UNIT 12 JOB AND CONTRACT COSTING

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12.0 OBJECTIVES

After studying this unit, you should be able to:

- define job costing and describe its special features
- explain the procedure adopted for costing purposes in case of job costing
- evaluate job costing as a method of cost ascertainment

  prepare a job cost sheet

  define contract costing and describe its special features
- prepare contract account and ascertain the notional profit on uncompleted contracts
- explain how profit taken to profit and loss account is determined
- explain how work in progress is shown in balance sheet.

12.1 INTRODUCTION

If a firm is engaged in producing homogeneous product, it uses unit costing method about which you studied in Unit 2. But, where a firm is engaged in undertaking small jobs involving different amount of material, labour and overhead costs such as automobile repair shop, interior decorators, furniture makers, etc., unit costing method cannot be applied. The method of costing used by them is known as 'job costing' which treats each job as a separate unit of cost. Under this method, costs are accutnulated and analysed job-wise. When, however, a firm undertakes big jobs like constructing a building, road, bridge, etc., which involve huge sums and long duration, it stops contract costing method of ascertaining cost and profit. The special feature of such jobs is that they may remain incomplete by the end of the accounting year. Hence, ascertainment of profit or loss has many complexities.

In this unit, you will learn about both the methods in detail and study how cost and profit of small'jobs and big projects (contracts) are ascertained. To be more specific, you will learn about the preparation of Job Cost Sheet and Contract Account.

12.2 JOB COSTING

Job Costing refers to the method of ascertaining costs where product is manufactured or

service is provided against specific order, as distinct from continuous production for stock and sale. Under this method, costs are collected and recorded for each job. or a batch of similar jobs, under a separate production order number. Each job has its own characteristics and needs special treatment. Take the example of a machine tool manufacturer or an automobile repair shop. Each order of machine or each repair job involves different amount of materials, labour and overheads. Hence, it is necessary to accumulate the costs for each order or job so that its total cost can be determined and proper matching of costs and revenues can be made.

12.2.1 Definition and Characteristies

The ICMA Terminology provides an excellent description of job costing which defines it as "that form of specific order costing which applies where work is undertaken to customers' special requirements and each order is of comparatively short duration. The work is usuaily carried out within a factory or work shop and moves through processes and operations as a continuously identifiable unit".

Thus, the special features relating to production and cost ascertainment in industries where job costing can be applied are:

i) Each job is unique, specific and dissimilar.

ii) Each job is undertaken to customer's special requirements and not for stock.

iii) Each job is comparatively of a short duration.

iv) Each job is capable of identification at all stages of production.

v) Each job order is separately identified by a job order number.

vi) There is no uniformity in the flow of production from department to department.

vii) Direct costs of labour, materials and expenses are booked directly against the job order.

viii) Overheads are charged on the basis of predetermined rates.

12.2.2 Applicability

Keeping in view the above features, job costing may be usefully employed in the following organisations:

Printing Press : Each item to be printed, whether it is a handout, a book or an advertising flyer, is a separate job,

Garage : Each car to be repaired or tuned up becomes a separate job.

Furniture Manufacturer : Each order for furniture is treated as an individual job. For example, several units of one style of chairs will be produced in one batch.

Service Organisation stations : A firm of Chartered Accountants is an example of a service Organisation. Each work-order assigned by the client is treated as a separate job and fees charged accordingly.

Construction Companies : Each building is a separate job because each building has different covered area and a different design.

12.2.3 Procedure

Job Costing involves considerable amount of recording and analysis. It requires reliable production control records which must show material issued to various jobs, labour time spent on different jobs and the appropriate allocation of overheads as work on each job passes through production cost centres. A concern using job costing usually adopts the following procedure for costing purposes.

1) Estimating the job costs : Estimating is an essential requirement of a job costing procedure. It is useful for submission of tenders and price quotations. The Costing Department has to prepare an estimate of the total cost for each job before it is undertaken. This forms the basis for quoting the price to the customer.

2) Allocating job order number : As soon as an order is received and accepted, it must be assigned a separate job order number. This facilitates reference for production as well as for costing purposes.

3) **Preparing production order :** If the job is accepted, a production order is made out by the Planning Department in the form as shown in Figure 12.1. A production order refers to the work order or job order that constitutes a written authority to factory foremen to proceed with a job. It stipulates all essential details of the order to be executed. In fact, it serves as the authority for accounting costs assigned to a job.

Figure 12.1 : Form of Production Order

Production Order

Name of Customer ..... Job No. .....

Date of Commencement ..... Date .....

Date of Completion ..... Bill of Material No. .....

Special instructions ..... Drawing attached Yes/No.

Quantity	Description	Machines to be used	Tools required

4) **Collecting and recording costs :** The costs are collected and recorded for each job separately. A job cost sheet as shown in Figure 12.2 is used for recording and summarising the cost of materials, labour and overheads applicable to each job. A job cost sheet is often referred to as the basic document of job costing. It is used to credit the Work-in-progress Control Account when a job is completed and also to ascertain the profit or loss on each job.

Figure 12.2 : Form of Job Cost Sheet

Job Cost **Sheet**

Customer ..... Job No. .....

Date of Commencement ..... Date of completion .....

Material Cost			Labour Cost				Factory Overhead (Absorbed)			
Date	Material Req. No.	Amount Rs.	Date	Hours	Rate Rs.	Amt. Rs.	Dept.	Hours	Rate Rs.	Amt. Rs.
	Total				Total			Total		

Profit/ Loss		Cost Summary	
	Rs.		Rs.
Price Quoted		Material	
Less : Cost		Labour	
		Factory Ovcrhcad	
		Administration Overhead	
Profit or Loss		Selling Overhead	
		Total Cost	

The sources for collection of job costs are:

a) Materials : Material Requisition Slip, Materials Abstract or Materials Issue Analysis Sheet.

b) Wages : Job Card or Labour Abstract (Wages Analysis Sheet)

c) Direct Expenses : Vouchers pertaining to direct expenses

d) Overheads : Charged on the basis of pre-determined rates based on the rnethod of absorption used.

5) Comparing actual costs with estimated costs : On completion of a job, a completion report is sent by the Production Shop to the Costing Department. The Costing Department, then, prepares the job cost sheet and ascertains the actual cost and profit on the job. Thereafter, a comparison is made with estimates to find out any variance and suggest future course of action.

12.2.4 Evaluation

The main purpose of job costing is to determine the profit or loss on each job. This serves as a check on the accuracy of the estimates on the basis of which the prices are quoted. Comparison of actual costs with the estimated costs, or with the cost of similar jobs completed in the past, helps to bring to light any inefficiencies that might have occurred in the course of production. Thus, job costing separates profitable jobs from unprofitable ones, provides a check on past estimates, and serves as a basis for estimating costs for similar work in future. This method is also used when contracts are accepted on a 'cost plus' basis i.e., actual costs plus an agreed percentage of profit.

The main drawback of job costing relates to the expenditure involved in the paper work in estimating costs, and designing and scheduling of production. It should, therefore, be used when absolutely necessary.

Check Your Progress A

List four features of job costing.

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Name four industries in which job costing is considered a suitable rnethod of ascertaining costs.

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3 Fill in the blanks.

i) Job costing is applied where ..... can be measured in terms of completed jobs.

ii) Under job costing, each job is assigned a ..... number.

iii) Each job order is capable of ..... at all stages.

iv) A job order is the ..... of costing under job costing.

v) A job cost sheet is used to ..... job costs.

