	2,000	5,000	8,000

The value of the plant at the end of I, II and III Year was ₹ 11,200 ₹ 7,000 and ₹ 3,000 respectively. Prepare Contract Account for these three years taking into account such profit as you think proper on incomplete contract.

Solution:

Dr. Contract A/c Cr.

Particulars	₹	Particulars	₹
To Material Issued	1,20,000	By W.I.P .:	
To Direct Wages	1,10,000	Work Certified	2,53,000
To Direct Expenses	5,000	Work Uncertified	3,000
To Indirect Expenses	2,000	Material at Site	2,000
To Plant Issued	14,000	Plant at Site	11,200
To Notional Profit	18,200		
To Profit & Loss A/c	4,859	By Balance b/d	18,200
To Reserves c/d	13,347		
	18,200		**18,200**

Dr. Contractee's A/c Cr.

Particulars	₹	Particulars	₹
To Balance c/d	2,02,400	By Cash	2,02,400
	2,02,400		**2,02,400**

Working Note:

$$\text{Working Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{2,53,000}{10,00,000} \times 100$$

$$= 25.3\%$$

$$\therefore \text{ Profit Transferred to P \& L A/c} = 1/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 1/3 \times 18,200 \times \frac{2,02,400}{2,53,000}$$

$$= 4,853$$

Dr. **Contract A/c (Year II)** **Cr.**

Particulars	₹	Particulars	₹
To W.I.P. (Opening):		By Reserves b/d	13,347
Work Certified	2,53,000	By W.I.P.:	
Work Uncertified	3,000	Work Certified	7,50,000
Material at Site	2,000	Work Uncertified	8,000
Plant at Site	11,200	Material at Site	5,000
To Material Issued	1,45,000	Plant at Site	7,000
To Direct Wages	1,55,000		
To Direct Expenses	17,000		
To Indirect Expenses	2,600		
To Balance c/d	1,94,547		
	7,83,347		7,83,347
To Reserves c/d	90,789	By Balance b/d	1,94,547
To Profit & Loss A/c	1,03,753		
	1,94,547		**1,94,547**

Dr. **Contractee A/c.** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	6,00,000	By Cash	6,00,000
	6,00,000		**6,00,000**

Working Note:

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{7,50,000}{10,00,000} \times 100$$

$$= 75\%$$

$$\therefore \text{ Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 1,94,547 \times \frac{6,00,000}{7,50,000}$$

$$= 1,03,758$$

Dr. **Contract A/c (Year III)** **Cr.**

Particulars	₹	Particulars	₹
To W.I.P. (Opening):		By Reserves b/d	90,789
Work Certified	7,50,000	By Contractee's A/c	10,00,000
Work Uncertified	8,000	By Material Returned	8,000
Material at Site	5,000	By Plant Returned	3,000
Plant at Site	7,000		
To Material Issued	84,00		
To Direct Wages	1,10,000		
To Direct Expenses	6,000		
To Indirect Expenses	500		
To Profit & Loss A/c (Net Profit)	1,31,289		
	11,01,789		**11,01,789**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Contract A/c	10,00,000	By Balance b/d	6,00,000
		By Cash	4,00,000
	10,00,000		**10,00,000**

Illustration 17

M/s Acme Builders are engaged in construction of residential building in Western suburbs of Bombay. The following information gathered from their books relates to a building contract for ₹ 10,00,000.

Particulars	2013 (₹)	2014 (₹)
Material issued	3,00,000	84,000
Direct wages	2,30,000	1,05,000
Direct expenses	22,000	10,000
Indirect expenses	6,000	1,400
Work certified	7,50,000	10,00,000
Work uncertified	7,50,000	10,00,000
Materials at site	5,000	7,000
Plant issued	14,000	2,000
Cash received from Contractee	6,00,000	8,00,000
Loose tools and consumable stores issued	—	20,000

A special equipment purchased in 2014 was returned to Head office at a value of ₹ 16,000/- after charging depreciation @ 20%. The plant is to be depreciated @ 10% p.a. on w.d.v. basis. The contract took 146 days in 2014 for its completion.

The value of loose tools and consumable stores at the end of the period was ₹ 3,800. The administration and office expenses are to be provided @ 10% of work cost.