4 State whether the following statements are True or False.

i) Job Costing routine involves little clerical work.

ii) A production order constitutes the authority for work.

iii) The main purpose of job costing is to determine the profit made on each job.

iv) The overhead rate should be used for accumulating costs for accounting purposes and not for estimating the cost of job.

v) Each job is comparatively of a short duration.

12.2.5 Practical Problems

You have learnt that a job cost sheet is prepared for recording and summarising the cost of materials, labour and overheads pertaining to each job and ascertains the profit or loss made on each job. On going through its format as given in Figure 12.2, you might have observed that it is very much similar to the cost sheet prepared under unit costing for ascertaining the total cost and profit of a product.

Under job costing, the practical problems mostly involve the preparation of cost estimates and the ascertainment of price to be quoted. You learnt about this aspect also under unit costing (refer to Unit 10, Section 10.5) wherein you were required to prepare a statement of quotation based on cost estimates where overheads were included on the basis of recovery rates. More or less, the same practice is followed under job costing as shown by various illustrations worked out as follows.

Illustration 1

The estimated material cost of job D-2 is Rs. 5,000 and direct labour cost is likely to be Rs. 1.000. In the machine shop it will require machining by Machine No. 8 for 20 hours and by Machine No. 11 for 6 hours. Machine hour rates for Machine No. 8 and Machine No. 11 are Rs. 10 and Rs. 15 respectively. Last year, the direct wages amounted to Rs. 80,000 and factory overheads (excluding those related to Machine No. 8 and 11) amounted to Rs. 48,000. Similarly, the factory cost of all jobs last year amounted to Rs. 2,50,000 and office expenses Rs. 37,500. Prepare a statement of quotation which provides for 20% profit on selling price.

Solution

Statement of Quotation for job Number D-2

Direct Materials		5,000
Direct Wages		1,000
	PRIME COST	6,000
Machines Expenses		
Machine 8 : 20 × 10 = Rs. 200		
Machine 11 : 6 × 15 = Rs. 90		290
Other Factory Overheads		
(60% of wages)		600
	FACTORY COST	6,890
Office Overheads		
(15% of factory cost)		1,034
	TOTAL COST	7,924
	PROFIT (20% on selling price)	1,981
	SELLING PRICE	9,905

Working Notes

1) Factory overheads rate has beer: worked out as 60% of wages as under :

$$= \frac{\text{Factory Overheads}}{\text{Direct Wages}} \times 100$$

$$= \frac{48,000}{80,000} \times 100$$

$$= 60\%$$

2) Office overhead rate has been worked out as 15% of factory cost as under:

$$= \frac{\text{Office Overheads}}{\text{Factory Cost}} \times 100$$

$$= \frac{37,500}{2,50,000} \times 100$$

$$= 15\%$$

Illustration 2

A shop floor supervisor of a small factory presented the following cost data for job No. 42.

	Per Unit Rs.
Materials	70
Direct Wages (18 hours @ Rs. 2.50)	45
(Deptt. X-8 hrs., Deptt. **Y-6,** hrs., Deptt. 2-4 hrs.)	
Chargeable Expenses (special stores items)	**5**
PRIME COST	120
Add : 33.$\frac{1}{3}$% of prime cost for expenses	40
TOTAL COST	160

Analysis of the Profit and Loss Account of 1989 **shows the** following:

Dr.			Cr
	Rs.		Rs.
Materials used	**1,50,000**	Sales	**2,50,000**
Direct Wages:			
Deptt. X 10,000			
Deptt. Y 12,000			
Deptt. Z **8,000**	**30,000**		
Special Stores Items	**4,000**		
Overheads:			
Deptt. X **5,000**			
Deptt. Y 9,000			
Deptt. Z 2,000	**16,000**		
Gross Profit c/d	50,000		
	2,50,000		2,50,000
Selling expenses	20,000	**Gross** Profit b/d	**50,000**
Net profit	30,000		
	50,000		50,000

It **is also noted that the hourly wage rate for the three departments X, Y** and Z is same.

You are required to :

1) **Draw up a job *cost* sheet.**
2) **Calculate revised cost using 1989 figures as the** base.
3) Add 20% **total cost to determine the selling price.**

Solution

Job Cost Sheet

Job No. 42 — Date of **Commencement** .....

Description ..... — Date of Completion .....

Particulars	Rate	Quantity	Amount
			Rs.
Materials			70.00
Direct Wages:			
Deptt. X	**Rs. 2.50**	8 **hrs.** -	20.00
Deptt. Y	**Rs.** 2.50	6 hrs.	**15.00**
Deptt. Z	**Rs.** 2.50	**4** hrs.	10.00
Chargeable Expenses			**5.00**
		PRIME COST	120.00

Overheads:			
Deptt. X	Rs. 1.250	8 hrs.	10.00
Deptt. Y	Rs. 1.875	6 hrs.	10.00
Deptt. Z	Rs. 0.625	4 hrs.	2.50
		TOTAL COST	143.75
Add: Profit (20% of total cost)			28.75
		SELLING PRICE	172.50

Working Notes

1) The number of working hours has been ascertained by dividing the direct wages in each department by the labour hour rate.

$$\text{Overhead Rate} = \frac{\text{Overhead}}{\text{No. of hours}}$$

Deptt. X $\frac{\text{Rs. 5,000}}{\text{4,000 hrs.}}$ = Rs. 1.250 per hour

Deptt. Y $\frac{\text{Rs. 9,000}}{\text{4,800 hrs.}}$ = Rs. 1.875 per hour

Deptt. Z : $\frac{\text{Rs. 2,000}}{\text{3.200 hrs.}}$ = Rs. 0.625 per hour.

Illustration 3

A factory uses job costing. The following data is obtained from its books for the year ended 31st December, 1989:

	Rs.		Rs.
Direct Materials	90,000	Selling and Distribution Overheads	52,500
Direct Wages	75,000	Administration Overheads	42,000
Profit	60,900	Factory Ovsrheads	45,000

a) Prepare a Job Cost Sheet indicating the Prime Cost, Works Cost, Cost of Production, Cost of Sales and Sales Value.

b) In 1990, the factory received an order for a number of jobs. It was estimated that direct materials required would be for Rs. 1,20,000 and direct labour would cost Rs. 75,000. What should be the price for these jobs if factory intends to earn the same rate of profit on sales as in 1989, assuming that she selling and distribution overheads had gone up by 15%? The factory recovers factory overheads as a percentage of direct wages and administration and selling and distribution overheads as a percentage of works cost.

Solution

Job Cost Sheet for the Year ended 31-12-1989

		Rs.
Direct Materials		90,000
Direct Wages		75,000
	PRIME COST	1,65,000
Factory Overheads		45,000
	WORKS COST	2,10,000
Administration Overheads		42,000
	COST OF PRODUCTION	2,52,000
Selling and Distribution Overheads		52,500
	COST OF SALES	3,04,500
Profit		60,900
	SALES VALUE	3,65,400

1) Percentage of Factory Overheads to Direct Wages = $\frac{45,000}{75,000} \times 100$

= 60%

2) percentage of Admin. Overheads to Works Cost = $\frac{42,000}{2,10,000} \times 100$

= 20%

3) Percentage of Selling & Distribution Overheads to Works Cost = $\frac{52,500}{2,10,000} \times 100$

= 25%

4) Percentage of Profit to Sales = $\frac{60,900}{3,65,400}$

= 16.67%

Estimate Job Cost Sheet for 1990

		Rs.
Direct Materials		1,20,000
Direct Wages		75,000
	PRIME COST	1,95,000
Add : Factory Overheads (60% of direct wages)		45,000
	WORKS COST	2,40,000
Add : Administration Overheads (20% of works cost)		48,000
	COST OF PRODUCTION	2,88,000
Add : Selling & Distribution Overheads (25% of works cost + 15% thereof)		69,000
	COST OF SALES	3,57,000
Add : Profit (16.67% of sales or 20% of cost of sales)		71,400
	SALES	4,28,400

Illustration 4

The following information for the year ended December 31, 1989 is obtained from the books and records of a job order factory :

	Completed jobs	Work-in-progress
	Rs.	Rs.
Raw Materials supplied from stores	90,000	30,000
Wages	1,00,000	40,000
Chargeable Expenses	10,000	4,000
Materials transferred to work-in-progress	2,000	2,000
Materials returned to stores	1,000	—

Factory Overheads are 80% of wages and office overheads are 25% of Factory Cost. The price of the executed contracts during 1989 was Rs. 4,10,000. Prepare (i) Consolidated Completed Jobs Account showing the profit made or loss incurred, and also (ii) Consolidated Work-in-progress Account.

Solution

Consolidated Completed **Jobs Account** for **the Year** ending 31-1.2-1.989

Dr. Cr.

		Rs.		Rs.
To Materials	90,000		By Sales	4,10,000
Less : **Transfer** to W.I.P. 2,000				
Returned to stores 1,000	**3,000**	87,000		
To Wages		1,00,000		
To Chargeable Expenses		10,000		
PRIME COST		1,97,000		
To Factory overheads (80%of wages)		80,000		
FACTORY COST		2,77,000		
To **Office** Overheads (25%of factory cost)		69,250		
COST OF PRODUCTION		3,46,250		
To Net Profit		63,750		
		4,10,000		4,10,000

Consolidated Work-in-progress Account for the **Year ending** 31-12-1989

Dr. Cr.

		Rs.		Rs.
To **Materials**	30,000		By Balance **c/d**	1,35,000
Add : Transfer to W.I.P.	**2,000**			
		32,000		
To Wages		40,000		
To Chargeable Expenses		4,000		
PRIME COST-		76,000		
To Factory **overheads** (80%of wages)		32,000		
FACTORY COST		1,08,000		
To **Office** Overheads **(25%** of factory cost)		27,000		
COST OF PRODUCTION		1,35,000		1,35,000
To Balance b/d		1,35,000		

12.3 CONTRACT COSTING

Contract costing is a special form of job costing used for ascertaining cost and profit on contracts undertaken for big jobs like constructing a building, a road, a bridge or a ship. Such jobs mainly comprise **activities** outside the **contractor's** premises and involve huge amount. They take long time to complete so much so that the work may extend over more than one accounting year. This means that the cost and profit may have to be worked out even on incomplete work as at-the end of an accounting year. Hence, a special method of accounting known as 'contract costing' or 'terminal costing' has been developed for ascertaining cost and profit on such jobs.

12.3.1 Definition and Characteristics

Contract costing has been defined as "that form of specific order costing **which** applies,

where work is undertaken to customer's special requirements and each order is of long duration (compared with those to which job costing is applied). The work is usually of constructional nature. In general, the method is'similar to job costing, although it has certain distinctive features".

The distinguishing features of contract are as follows:

Features regarding Production

i) The work is undertaken to customer's specific requirements.

ii) The work will be of a relatively long duration and involves large amount.

iii) The work is usually site based.

iv) The work is frequently of a constructional nature.

v) Plant and equipment may be purchased or hired for the duration of the contract.

vi) The completion date is fixed In advance, and penalties follow delays.

vii) Certain aspects of the work are assigned to sub-contractors.

Features regarding Cost

i) The cost unit in contract costing is a contract.

ii) A'separate account is prepared for each contract to ascertain the profit or loss on each contract.

iii) Most of the items of cost can be classified as direct since they can be easily identified with a specific contract.

iv) Indirect costs are normally restricted to Head Office expenses and storage costs. These are allocated to various contracts on which work is carried out during the year.

v) The contract price is often fixed in advance and payment is received at various stages of completion based on architect's certificate.

vi) A separate contract ledger is maintained for recording costs when the number of contracts is large.

12.3.2 Difference between Job and Contract Costing

There is a great deal of similarity between job and contract costing because a contract is nothing but a job, though large in size. In both cases, the unit of cost collection, cost determination and cost control is the job itself. Contract costing, more or less, follows the same principles as job costing. However, there are certain points of difference between the two. These can be summarised as follows:

1) Jobs are generally performed within the factory premises while contracts are usually location-bound, making site-operation an important element in contract costing.

2) Many expenses which are treated as indirect costs in job costing, are often treated as direct costs in contract costing. Thus, the cost of supervision and indirect labour regarded as overheads in case of job costing is charged as a direct cost to the contract.

3) Overheads constitute a substantial portion of the total cost of a job. This creates problems of over or under absorption of expenses. Under contract costing, overheads form only a small part of the total cost and so over or under absorption of overhead costs is negligible.

4) In Job Costing, no profit is computed on work-in-progress. But, as contracts may run for long periods, profit or loss may have to be ascertained even on contracts that are incomplete at the end of the accounting year.

5) Job Costing is applicable to repair shops, printing presses. machine tools manufacturing units and foundries. But contract costing is used by ship-builders, civil engineering contractors, constructional and mechanical engineering firms, etc.

Check Your Progress B

1 What is meant by contract costing?

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2 Give four examples of industries for which contract costing is considered appropriate.

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3 State whether the following statements are True or False?

i) Contract costing follows the same principles as jobs costing.

ii) Contract costing applies to small job whereas job costing is used for big jobs.

iii) The price for which the contractor agrees to carry out the work is called contract price or the tender price.

iv) Many contracts require several years for completion.

v) General overheads form a substantial proportion of the total cost of a contract.

vi) The costs of sub-contracting are charged as direct expenses of the contract.

12.3.3 The Procedure

There are two parties to a contract : i) The contractor, and ii) the contractee. Contractor is a person (or an organisation) who undertakes to do the job. Contractee is the person (or an organisation/a government agency) who assigns the job to the contractor. The contractor usually engages an architect who prepares the plans, structural designs, detailed drawings and the tender documents, and also undertakes to supervise the complete contract. The contractor submits the tender to the contractee and, when it is approved, an agreement is signed by both the parties including the contract price and the terms of payment. It may also provide for an 'escalation clause' to compensate the contractor for an unwarranted increase in prices and for other contingencies.

Since, the contract involves a large amount and a long period, payment is made at various stages of completion based on the architect's certificate. The contractee usually retains a certain percentage of the amount recommended for payment by the architect. This is called 'retention money'. It is in the form of security against defective work and penalties chargeable for delay in completion of the work. It is retained for a short period (called warranty period) even after the completion of the contract. Thus, it is released to the contractor only after the warranty period is over.