You are required to prepare:

(a) Contract Account for 2013 and 2014
(b) Contractee's Account for 2013 and 2014
(c) Work-in-progress Account for 2013 and 2014
(d) Extracts of balance sheet showing relevant items of contract for 2013 and 2014

Solution:

Contract A/c 2013

C.P. = 10,00,000

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Material Issued	3,00,000	By W.I.P.:	
To Direct Wages	2,30,000	Work Certified	7,50,000
To Direct Expenses	22,000	Work Uncertified	8,000
To Indirect Expenses	6,000	Material at Site	5,000
To Plant Issued	14,000	Plant at Site (14,000 10% Dep.)	12,600
To Administration Expenses	54,640		
To Balance c/d	1,48,960		
	7,75,600		**7,75,600**
To Profit & Loss A/c	79,445	By Balance b/d	1,48,960
To Reserves c/d	69,515		
	1,48,960		**1,48,960**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	6,00,000	By Cash	6,00,000
	6,00,000		**6,00,000**

Working Notes:

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{7,50,000}{10,00,000} \times 100$$

$$= 75\%$$

$$\therefore \text{ Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 1,48,960 \times \frac{6,00,000}{7,50,000}$$

$$= 79,445$$

Dr. **Contractee's A/c 2014** **Cr.**

Particulars	₹	Particulars	₹
To W.I.P.:		By Reserves b/d	69,515
Work Certified	7,50,000	By Contactee's A/c	10,00,000
Work Uncertified	8,000	By Material at Site	7,000
Material at Site	5,000	By Plant at Site	14,016
Plant at Site	12,600	By Equipment Returned	16,000
To Material Issued	84,000	By Loss Tools Returned	3,800
To Direct Wages	1,05,000		
To Direct Expenses	10,000		
To Indirect Expenses	1,400		
To Loose Tools	20,000		
To Administration Expenses (WN)	22,718		
To Plant Issued	2,000		
To Equip Issued	20,000		
To P & L A/c	69,613		
	11,10,331		**11,10,331**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Contract A/c	10,00,000	By Balance b/d	6,00,000
		By Cash	2,00,000
		By Balance c/d (amount receivable)	2,00,000
	10,00,000		**10,00,000**

Depreciation on Plant = 14,600 × 10% × 146/365 = 584

Working Note:	**2013**	**2012**
Administration Expenses		
Total of debit Side	= 2,68,000	5,72,000
(Except Work certified)		
(–) Total of credit side	= 40,816	25,600
(Except Reserves and Work certified)		
(Contractee's A/c)		
	2,27,184	5,46,400

∴ Additional expenses = 2,27,184 × 10%

= 22,718 = 54,640 × 10%

Balance Sheet Presentation (2014)

Assets	Amount
Material	7,000
Plant	14,016
Loose Tools	3,800

Equipment	16,000
Contactee (Receivable)	2,00,000

Balance Sheet Presentation (2013)

Assets	Amount	Amount
Work certified	7,50,000	
Work uncertified	8,000	
Material	5,000	
Plant at site	12,600	
	7,75,600	
(–) Reserves	69,515	
(–) Contactee	6,00,000	1,06,085

Illustration 18

Parna Kutir Ltd. furnishes you with following information for the years ended 31st March, 2013 and 31st March, 2014.

Year Ended	31.3.2013	31.3.2014
Material issued	13,000	24,700
Subcontract charge	4,500	20,000
Value of work certified during the year	20,000	80,000
Closing Stock Material at site	3,000	—

The total contact price is ₹ 1,00,000. The entire amount was received by 31st March, 2013 and 31st March, 2014. As per the accounting policy adopted by the company, no profit is to be consolidated unless the value of the work certified at the year end exceed 25% of the contract price.

Prepare contract account for the years ended 31st March, 2013 and 31st March, 2014.

Solution:

In the Books of P.K. Ltd.
Contract A/c for Year ended 31/3/13

C.P. = 1,00,000/-

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Material issued	13,000	By W.I.P.:	
To Subcontract Charges	4,500	Work Certified	20,000
To Balance c/d (Notional Profit)	5,500	Work Uncertified	—
		Material at site	3,000
	23,000		**23,000**
To P & L Account	Nil	By Balance b/d	5,500
To Reserve c/d	5,500		
	5,500		**5,500**

Note: Value of work certified is 20% of the contract price. Hence, nothing will be transferred to Costing P & L A/c out of notional profit.

Dr. **Contract A/c for the year ended 31/3/14** **Cr.**

Particulars	₹	Particulars	₹
To W.I.P. (Opening):		By Reserves b/d	5,500
Work Certified	20,000	By Contractee A/c (contract's price)	1,00,000
Work Uncertified	—	(20 + 80)	
Material Issued	3,000		
To Material Issued	24,700		
To Subcontract Charges	20,000		
To P & L Account (Profit)	37,800		
	1,05,500		**1,05,500**
	═══		═══

Note: Contract is completed fully. ∴ Total profit to be transferred to P & L A/c.

Illustration 19

The following Trial Balance was extracted from the book of account of M/s Janata Construction Company Ltd. for the year ending 31st December, 2014.