12.3.4 Treatment of Important Items

The contractor usually maintains a Contract Ledger in which a separate account is opened for each contract. It is a common practice to allot a distinguishing number to each contract, and all costs and revenues relating to a particular contract must be shown against the appropriate contract number.

Let us take some important items of contract costing and study their treatment in detail.

Materials

i) **Direct materials :** Most of the materials like bricks, cement, steel, etc. are delivered direct to the site. Their costs will be debited to the contract account.

ii) **Stores materials :** Some materials are received through material requisitions from the store. The cost of the same should also be debited to the respective contract account.

iii) **Materials on site :** At the end of an accouning year, the cost of materials on site is carried forward to the next year.

iv) **Materials returned to the stores :** The materials found surplus on site are returned to the stores. Their cost should either be deducted from materials issued (shown on the debit side) or credited to the contract account,

v) **Materials stolen or destroyed :** The cost of materials stolen or destroyed is treated as an abnormal loss. Hence the same should be transferred to the Profit and Loss Account and credited to the contract account.

Labour

i) All labour employed at the contract site should be regarded as direct labour and charged direct to the contract account.

ii) As far as possible a separate wage sheet should be prepared for each contract.

iii) Wages accrued or outstanding at the end of the year should appear on the debit side of the contract account.

iv) Wages of labour employed at Head Office and Central Stores are considered as overhead cost. Hence, these should be allocated to all contracts on some equitable basis.

Direct Expenses

All expenses other than material and wages are charged to individual contracts as and when they are incurred. Direct expenses may include i) cost of special tools, jigs etc., ii) cost of designs, and iii) cost of hiring plant and machinery for the contract.

Overheads

i) Direct allocation : Most of the expenses incurred in connection with a contract can be directly identified with each contract, e.g., supervisory salaries, staff amenities, repairs and maintenance of machinery, etc. These are directly allocated to the contract concerned.

ii) Apportionment : It is only the Head Office expenses which will require an apportionment to various contracts on some equitable basis. Labour hour rate is the most common method used for this purpose. However, the overhead costs can also be apportioned in the ratio of wages or total expenses incurred on the respective contracts. The amount thus allocated to a contract must be debited to contract account.

Plant and Machinery

This includes cranes, trucks, excavators, bulldozers, mixers and lorries, etc. The plant and equipment may be taken on lease or purchased specifically for a contract. When it is taken on lease or hire, the leasing charges or the hire will be charged to the contract account. If the plant or equipment has been specially purchased for a particular contract, there are two ways of showing it in the contract account:

i) Contract account may be debited with the cost of plant sent to the site and then credited with its depreciated value when it is moved to another site. The difference between the cost and the depreciated value represents the depreciation charge. Similarly, at the end of the accounting period, an uncompleted contract is credited with the depreciated value which is later debited to the contract account at the beginning of the next year.

ii) Alternatively, depreciation may be calculated based on the period for which the plant. has been used for the contract during the accounting year and debited to the contract account. Other plant costs such as maintenance, insurance, fuel, oil, etc. should also be debited to the contract account.

Sub-contracting

Sometimes, a sub-contractor is engaged for a special work connected with the main contract. For instance, in constructing a house, the jobs like painting, plumbing. special flooring, carpentry, etc. may be given lo different sub-contractors. The cost of such jobs must be charged to the main cpntract.

Value of Work Certified

As stated earlier, part payment is made to the contractor at each stage of completion based on architect's certificate. These stages usually are: plinth level, walls, roofing, plastering, flooring, etc. On complelion of each stage, the contractor submits his bills to the architect for certification, who, after verification of the quantities and rates, certifies the value of work done. It is called 'work certified' or 'value of work certified', This amount is credited to the contract account.

Progress Payments

The payments due to the contractor at each stage of completion, is termed as 'progress payments'. The amount of progress payment due at each stage is calculated as follows:

Value of Work Certified	.....
Less : Retention Money	.....
Total Payment Due	.....
Less : Payments made to date	.....
Progress Payment Due	.....

The total amount of progress payment made up to the end of the accounting year is termed as 'cash received'; This stands debited to the contractee's personal account. **It is not shown anywhere in the contract account.**

Cost of Work Uncertified

It is quite possible that at the end of an accounting year, certain amount of work remains uncertified. For example, the accounting year of a contract ends on 31st March, 1991. The work done up to 15th February, 1991 having reached a stipulated stage, had been duly certified. Apparently, the work done from 16th February to 31st March, 1991 remains uncertified. The costs incurred in relation to the contract during this period of six weeks shall be ascertained and shown as 'cost of work uncertified'. It is like closing stock of finished goods. Hence, it is credited to contract account at the end of the accounting year and then debited to the contract account at the beginning of the next accounting year.

Extras

Sometimes, the contractor may be asked to do some work which is not included in the original contract. This becomes necessary on account of some additions/alterations which are suggested later on. The contractor is usually entitled to charge extra amount for such work. This amount is called 'extras'. These charges are treated as income for the contractor and is credited to the contract account in his books.

12.3.5 Profit on Uncompleted Contracts

If the work on a contract is started and finished during the same accounting year, its profit or loss can be easily calculated and transferred to Profit and Loss Account. But, in case of contracts which extend to more than one accounting year, the question arises whether any profit or loss should be accounted for during the accounting year or years when they are still in progress and, if so, how? It is agreed that if profit is computed only on the completion of the contract, there will be heavy fluctuation in the amount of profit from year to year. This will result not only in distorted profit pattern but also higher tax liability during the year of completion of the contract because the tax will have to be paid at higher rates. At the same time, if profit is computed on the uncompleted contracts and taken to Profit and Loss Account, there is a possibility of other unforeseen contingencies. Hence, it is an **accepted principle that profit on uncompleted contracts must be taken into account in respect of the work certified only after providing adequate reserve for future contingencies.** This is usually based on the formula

$$2/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

However, after ascertaining the profit in respect of the work certified (called notional profit), the amount to be taken to Profit and Loss Account is determined on the basis of the following rules :

1) In case the **work on the contract has not reasonably advanced,** say, the value of work certified is less than one-fourth of the contract price, the whole amount of the notional profit should be kept in reserve. In other words, in such a situation, no *profit* should be taken to Profit and Loss Account.

2) In case the **work on the contract ha,. reasonably advanced,** say, up to one-fourth of the contract, then :

   a) If the value of work certified is one-fourth or more but less than half of the contract price, the amount of profit to be taken to Profit and Loss Account is determined as follows :

$$1/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

b) If the value of work certified is half or more than half of the contract price, the amount of profit to be taken to Profit and Loss Account is determined as follows :

$$2/3 \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

Look at Illustration 1 and see how profit taken to Profit and Loss Account has been worked out.

Illustration 5

The total contract price in respect of a contract was Rs. 5,00,000. On 31st March, 1991, the value of work certified was Rs. 3,00,000, and the cost of work certified (total cost incurred to date minus cost of work uncertified) was Rs. 2,55,000. The cash received was Rs. 2,40,000.

You are required to determine the amount of profit to be taken to the Profit and Loss Account for the year ending 31st March, 1991.

Solution

Value of Work Certified	3,00,000
Less : Cost of Work Certified	2,55,000
Notional Profit	45,000

Profit taken to Profit and Loss Account

$$= \mathbf{2/3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= 2/3 \times 45{,}000 \times \frac{2{,}40{,}000}{3{,}00{,}000}$$

= Rs. 24,000

3) In case the **work on the contract is nearing completion,** the basis of taking profit to Profit and Loss Account is the total estimated profit on complete contract, and not the notional profit. Hence, you will have to work out first the total profit expected on the complete contract. For this purpose, further expenditure to be incurred on the remaining part of the contract is estimated and added to the costs incurred to date so as to arrive at the total cost, on the contract, By deducting this amount from the contract price, you will arrive at the total estimated profit. Thus

- Total Estimated Profit = Contract Price – (Expenditure incurred to date + Additional Expenditure)

Having arrived at the total estimated profit as per the above equation, the profit to be taken to the Profit and Loss Account is determined as follows :

$$\text{Total estimated profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

Alternatively

$$\text{Total Estimated Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}}$$

The alternative formula may be used if the amount of cash received cannot be ascertained,

Look at Illustration 2 and see how profit taken to Profit and Loss Account has been worked out where the work on contract is nearing completion.

Illustration 6

The contract price in respect of a project was Rs. 5,00,000. On 31st March, 1991, 90% of the work had been completed and certified by the architects. The costs incurred up to 31st March, 1991 on this project amounted to Rs. 4,00,000. It was estimated that another Rs. 20,000 would have to be spent further to complete the project. The contractee paid 80% of the value of work certified.

Complete the profit to be taken to Profit and Loss Account for the year ending 31st March, 1991.

Solution

		Rs.
Contract Price		5,00,000
Less : Total Estimated cost :		
Costs to date	4,00,000	
Costs to be incurred	20,000	4,20,000
Total Estimated Profit		80,000

Profit to be taken to Profit & Loss Account

$$= \text{Total estimated profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= 80{,}000 \times \frac{4{,}50{,}000}{5{,}00{,}000} \times \frac{3{,}60{,}000}{4{,}50{,}000}$$

= Rs. 57,600

Working Note

Cash received being 80%of the work certified is

$$= \frac{80}{100} \times 4{,}50{,}000$$

= Rs, 3,60,000

Let us now take a few illustrations and study how notional profit on uncompleted contracts is computed when detailed cost data is given and also how profit taken to Profit and Loss Account is to be determined.

Illustration 7

On 3rd January, 1990 Beas construction Ltd. started work on the construction of an office black at a contracted price of Rs. 7,50,000. The construction company's financial year ended on 31st October, 1990 and on that date the accounts pertaining to the contracl contained the following balances :

	Rs.
Materials issued to site	1,61,000
Materials returned from site	14,000
Wages paid	68,000
Own Plant in use on site (at cost)	96,000
Hire of Plant and Scaffolding	72,000
Supervisory Staff Direct	11,000
Indirect	12,000
Head office Charges allocated to the contract	63,000
Value of Work Certified to 31.10.1990	4,00,000
Cost of Work Completed but not yet Certified	40,000
Cash Received on Work Certified	3,30,000

Depreciation on own plant is lo be provided at the rate of 12½% per annum on cost; Rs. 2,000 is owning for wages; Estimated value of materials on site Rs. 24,000.

You are required to prepare the Contract Account for the period ended 31st October, 1990 showing the amount to be included in the construction company's Profit and Loss Account.

Solution

Beas Construction Ltd.
Contract Account for the Year ending 31-10-1990

Dr.			Cr.	
		Rs.		Rs.
To Materials issued		1,61,000	By Materials returned	14,900
To Wages paid		68,000	By Plant on hand (Depreciated value)	86,000
To Plant at cost		96,000	By Materials on site	24,000
To Plant Hire		72,000	By Cost of Work-in-progress c/d	3,61,000
To supervision : Direct		11,000		
Indirect		12,000		
To Head Office Charges		63,000		
To Wages		2.000		
		4,85,000		4,85,000
To Cost of Work-in-progress b/d		3,61,000	By Value of Work Certified	4,00,000
To Notional Profit				
P & L A/c	43,450			
Reserve	35,550	79,000	By Cost of Work Uncertified c/d	40,000
		4,40,000		4,40,000

Working Notes

1) *Depreciated Value of Plant on hand*

	Rs.
Plant at cost	96,000
Less : Dep. at 12 for 10 months	10,000
Depreciated value	86,000

2) *Profit to be credited to Profit & Loss Account*

$$= \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= 79,000 \times \frac{2}{3} \times \frac{3,30,000}{4,00,000} = \text{Rs. } 43,450$$

Illustration 8

A firm of building contractors started its business on 1-4-1990. Following was the expenditure on the contract for Rs. 3,00,000.

	Rs.
Materials issued to contract	51,000
Plant issued for contract	15,000
Wages incurred	81,000
Other Expenses incurred	5.000

Cash received on account up to 31-3-1991 amounted to Rs. 1,28,000 being 80% of the work certified. Of the plant and materials charged to the contract, plant which cost Rs. 3,000 and malerials which cost Rs. 2,500 were lost, On 31.3.1991 plant which cost Rs. 2,000 was returned to stores. The cost of work done but uncertified was Rs. 1,000 and materials costing Rs. 2,300 were in hand on site.

Charge 15% depreciation on plant and take to the Profit & Loss Account 2/3rd of the profit received. Prepare the necessary Contract Account from the above particulars.

Solution

Contract Account for the Year ending **31-3-1991**

Dr.			Cr.
	Rs.		
To Materials issued	51,000	By Profit & Loss A/c	
To Wages	81,000	Plant Lost 3,000	
To Plant issued	15,000	Materials Lost 2,500	
To Other Expenses	5,000		
		By Plant returned to store (2,000 - 300)	1,700
		By Materials on hand	2,300
		By Plant on site (10,000 - 1,500)	8,500
		By Cost of Work-in-progress c/d	1,34,000
	1,52,000		1,52,000
To Cost of Work-in-progress b/d	1,34,000	By Value of Work Certified	1,60,000
To Notional Profit		By Cost of Work Uncertified	1,000
P & L A/c 14,400			
Reserve 12,600	27,000		
	1,61,000		1,61,000

Working Notes

1) *Value of Work Certified :* Cash received is Rs. 1,28,000 representing 80% of the work certified, hence the value of the work certified would be $\left(1,28,000 \times \frac{100}{80}\right)$ = Rs. 1,60,000

2) *Profit to be taken to Profit and Loss Account :* It has been worked out as follows :

$$= \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= \frac{2}{3} \times 27,000 \times \frac{1,28,000}{1,60,000}$$

= Rs. 14,400.

Illustration 9

The following is a summary of entries in a contract ledger as on 31st December, 1989 in respect of Contract No. 27.

	Rs.
Direct Materials	30,000
Materials from stores	6,500
Wages	17,210
Direct Expenses	6,710
Establishment Charges	8,000
Plant	34,200
Sale of Scrap	1,820
Sub-contract Cost	7,210

The following further information is made available to you :

a) Accrued as on 31st December, 1989 were :
Wages Rs. 800 and Direct Expenses Rs. 1,120

b) Depreciation of plant up to 31st December, 1989 was Rs. 8,550

c) Included in the above summary of entries were : Wages Rs. 1,000, Other Expenses Rs. 1,500 and Materials Rs. 2,080. These expenses were incurred after certification.

d) Materials on site on 31st December, 1989 cost Rs. 10,000

e) Rs. 62,500 worth of work had been certified up to 31st December, 1989 when three eighth of the contract remained uncompleted.

f) The total contract price was Rs. 1,00,000.