Particulars	Dr. (₹)	Cr. (₹)
Share Capital (Equity Shares of ₹ 10 each		3,51,000
Profit and Loss A/c (1.1.2014)		25,000
Provision for Depreciation:		
Plant and Tools		42,000
Office Furniture and Fixtures		11,000
Office Building		10,000
Cash received (80% of work certified):		
Contract No. 9		8,00,00
Contract No. 10		4,80,000
Creditors		82.000
Work-in-progress on 1.1.2014		
Contract No. 9	1,00,000	
Value of work completed but not certified on 1.1.2014:		
Contract No. 9	20,000	
Material issued:		
Contract No. 9	2,80,000	
Contract No. 10	2,00,000	
Direct Labour:		
Contract No. 9	5,60,000	
Contract No. 10	2,70,000	
Expenses:	20,000	
Contract No. 9	10,000	
Contract No. 10	10,000	
General Office Expenses		

Plant and Tools on site at cost		
Contract No. 9	72,000	
Contract No. 10	88,000	
Office Building at cost	74,000	
Office furniture and fixtures at cost	52,000	
Cash at bank and in hand	45,000	
	18,01,000	**18,01,000**

The cost of work done but certified as at 31.12.14 was ₹ 40,000 for Contract No. 9 and ₹ 24,000 for Contract No. 10.

The value of materials on site as at 31.12.2014 was ₹ 7,000 for Contract No. 9 and ₹ 20,000 for Contract No. 10.

Provision has to be made for unpaid direct labour charge of ₹ 4,000 for Contract No. 9 and ₹ 6,000 for Contract No. 10.

Provide depreciation on original cost at 5% in respect of building, 10% in respect of furniture and fixtures and $12\frac{1}{2}\%$ in respect of plant and tools.

No portion of general overheads is to be allocated to contract. It is the company practice to take profit on incomplete contracts to the extent of two-thirds of the profits realised in cash.

You are required to prepare:

(i) Contract Accounts for the year,

(ii) Profit and Loss Account for the year and

(iii) Balance Sheet as at 31st December, 2014.

Solution:

Contract (No. 9) A/c for the year ended 31.12.14

Particulars	₹	Particulars	₹
To W.I.P. (Opening):		By Reserves b/d	—
Work Certified	1,00,000	By W.I.P. (Closing)	
Work Uncertified	20,000	Work Certified	10,00,000
Material at site	Nil	Work Uncertified	40,000
To Depreciation on Plant	9,000	Material at Site	7,000
To Materials Issued	2,80,000		
To Labour (including outstanding)	5,64,000		
To Expenses	20,000		
To Balance c/d (Notional Profit)	54,000		
	10,47,000		**10,47,000**
To P & L A/c	28,800	By Balance b/d	54,000
To Reserves c/d	25,200		
	54,000		**54,000**

Contractee (No. 9) A/c

Particulars	₹	Particulars	₹
To Balance c/d	8,00,000	By Cash (Last Year (+) Current Year)	3,00,000
	8,00,000		**8,00,000**

Working Note:

Calculation of Profit to be Transferred to P & L A/c

$$= 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Works Certified}}$$

$$= 2/3 \times 1,47,000 \times \frac{8,00,000}{10,00,000}$$

$$= 28,800$$

Dr. **Contract (No. 10) A/c for the Year ended 31,12,14** **Cr.**

Particulars	₹	Particulars	₹
To Materials	2,00,000	By W.I.P.:	
To Labour (including outstanding)	2,76,000	Work Certified	6,00,000
To Expenses	10,000	Work Uncertified	24,000
To Depreciation on Plant	11,000	Material at Site	20,000
To Balance c/d (Notional Profit)	1,47,000		
	6,44,000		**6,44,000**
To P & L A/c	78,400	By Balance b/d	1,47,000
To Reserves c/d	68,600		
	1,47,000		**1,47,000**

Dr. **Contractee's A/c** **Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	4,80,000	By Balance b/d	4,80,000
	4,80,000		**4,80,000**

Working Note:

Calculation of Profit to be Transferred to P & L A/c

$$= 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Works Certified}}$$

$$= 2/3 \times 1,47,000 \times \frac{4,80,000}{6,00,000}$$

$$= 78,400$$

Dr. Profit & Loss A/c Cr.