You are required to show what profit or loss would be taken into the accounts for the year ended 31st December, 1989 in respect of this contract.

Solution

,Contract Account for 1989

Dr. Cr.

		Rs.		Rs.
To Materials			By Sale of Scrap	1.820
Direct	30,000		By Materials on hand	10.000
From stores	6,500	36,500	By Plant on hand (34,200-8,550)	25,650
To Wages	17,210		By Cost of Work Uncertified	4,580
Add : Outstanding	800	18,010	By Value of Work Certified	62,500
To Establishment Charges		8,000	By Loss (transferred to P & L A/c)	7,200
To Plant at Cost		34,200		
To Direct Expenses	6,710			
Add : Outstanding	1,120	7,830		
To Sub-contracting cost		7,210		
		1,11,750		1,11,750

Notes

1) Cost of work certified has been given indirectly by stating the cost of materials, labour and other expenses incurred after certification. Hence, it has been worked out by adding these amounts.

2) The cost of work-in-progress has not been worked out, as the value of work certified has been shown in the first part of the Contract Account itself and so also the loss. This is an alternative method ofpreparing Contract Account.

3) The contract has shown loss. As per rules, the whole amount of loss has to be transferred to Profit nnd Loss Account.

12.3.6 Contractee's Account

Contractee's Account is a personal account of the contractee. This account is credited as and when the cash is received from the contractee. No amount is debited to this account till the contract is completed, Thus, it will continue to show a credit balance so long as the work on the contract is in progress. Since the amount is received from the contractee against the value of work certified, the balance in his account is not treated as a liability and, therefore, it should not be shown on the liabilities side of the Balance Sheet. The common practice is to ***deduct it from the work-in-progress*** shown on the assets side of the Balance Sheet.

12.3.7 Work-in-Progress

In Contract Account you must have noted that all costs incurred on the uncompleted contract are shown as the cost of work-in-progress, The cost of work-in-progress consists of the cast of work certified as well as the cost of work uncertified. Hence, if you have to work out the cost of work certified, deduct the cost of work uncertified from the total cost of work-in-progress. While showing it in the Balance Sheet, however, the profit transferred to Profit and Loss Account is also added thereto. Thus, it will include: a) the cost of work certified, b) the cost of work uncertified, and c) the profit taken to Profit and Loss Account.

You have also learnt that the credit balance in the Contractee's Account (being cash received) is deducted from the work-in-progress shown in the Balance Sheet. Thus, the work-in-progress is shown on the assets side of the Balance Sheet in one of the following two ways:

Work-in-progress	Rs.
Cost of Work Certified	
Cost of Work Uncertified	

Cost to date	.....
Add : Profit taken to P & L A/c	.....
	.....
Less : Cash received	.....
	.....

Alternatively

Work-in-progress	
Value of Work Certified	.....
Cost of Work Uncertified	.....
	.....
Less : Reserve	.....
	.....
Less : Cash Received	.....
	.....

If we were to show work-in-progress in the Balance Sheet of Beas Construction Ltd. as per data given in Illustration 3, it will appear as follows:

Work-in-progress	Rs.
Cost to date	3,61,000
Add : Profit taken to P & L A/c	43,450
	4,04,450
Less : Cash received	3,30,000
	74,450

Alternatively

Work-in-progress	Rs.
Value of work certified	4,40,000
Cost of work uncertified	40,000
	4,40,000
Less : Reserve	35,550
	4,04,450
Less : Cash received	3,30,000
	74,450

The second alternative is most commonly used by the accountants. It should be noted that while showing work-in-progress, there is no need to make any adjustment for loss taken to Profit and Loss Account when second alternative is used.

12.3.8 Comprehensive Illustrations

Illustration 10

Alcon Construction Co. Ltd., commenced its business,on 1st January, 1990. The following data has been extracted from its books in relation to a contract,

	Rs.
Cash received from Contractee	1,20,000
Materials	40,000
Direct labour	55,000
Expenses at site	2,000
Plant & Equipments (at cost)	30,000
Fuel and Power	2,500

The contract price was Rs. 3,00,000 and the work certified Rs. 1,50,000. The work completed, since certification had been estimated at Rs. 1,000 (at cost). Machinery costing Rs. 2,000 was returned to stores at the end of the year. Stock of materials at site on 31-12-1990 was worth Rs. 5,000 and wages outstanding were Rs. 200. Depreciation on Machinery was to be charged at 10%. You are required to calculate the profit on the contract and show how the work-in-progress will appear in the Balance Sheet as on 31.12.1990. Also prepare the Contractee's Account.

Solution

Alcon Construction Company Ltd.
Contract Account 1990

Dr. Cr.

	Rs.			Rs.
To Materials	40,000	By Materials at site		5,000
To Direct Labour	55,000	By Machinery		
		at site	25,200	
To Expenses at site	2,000	at stores	1,800	27,000
To Fuel & Power	2,500			
To Machinery at site	30,000	By Value of work certified		1,50,000
To Notional Profit c/d	53,300	By Cost of work uncertified		1,000
	1,83,000			1,83,000
To Profit & Loss A/c	28,427	By Notional Profit b/d		53,300
To Balance c/d (Reserve)	24,873			
	53,300			53,300

Workings: ***Profit token to Profit & Loss Account***

$$\text{Notional profit} \times \frac{2}{3} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$53{,}300 \times \frac{2}{3} \times \frac{120000}{1{,}50{,}000} = \text{Rs. } 28{,}427$$

Balance Sheet as on 31.12.1990 (Extracts)

Assets		
Work-in-progress		
Work certified	1,50,000	
Work Uncertified	1,000	
	1,51,000	
Less: Reserve	24,873	
	1,26,127	
Less: Cash received from Contractee	1,20,000	
		6,127

Contractee's Account

Cr.

	Rs.		Rs
To Balance c/d	1,20,000	By Bank	1,20,000
		By Balance b/d	1,20,000

Illustration 7

The following particulars relate to a contract for Rs. 40 lakhs :

	1988 Rs.	1989 Rs.	1990 Rs.
Materials	4,50,000	7,00,000	6,00,000
Wages	4,30,000	6,00,000	5,00,000
Expenses	20,000	50,000	16,000
Carriage	20,000	60,000	50,000
Work Certified	9,00,000	30,00,000	40,00,000
Work Uncertified	10,000	50,000	—

Plant costing Rs. 1,00,000 was bought in the beginning of 1988, and depreciation was charged at 25% to per annum. The contractee was to pay 80% of the work certified every year and settle the account in 1990. Draw Contract Account for three years and also write Contractee's Account and Work-in-progress Account in the books of the contractor.

Solution

Contract Account for 1988

Dr. Cr.