Particulars	₹	Particulars	₹
To Depreciation on Furnitures	5,200	By Balance b/d	25,000
To Depreciation on Buildings	3,700	By Contract A/c (No. 9)	28,800
To General Expenses	10,000	By Contract A/c (No. 10)	78,400
To Balance c/d	1,13,300		
	1,32,200		**1,32,200**

Balance Sheet as on 31.12.14

Liabilities	₹	Assets		₹
Capital	3,51,000	Plant:		
P & L A/c	1,13,300	Contract No. 9	72,000	
Creditors	82,000	Contract No. 10	88,000	
Outstanding Wages	10,000		1,60,000	
		(–) Provision for Depreciation	42,000	
		(–) Depreciation for Current Year	20,000	98,000
		Furniture	52,000	
		(–) Provision	11,000	
		(–) Depreciation for Current Year	5,200	35,800
		Buildings	74,000	
		(–) Provision	10,000	
		(–) Depreciation for Current Year	3,700	60,300
		Cash/Bank		45,000
		W.I.P. (No. 9)		
		Work Certified	10,00,000	
		Work Uncertified	40,000	
		Material Site	7,000	
			10,47,000	
		(–) Reserves	25,200	
		(–) Contractee's	8,00,000	2,21,800
		W.I.P. (No.: 10)		
		Work Certified	6,00,000	
		Work Uncertified	24,000	
		Material Site	20,000	
			6,44,000	
		(–) Reserves	68,600	
		(–) Contractee's A/c	4,80,000	95,400
	5,56,300			**5,56,300**

Illustration 20

Bhagwandas undertook a contract for ₹ 15,00,000 on an arrangement that 80% of value of the work done as certified by the architects of the contractee, should be paid immediately and that the remaining 20% be retained until the contract was completed in 2013. The amounts expended were:

Materials, ₹ 1,80,000; Wages ₹ 1,70,000; Carriage ₹ 1,000; Sundry expenses ₹ 3,000. The work was certified for ₹ 3,75,000 and 80% of this was paid as agreed.

In 2014, the amounts expended were:

	₹
Materials	1,80,000
Wages	1,70,000
Carriage	6,000
Cartage	1,000
Sundry expenses	3,000

Three-fourth of contract was certified as done by the 31st December and 8% of it was received accordingly. The value of unused stock and work-in-progress uncertified as ascertained at ₹ 20,000.

In 2014, amounts expended were: Materials ₹ 1,26,000, Wages ₹ 1,70,000, Cartage ₹ 6,000, Sundry expenses ₹ 3,000 and on 30th June the whole contract was completed. Show how the Contract Account as also the Contractee's Account would appear each of these years in the books of the contractor, assuming that the balance due to him was received on the completion of the contract.

Solution:

Contract A/c for the year ended 31.12.14 **C.P. = 15,00,000**

Dr. **Cr.**

Particulars	₹	Particulars	₹
To Materials	1,80,000	By W.I.P.	
To Wages	1,70,000	Work Certified	3,75,000
To Carriage	6,000	Work Uncertified	—
To Cartage	1,000	Material at Site	—
To Sundry Expenses	3,000		
To Balance c/d (Notional Profit)	15,000		
	3,75,000		**3,75,000**
To P & L A/c	4,000		15,000
To Reserves c/d	11,000		
	15,000		**15,000**

Contract A/c

Particulars	₹	Particulars	₹
To Balance c/d	3,00,000	By Cash	3,00,000
	3,00,000		**3,00,000**

Working Notes:

Calculation of Profit Transferred

$$\text{Work Completed} = \frac{\text{Work certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{3,75,000}{15,00,000} \times 100$$

$$= 25\%$$

$$\therefore \text{ Profit Transferred to P \& L A/c.} = 1/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 1/3 \times 15,000 \times \frac{3,00,000}{3,75,000}$$

$$= 4,000$$

Dr. Contract A/c for the year ended 31.12.13 Cr.

Particulars	₹	Particulars	₹
To W.I.P. (Opening)	3,75,000	By Reserves b/d	11,000
Work Certified	—	By W.I.P.:	
Work Uncertified	—	Work Certified	11,25,000
Material at site	—	Work Uncertified and Unused Stock	20,000
To Materials	1,80,000		
To Wages	1,70,000		
To Carriage	6,000		
To Cartage	1,000		
To Sundry Expenses	3,000		
To Balance c/d (Notional Profit)	4,21,000		
	11,56,000		**11,56,000**
To P & L A/c	2,24,533	By Balance b/d	4,21,000
To Reserves c/d	1,96,467		
	4,21,000		**4,21,000**

Contractee's A/c

Particulars	₹	Particulars	₹
To Balance c/d	9,00,000	By Balance b/d	3,00,000
		By Cash	6,00,000
	9,00,000		**9,00,000**

Working Note:

Calculation of Profit Transferred to P & L A/c

$$\text{Work Completed} = \frac{\text{Work Certified}}{\text{Total Contract Price}} \times 100$$

$$= \frac{11,25,000}{15,00,000} \times 100$$

$$= 75\%$$

$$\therefore \text{Profit Transferred to P \& L A/c} = 2/3 \times \text{Notional Profit} \times \frac{\text{Total Cash Received}}{\text{Total Work Certified}}$$

$$= 2/3 \times 4,21,000 \times \frac{9,00,000}{11,25,000} \times 100$$

$$= 2,24,533$$

Dr. **Contract A/c for the year ended 31,12,2014** **Cr.**

Particulars	₹	Particulars	₹
To W.I.P. (Opening)		By Reserves c/d	1,96,467
Work Certified	11,25,000	By Contactee's A/c	15,00,000
Work Uncertified and Unused Stock	20,000		
To Materials	1,26,000		
To Wages	1,70,000		
To Cartage	6,000		
To Sundry Expenses	3,000		
To P & L A/c (Actual Profit)	2,46,467		
	16,96,467		**16,96,467**

Contractee A/c

	₹		₹
To Contract A/c	15,00,000	By Balance b/d	9,00,000
		By Cash	6,00,000
	15,00,000		**15,00,000**

Illustration 21

A building contractor undertakes a contract for ₹ 10,00,000 and for which 80% of value of WC by the architect is being paid by the contractee.

Particulars	I Year	II Year	III Year
Material issued	1,20,000	1,45,000	84,000
Direct wages	1,10,000	1,55,000	1,10,000
Direct Expenses	5,000	17,000	6,000
Indirect expenses	2,000	2,600	500
Work certified	2,35,000	7,50,000	10,00,000

Uncertified	3,000	8,000	NIL
Plant issued	14,000	–	–
Material on site	2,000	5,000	8,000
Value of plant at the end	11,200	7,000	3,000

Prepare Contract A/c, P & L A/c, Contractee A/c and B/S extract.

Solution:

Working Notes:

I Year: $\%\,WC = \frac{WC}{CP} \times 100 = \frac{2,35,000}{10,00,000} \times 100 = 23.5\%$

But CR = 80% WC

= 80% × 2,35,000 Range is less than

= ₹ 1,88,000 25%

Transfer to reserves

Dr. Contract A/c for I Year Cr.

Particulars	Amt	Particulars	Amt
To Material issued	1,20,000	By Closing Balance (WIP):	
To Direct wages	1,10,000	Work certified	2,35,000
To Direct expenses	5,000	Uncertified	3,000
To Indirect expenses	2,000	Material	2,000
To Plant (cost)	14,000	Plant (w.d.v.)	11,200
To Notional Profit c/d	200		
	2,51,200		**2,51,200**
To Balance c/d	200	By Notional Profit b/d	200
	200		**200**

Dr. Balance Sheet Extract as on I Year Cr.

Liabilities	Amt	Assets		Amt
		Closing stock of material		200
		Plant (w.d.v.)		11,200
		W.I.P.:		
		WC	2,35,000	
		(+) Uncertified	3,000	
		(–) CR	1,88,000	
		(–) Reserves	200	49,800

Dr. Contract A/c for II Year Cr.

Particulars		Amt	Particulars		Amt
To Opening Balance(W.I.P.):			By Reserves b/d		200
Material	2,000		By Closing Balance (W.I.P.)		
Work Certified	2,35,000		Material	5,000	
Uncertified	3,000		Work certified	7,50,000	
Plant	11,200	2,51,200	Uncertified	8,000	
To Material issued		1,45,000	Plant (w.d.v.)	7,000	7,70,000
To Direct Wages		1,55,000			
To Direct Expenses		17,000			
To Indirect Expenses		2,600			
To Notional Profit c/d		1,99,400			
		7,70,200			**7,70,200**
To Profit & Loss A/c		1,06,347	By Notional Profit b/d		1,99,400
To Reserves A/c		93,053			
		1,99,400			**1,99,400**

Dr. Profit & Loss A/c Cr.

Particulars	Amt	Particulars	Amt
To Net Profit c/d	1,06,347	By Opening Balance (Contract A/c)	1,06,347
Total	**1,06,347**	**Total**	**1,06,347**

Dr. Contract A/c for III Year Cr.

Particulars		Amt	Particulars		Amt
To Opening Balance (W.I.P.):			By Reserves b/d		93,053
Material	5,000		By Contractee's A/c		10,00,000
WC	7,50,000		(Full contract price)		
Uncertified	8,000		By Closing Balance		
Plant	7,000	7,70,000	Material	8,000	
To Material issued		84,000	Plant (w.d.v.)	3,000	
To Direct wages		1,11,000	WC	–	
To Direct expenses		6,000	Uncertified	–	11,000
To Indirect expenses		500			
To Profit on contract		1,33,553			
		11,04,053			**11,04,053**

Note: In the last year of the contract, WC and uncertified will be nil because the construction is completed in this year. Instead we settle the Contractee A/c with the full amount of contract price in the last year.

Dr. **Profit & Loss A/c** **Cr.**

Particulars	Amt	Particulars	Amt
To Net Profit c/d	1,33,553	By Opening Balance	1,33,553
	1,33,553		**1,33,553**

II Year

$$\% \text{ WC} = \frac{\text{WC}}{\text{CP}} \times 100$$

But CR = 80% of WC

= 80% × 7,50,000

= ₹ 6,00,000

$$\% \text{ WC} = \frac{7,50,000}{10,00,000} \times 100$$

= 75 %

Range more than equal to 50% but less than 100%

$$\text{P/L} = \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{CR}}{\text{WC}}$$

$$= \frac{2}{3} \times 1,99,400 \times \frac{6,00,000}{7,50,000}$$

= ₹ 1,06,347

Dr. **Balance Sheet Extract for II Year** **Cr.**

Liabilities	Amt	Assets		Amt
P & L A/c	1,06,347	Closing stock of material		5,000
		Plant (w.d.v.)		7,000
		W.I.P.:		
		Work certified	7,50,000	
		(+) Uncertified	8,000	
		(–) CR	6,00,000	
		(–) Reserves	93,053	64,947

Dr. **Balance Sheet Extract for III Years** **Cr.**

Liabilities	Amt	Assets	Amt
P & L A/c	1,33,553	Closing stock of material	8,000
		Plant (w.d.v.)	3,000

Dr. **Contractee's A/c** **Cr.**

Particulars	Amt	Particulars	Amt
		I Year	
To Balance c/d	1,88,000	By Cash/Bank A/c	1,88,000
Total	**1,88,000**	**Total**	**1,88,000**
		II Year	
To Balance c/d	7,88,000	By Opening Balance b/d By Cash/Bank A/c	1,88,000 6,00,000
Total	**7,88,000**	**Total**	**7,88,000**
		III Year	
To Balance c/d	10,00,000	By Opening Balance b/d By Cash/Bank A/c	7,88,000 2,12,000
Total	**10,00,000**	**Total**	**10,00,000**

Illustration 22

A construction company contructs a flyover for a contract price of ₹ 820 lakhs. The contractee has agreed to pay 90% of the work certified. The company has decided not to book any profit to the P & L A/c until 25% of the total work is completed and thereafter in that ratio which the amount receives bears to the total contract price. The entire amount was received by the 31st March, 14.

It commenced the contract on 1st August, 02 and completed on 31/1/14. The value of plant brought for the contract was ₹ 57 lakhs and estimated scrap value was ₹ 12 lakhs at the end of the contract. The books of accounts are closed for every 31st March.

Particulars	2012-13 ₹	2013-14 ₹
Material	2,28,00,400	26,01,000
Wages	1,09,27,800	38,10,000
Direct expenses	92,85,400	29,44,000
Indirect expenses	87,88,400	11,05,000
Supervision charges	40000 p.m.	30000 p.m.
Administration Overheads	82500 p.m.	40000 p.m.
Consultant fees	5% of WC	5% of WC
Work uncertified at year end	11,35,000	–
Material at site at year end	3,37,000	–
Amount received during the years	5,90,40,000	2,29,60,000
Architect fees	3% of WC	3% of WC

Prepare Contract A/c upto 31/3/14 and also prepare Contractee A/c.

Solution:

Working Notes:

1. 1/4/02 – 31/3/03 = 1/8/02 – 31/3/03 = 8 months

2. 1/4/03 – 31/3/04 = 1/4/03 – 31/1/04 = 10 months

Contract for = 18 months

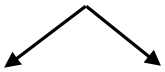
1. Depreciation p.a. $= \frac{\text{Cost} - \text{Scrap}}{\text{Estimated Life}}$

$= \frac{57,00,000 - 27,00,000}{18 \text{ months}}$

= ₹ 2,56,00,000 p.m.

2. Work certified (Amt) $= \frac{CR}{\%WC} = \frac{5,90,40,000}{90\%}$

= 6,56,00,000



5% Consultant fees — Architect fees 3%

32,80,000 — 19,68,000

3. Check work certified $= \frac{WC}{CP} \times 100$

$= \frac{6,56,00,000}{8,20,00,000} \times 100$

= 80%

The range is between 50% to 100%. Both the actual formula of range is not applicable in this question because the formula is specified in the question.

Profit and Loss = Notional Profit $\times \frac{CR}{CP}$

$= 70,42,000 \times \frac{5,90,40,000}{8,20,00,000} = 50,70,240$

Dr. Contract A/c from 1/4/12 – 31/3/13 (8 months) Cr.