	Rs.		Rs.
To Materials	4,50,000	By Plant on hand (1,00,000–25,000)	75,000
To Wages	4,30,000	By Work certified	9,00,000
To Expenses	20,000		
		By Work uncertified	10,000
To Carriage	20,000		
To Plant at cost	1,00,000	By P & L A/c (Loss transferred)	35,000
	10,20,000		10,20,000

Contract Account for 1989

To work-in-Progress			
Work Certified	9,00,000	By Work Certified	30,00,000
Work Uncertified	10,000		
	9,10,000	By Work Uncertified	50,000
To Plant on site	75,000		
To Materials	7,00,000	By Plant on hand (75,000-18750)	56,250
To Wages	6,00,000		
To Expenses	50,000		
To Carriage	60,000		
To P & L A/c	3,79,333		
To Balance c/d	3,31,917		
	31,06,250		31,06,250

Contract Account for 1990

	Rs.		Rs.
To Work-in-progress :		By Plant on hand (56,250–14,062)	42,188
Work certified	30,00,000	By Contractee's A/c (contract price)	40,00,000
Work Uncertified	50,000		
	30,50,000		

Less : Reserve	3,31,917		
	27,18,083		
To Plant on site	56,250		
To Materials	6,00,000		
To Wages	5,00,000		
To Expenses	16,000		
To Carriage	50,000		
To P & L A/c	1,01,855		
	40,42,188		40,42,188

Contractee's Account

	Rs.		Rs.
19[illegible] To Balance c/d	7,20,000	1988 By Bank	7,20,000
	7,20,000		7,20,000
1989 To Balance c/d	31,20,000	1989 By Balance b/d	7,20,000
		By Bank	24,00,000
	31,20,000		31,20,000
1990 To Contract A/c	40,00,000	1990 By Balance b/d	31,20,000
		By Bank	8,.80,000
	40,00,000		40,00,000

Work-in-Progress Account

	Rs.		Rs.
1988 To Contract A/c	9,10,000	1988 By Balance c/d	9,10,000
	9,10,000		9,10,000
1989 To Balance b/d	9,10,000	1989 By Contract A/c (transfer)	9,10,000
To Contract A/c	30,50,000	By Contract A/c (reserve)	3,31,917
		By Balance c/d	27,18,083
	39,60,000		39,60,000
1990 To Balance b/d	27,18,083	1990 By Contract A/c (transfer)	27,18,083
	27,18,083		27,18,083

Working Notes

1) *Profit taken to P & L A/c in 1989*

$$= \frac{2}{3} \times 7,11,250 \times \frac{80}{100}$$

= Rs. 3,79,333

2) Depreciation has been charged on the basis of diminishing balance method.

Check Your Progress C

1 Why does contractee retain certain percentage of the amount due to the contractor?

.....

.....

.....

.....

2 What do you mean by 'extras'?

.....

.....

.....

3 Fill in the blanks.

i) If, value of work certified is not given, the same can be worked out with the help of ..... clause.

ii) While determining profit on uncompleted contract taken to P & L A/c, a provision must be made for ..... contingencies.

iii) Cost of work certified can be ascertained by deducting cost of ..... from the cost to date.

iv) An abnormal loss of materials or equipment should be ..... to Contract Account.

v) While showing work in progress in Balance Sheet, cash received from the contractee must be ..... therefrom.

vi) No profit on uncompleted contract shall be taken to Profit and Loss Account if the value of work-in-progress is less than ..... of the contract price.

vii) If plant issued to contract has been debited at cost to the Contract Account, the plant on hand at the end of the accounting year should be credited to Contract Account at .....

viii) The terms of a contract may include an ..... under which the contract price can be enhanced.

12.4 LET US SUM UP

Job costing is the method of ascertaining costs where work is undertaken to customers' special requirement and which is in the form of small jobs. Thus, this method is used for jobs like car repairs, painting and decorating, printing, furniture making, etc. Under this method, each job is treated as a separate cost unit and a Job Cost Sheet is prepared to ascertain the cost and profit on each job. The Job Cost Sheet can also be used for estimating the cost of a job to be undertaken and for submitting the quotation therefor.

Contract costing is a special form of job costing used for ascertaining the cost and profit on big projects called contracts. The contract work usually involves huge cost, require long time to complete, and comprises activities outside the factory premises. This applies to most civil engineering jobs like construction of buildings, roads, bridges, etc.

The pecularity of contract costing lies in ascertaining year-wise cost and profit on projects extending to more than one accounting year. In this regard, the basic principle follows that no profit should be taken on an uncompleted contract unless the work on the project has reasonably advanced. Even then, only a conservative sum may be taken into account. This is usually based on the formula:

$$= \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

of course, if the Contract Account shows some loss it should be fully accounted for.

The work-in-progress is shown in the Balance Sheet as follows :

Value of Work Certified	×××
Cost of Work Uncertified	×××
	×××
Less : Reserve	×××
Less : Cash Received	×××
	×××

12.5 KEY WORDS

Bill of Materials : The document contains a complete list of materials required for a given job.

Contractor : The person or the organisation that agrees to undertake the contract.

Contractee : The person or the organisation for whom the job is done.

Contract Costing : A special form of job costing applicable to big projects like construction of a building, construction of a bridge, etc. which involve huge cost to complete, and is usually site-based.

Contract Price : The price at which the contractor has agreed to undertake the job.

Escalation Clause : A provision made in the agreement to compensate the contractor for an unwarranted increase in prices and for other contingencies.

Extras : Extra amount charged by the contractor for additions/alterations suggested later on.

Job Costing : Specific order costing involving accumulation of costs relating to a single cost unit—the 'job' — when each order is of comparatively short duration. It is also called job order costing.

Job Cost Sheet : A statement showing cost and profit relating to a specific job a batch or a contract.

Notional (or Attributable) Profit : Value of work certified minus cost of work certified.

Production Order : A document prepared by the Planning Department authorising and stipulating the details of the work to be done on the job undertaken.

Progress Payments : Payments made to the contractor at various stages of the work or at agreed intervals.

Retention Money : Amount of payment withheld as a security against defective work and penalties chargeable for delay in completion of work.

Sub-contracting : Assigning special work relating to the main contract to a sub-contractor.

Work Certified : Work approved by the contractee's architect or surveyor.

Work Uncertified : Work done from the date of certification to the last date of the accounting year and which still remains to be approved.

12.6 ANSWERS TO CHECK YOUR PROGRESS

A 3 i) output, ii) job order, iii) identification, iv) unit, v) summarise

4 i) False, ii) True, iii) True, iv) False, v) True

B 3 i) True, ii) False, iii) True, iv) True, v) False, vi) True

C 3 i) retention, ii) future, iii) uncertified work, iv) credited, v) deducted, vi) one-fourth, vii) depreciated value, viii) escalation clause

12.7 TERMINAL QUESTION/EXERCISES

1) How does contract costing differ from job costing?

2) Indicate how you would deal with the following items in Contract Account.

   a) Plant and machinery specially purchased for a contract

   b) Loss of materials stolen or destroyed

   c) Sub-contracting

3) State how you would ascertain the actual profit on an incomplete contract. How far such profit is taken to Profit and Loss Account?

4) a) How is progress payment due at a specific stage computed?

b) Explain the use of a production order and give its specimen.

Exercises

1) The following direct costs were incurred on Job No. 415 of standard Radio Company :

	Rs.
Materials	4,010
Wages :	
Deptt. A-60 hours @ Rs. 3 per hour	
Deptt. B-40 hours @ Rs. 2 per hour	
Deptt. C-20 hours @ Rs. 5 per hour	

Overheads expenses for these three departments were estimated as follows :

Variable Overheads :

Deptt. A Rs. 5,000 for 5,000 labour hours

Deptt. B Rs. 3,000 for 1,500 labour hours

Deptt. C Rs. 2,000 for 500 labour hours

Fixed overheads : Estimated at Rs. 20,000 for 10,000 normal working hours.