Particulars	Amt	Particulars	Amt
To Materials	2,28,00,400	By Closing Balance (WIP):	
To Wages	1,09,27,800	WC	6,56,00,000
To Direct expenses	92,85,400	Uncertified	11,35,000
To Indirect expenses	87,88,400	Material	3,37,000
To Supervision expenses (40,000 × 8 months)	3,20,000		
To Administration Overheads (82,500 × 8 months)	6,60,000		
To Architect fees (3% WC) (WN)	19,68,000		
To Consultant fees (5% WC) (WN)	32,80,000		

To Depreciation (WN) (2,50,000 p.m. × 8 months)	20,00,000		
To Notional Profit c/d	70,42,000		
	6,70,72,000		**6,70,72,000**
To P & L A/c (WN)	50,70,240	By Notional Profit b/d	70,42,000
To Reserves A/c	19,71,760		
	70,42,000		**70,42,000**

Dr. **Profit & Loss A/c** **Cr.**

Particulars	Amt	Particulars	Amt
To Net Profit c/d	50,70,240	By Opening Balance	50,70,240
	50,70,240		**50,70,240**

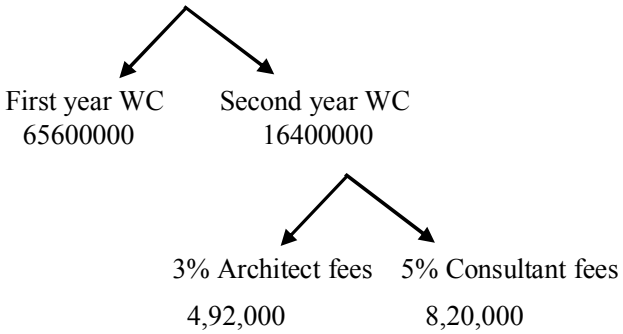
Dr. **Contract A/c from 1/4/13 – 31/1/14** **Cr.**

Particulars	Amt	Particulars	Amt
To Opening Balance (W.I.P.):		By Opening balance of reserves	19,71,760
Work certified	6,56,00,000	By Contractee's A/c	8,20,00,000
Uncertified	11,35,000	(Full contract price)	
Material	3,37,000		
To Material	26,01,000		
To Wages	38,10,000		
To Direct expenses	29,44,000		
To Indirect expenses	11,05,000		
To Supervision expenses (30,000 × 10 months)	3,00,000		
To Administration Overheads (40,000 × 10 months)	4,00,000		
To Architect fees (3% WC) (WN)	4,92,000		
To Consultant fees (5% WC) (WN)	8,20,000		
To Depreciation (2,50,000 × 10 months)	25,00,000		
To P & L A/c (Profit on contract)	19,27,760		
	8,39,71,760		**8,39,71,760**

Dr. **Profit & Loss A/c (10 months)** **Cr.**

Particulars	Amt	Particulars	Amt
To Net Profit c/d	19,27,760	By Opening Balance	19,27,760
	19,27,760		**19,27,760**

4. C.P = 82000000



For the last year of the contract, there is no closing balance. Instead on the credit side of the Contract A/c, we write, "By Contractee's A/c" with the full amount of contract price.

Note: In the last year of the contract, we do not calculate Notional profit and so there is no checking of range instead the balance in Contract A/c whether Profit/Loss will be taken to P & L A/c.

Dr. **Balance Sheet Extract as on 31.3.14** **Cr.**

Liabilities	Amt	Assets		Amt
P & L A/c	50,70,240	Closing stock of material	3,37,000	
		W.I.P.:		
		Work certified	6,56,00,000	
		(+) Uncertified	11,35,000	
		(–) Cash received	(5,90,40,000)	
		(–) Reserves	(19,71,760)	57,23,240
		Plant	57,00,000	
		(–) Depreciation	(20,00,000)	37,00,000

Dr. **Balance Sheet as on 31/3/14 (Extract)** **Cr.**

Liabilities	Amt	Assets		Amt
P & L A/c	19,27,760	Plant	37,00,000	
		(–) Depreciation	(25,00,000)	12,00,000

Dr. **Contractee A/c (I Year)** **Cr.**

Particulars	Amt	Particulars	Amt
To Balance c/d	5,90,40,000	By Cash/Bank	5,90,40,000
	5,90,40,000		**5,90,40,000**

Dr. **Contractee A/c (II Year)** **Cr.**

Particulars	Amt	Particulars	Amt
To Contract A/c		By Balance b/d	5,90,40,000
	820 Lacs	By Cash/Bank	2,29,60,000
	8,20,00,000		**8,20,00,000**

Note: Payment by contractee:

Cash/Bank A/c Dr.