You are required to calculate the cost of job No. 415 and calculate the price to earn profit of 25% on selling price.

(**Answer :** Total Cost : Rs. 4,830; Sales Price : Rs. 6,440)

2) A company is engaged in job work. It has completed all jobs in hand except Job No. 44 on December 30, 1990. The cost sheet on December 30 showed direct material and direct labour costs of Rs. 40,000 and Rs. 30,000 respectively as having been incurred on Job No. 44.

The costs incurred by the business on 31st December, 1990, the last day of the accounting year, were as follows :

	Rs.
Direct Materials (Job 44)	2,000
Direct Labour (Job 44)	8,000
Indirect Labour	2,000
Miscellaneous Factory Overheads	3,000

It is the practice of business to charge factory overheads to the jobs on the basis of 120 per cent of direct labour cost. Calculate the cost of work-in-progress of Job No. 44 on 31st December, 1990.

(**Answer :** Rs. 1,25,600)

Hints : The cost of indirect labour and miscellaneous factory overheads is not to be included, as the factory overheads have been included on the basis of recovery rate.

3) A company of civil engineers proposes to make tenders for the construction of an auditorium and estimate their direct cost at Rs. 1,12,500 as follows.

Material	45,000
Wages	47,250
Cost of transport of men and materials to site	12,750
Other Direct Expenses	7,500

Existing commitments of the company are involving a total overheads of Rs. 6,37,875 for various projects and direct labour cost of Rs. 4,25,250.

Assuming all the overheads as variable, calculate the estimated value of tender keeping in view the following :

1) Necessary overheads,

2) 5% interest on total capital outlay, and
3) 10% margin on total cost.

(**Answer :** Estimated value of tender : Rs. 2,11,798)

Hints : Overheads = $\frac{47,250}{4,25,250} \times 6,37,875$ or 150% wages; 5% interest on capital outlay to be computed on total cost of Rs. 1,83,875)

4) The following figures are available at the end of a financial year relating to a contract.

Total cost of work done to date	1,10,350
Cost of Work Uncertified	8,300
Contract Price	5,80,000
Value of Work Certified	1,40,280

Determine the amount of profit to be taken to Profit and Loss Account.

(**Answer :** Notional Profit : Rs. 38,230; Profit taken to P & L A/c;
NIL (Value of work certified is less than one-fourth of the contract price.)

5) A construction company took a contract in 1989 for road construction. The contract price was Rs. 5,00,000 and its estimated cost of completion would be Rs. 4,60,000. At the end of 1989, the company had received Rs. 1,80,000 representing 90 per cent of work certified. Work not yet certified had cost Rs. 5,000.

Expenditure incurred on the contract during 1989 was as follows :

	Rs.
Materials	25,000
Labour	1,50,000
Plant	10,000

Materials costing Rs. 2,500 were damaged and had to be disposed off for Rs. 500. Plant was considered as having depreciated by 25 per cent. Prepare Contract Account for 1989 in the books of the construction company. Also show the amount of profit that can be reasonably credited to Profit and Loss Account in respect of the contract.

(**Answer :** Notional Profit : Rs. 30,000; Profit taken to P & L A/c : Rs. 9,000. Since the value of work certified is more than one-fourth of the contract price but less than half, the formula used is :

$$\frac{1}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

6) A contractor has obtained a contract for construction of a bridge. The value of a contract is Rs. 12 lakh, and the work commenced on Ist October, 1988. The following details are shown in their books for the year ended 31st Sept., 1989 :

	Rs.
Plant purchased	60,000
Wages paid	3,40,000
Materials issued to site	3,36,000
Direct Expenses	8,000
General Overheads allocated	32,000
Wages accrued as on 30.9.1989	2,800
Materials at site as on 30.9.1989	4,000
Direct Expenses accrued as on 30.9.1989	1,200
Work not yet Certified at cost	14,000
Cash Received being 80% of Work Certified	6,00,000

Life on plant purchased is 5 years and scrap value is nil.

1) Prepare the contract account for the year ended 30th Sept., 1989.

2) Show the amount of profit which you consider might be fairly taken on the contract and how you have calculated it.

(**Answer** : Profit taken P & L A/c : Rs. 19,200)

Hints : 2/3 of Notional profit as reduced on cash basis should be taken to P & L A/c.

7) From the following particulars relating to a contract, prepare a) Contract Account, b) Contractee's Account and also show how work-in-progress will appear in the Balance Sheet as on 31.12.1989.

	Rs.
Materials sent to site	85,349
Labour engaged on site	74,375
Plant installed at cost	15,000
Direct Expenditure	4,126
Establishment Charges	3,167
Materials returned to store	549
Work Certified	1,95,000
Cost of Work not yet Certified	4,500
Materials on hand as at 31.12.1989	1,883
Wages accrued on 31.12.1989	2,400
Direct Expenditure accrued on 31.12.1989	240
Value of Plant as on 31.12.89	11,000

The contract price had been agreed at Rs. 2,50,000. Cash had been received from the contractee amounting to Rs. 1,80,000.

(**Answer** : Notional Profit : Rs. 28,275; Profit credited to P & L A/c : Rs. 17,400; W.I.P. to be shown in B/s : Rs. 8,625)

Note : These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the University. These are for your practice only.

UNIT 13 PROCESS COSTING

Structure

13.0 Objectives
13.1 Introduction
13.2 Meaning and Application
13.3 Difference between Job Costing and Process Costing
13.4 Main Characteristics
13.5 Costing Procedure
13.6 Process Losses
  13.6.1 Normal Process Loss
  13.6.2 Abnormal Process Loss
13.7 Abnormal Effectiveness
13.8 Comprehensive Illustrations
13.9 Let Us Sum Up
13.10 Key Words
13.11 Answers to Check Your Progress
13.12 Terminal Questions/Exercises

13.0 OBJECTIVES

After studying this unit you should be able to :

- explain the meaning and the main characteristics of process costing
- list the industries for which process costing is suitable
- distinguish between job costing and process costing
- describe the costing procedure followed in process costing and prepare the process account
- distinguish between the normal and abnormal process losses and explain their accounting treatment
- prepare abnormal loss and abnormal gain accounts.

13.1 INTRODUCTION

Job and contract costing methods about which you learnt in Unit 12, are used for ascertaining the costs of specific job orders involving special orders and individual specifications. These are not considered suitable for industries involving mass production such as chemical plant, paper manufacturing, flour mill, cement works, textile mill, etc. Depending upon the nature of their product and the production processes involved, the organisations engaged in such industries generally use unit costing method or process costing method. You have learnt about unit costing method in Unit 10. In this unit you will learn about the process costing method under which the cost of a product can be ascertained at each stage of production.

13.2 MEANING AND APPLICATION

Process costing refers to a method of ascertaining the cost of product at each stage or process of manufacture where a product passes through different consecutive processes of production, each distinct and well defined. As a matter of fact, almost every product passes through a series of manufacturing operations before it takes the shape of a final product. But, in most cases, the operations involved are small and the costs incurred on each operation form an insignificant portion of the total cost. Hence, it is not considered worthwhile to compute the cost of each operation separately and so the process costing is not considered useful. **Process costing is suitable only where the final product is the result of a series of such process that the output of one process passes on as a raw material to the next process and may otherwise be saleable as a finished product in the market.** Take the case of a cotton textile mill, for example, where production of cloth