To Contractee'A/c Cr.

Illustration 23

M/s Everfine Constructions commenced a construction of a Bunglow on 1st July, 2013. Originally, the contract price was ₹ 50,00,000 but finally the same was fixed at ₹ 45,00,000.

Particulars	**Actual Expenditure Up to 31.12.13**	**Estimated Expenditure During 2014**
Building Materials	8,00,000	13,00,000
Labour charges	6,00,000	6,00,000
Plant installed at site (at cost)	4,00,000	
Materials at site on 31.12.2013	50,000	
General Expenses	2,50,000	3,55,000
Plant returned to stores at cost at the end of the year	1,00,000	
Work certified	20,00,000	Contract
Work uncertified	75,000	Completed
Cash received	90% of the Work certified	45,00,000

The contract is expected to be completed by 30th September, 2014. The plant is subject to depreciation at 20% p.a. on the original cost.

In order to calculate the correct account of profit made on the contract for the year 2013 it was decided to take certain proportion of the estimated profit on completion of the contract to the credit of Profit and Loss Account such proportion being cash received to the total contract price.

Prepare the Contract Account for the year ending 31st December, 2013 and work out estimated profit on the completion of the contract by 30th September, 2014.

Solution:

Contract A/c for year ended 31.12.13 (PQ)

Contract Price = 15,00,000

Dr. **Cr.**

Particulars	**₹**	**Particulars**	**₹**
To Material	18,00,000	By W.I.P.:	
To Material Transferred	2,70,000	Work Certified	40,50,000
To Wages (incl. outstanding)	14,10,000	Work Uncertified	3,00,000
To Direct Expenses	9,00,000	Material at Site	2,40,000
To Establishment Expenses	2,40,000	Plant at Site	19,20,000
To Plant Issued	21,00,000	By Material Returned	60,000
		By P & L A/c (Loss)	1,50,000
	67,20,000		**67,20,000**

Dr. Contractee's A/c Cr.

	₹	Particulars	₹
To Balance c/d	37,50,000	By Cash	37,50,000
	37,50,000		**37,50,000**

Balance Sheet Presentation

Liabilities	₹	Assets		₹
		Contract AB		
		W.I.P.:		
		Work Certified	1,26,00,000	
		Work Uncertified	6,90,000	
		Material at Site	6,60,000	
		Plant at Site	19,50,000	
			1,59,00,000	
		(–) Reserve	7,20,000	
		(–) Contractee's A/c	1,13,40,000	38,40,000
		Contract PQ:		
		W.I.P.:		
		Work Certified	40,50,000	
		Work Uncertified	3,00,000	
		Material at Site	2,40,000	
		Plant at Site	19,20,000	
			65,10,000	
		(–) Reserve	—	
		(–) Contractee's A/c	37,50,000	27,60,000

Dr. Contract A/c for year ended 31.12.13 Cr.

	₹	Particulars	₹
To Material	8,00,000	By W.I.P.:	
To Labour	6,00,000	Work Certified	20,00,000
To General Expenses	2,50,000	Work Uncertified	75,000
To Depreciation on Plant	40,000	Material at Site	50,000
To Balance c/d	4,35,000		
	21,25,000		**21,25,000**
To Profit & Loss A/c	90,667	By Balance b/d	4,35,000
To Reserve c/d	3,44,333		
	4,35,000		**4,35,000**

Dr. **Contractee's A/c** **Cr.**

	₹	Particulars	₹
To Balance c/d	18,00,000	By Cash	18,00,000
	18,00,000		**18,00,000**

(i) Depreciation on Plant for 1994:

4,00,000 × 20/100 × 6/12 = 40,000

Estimated depreciation for 1995 (9 months)

3,00,000 × 20100 × 9/12 = 45,000

(Plant is returned to stores on last day of the year. Hence, depreciation is to be calculated on full value of plant.)

Dr. **Estimated or Total Contract A/c** **Cr.**

Particulars	₹	Particulars	₹
To Material	21,00,000	By Contractee's A/c	45,00,000
To Wages	12,00,000		
To General Expenses	6,05,000		
To Depreciation	85,000		
To Net Profit (estimated)	5,10,000		
	45,00,000		**45,00,000**

(ii) Profit Transferred to P & L A/c

Work Certified	Net Profit
45,00,000	5,10,000
20,00,000	(?)
	= 2,26,667

∴ Profit Transferred to P & L A/c on Cash Basis

$$= 2,26,667 \times \frac{\text{Cash Received}}{\text{Contract Price}} \text{ (given in the question paper)}$$

$$= 2,26,667 \times \frac{18,00,000}{45,00,000}$$

$$= 90,667$$