Chapter 7

# Job, Batch and Contract Costing

## Job Costing

Different methods of costing are broadly divided into two major categories- (1) Specific order costing and (2) Operating costing

Accounting to I.C.M.A. London, Specific order costing "is that category of Basic Costing methods which is applicable where the work consists of separate contract jobs or batches each of which is authorised by specific order or contract". This method is used by firms which manufacture products or render services against specific orders as distinct from continuous production for stock and sales. Specific order costing is also called production order, job lot or lot costing.

Specific order costing is subdivided into job costing, Batch costing and Contract costing. Contract, costing is used for jobs of larger size consuming longer period of time, particularly in construction industry. Batch costing is used when identical components or products are produced in predetermined lots or batches. Job costing is used for comparatively smaller works of shorter duration. Printing presses, machine tools manufactures, furniture makers, repair shops, foundries, etc. use this method extensively. It is essentially used to ascertain the cost and profit or loss of each job separately.

**Definition of Job and Job costing**

Official Terminology of the CIMA London (Chartered Institute of Management Accountants) (Known earlier as I.C.M.A) defines the term 'Job' as "a customer order or task of relatively short duration". Thus, job involves specific order by a customer and its duration is short.

CIMA definition of Job costing is "It is a form of specific order costing in which costs are attributed to individual jobs". Thus, each 'Job' is treated as a distinct cost unit for which costs are accumulated.

**Features of job costing**

Each job is identifiable from the stage of material till its completion and delivery. The following are the features of industries and firms where job costing is usually applied. The costing method has to be adapted to suit the specific features in an industry or a firm.

1. Jobs are undertaken against the orders of customers, as per their instructions.

2. Production is not meant for stock and future sale. The production is not continuous.
3. The jobs differ from each other requiring different methods, materials or skills and treatment.
4. The jobs go through different operations and departments as per their specific requirements. There is no uniformity in the flow of production.
5. Each job is treated as a cost unit and a production or job order number is issued. The job is identified with such number throughout the different stages of production.
6. Separate cost sheet is prepared for each job to ascertain its cost and profit.
7. Estimating the costs and quotations to the customers on that basis are widely practised.

The specific distinguishing features of operations in each firm should be noted while designing the exact system of cost accumulation, accounting and control.

**Objectives of Job Costing**

1. Ascertaining the cost of each job order, element, as accurately as feasible.
2. Enabling preparation of overhead quotations and tenders through reliable estimates.
3. Determination of suitable overhead recovery rates to absorb the overheads fully.
4. Providing proper valuation of work-in-progress at any given time.
5. Establishing procedures for controlling and reducing costs over a period of time.

**Essential pre-requisites for introduction of job costing**

Successful usage of job costing method in the organisation requires the following:

(a) Material control system involving work orders, material requisitions, specification of materials, scrap reports, etc.

(b) Labour time booking procedure through job tickets or piece work tickets, idle time reports, etc.

(c) An effective production control system.

(d) Proper classification, apportionment and absorption methods for the overheads.

**Merits of Job Costing**

(i) It provides detailed analysis of costs of materials, labour and overheads. The costs are available any time they are required. The management can know the trend of costs and can control the operations more effectively.

(ii) It helps in distinguishing between the profitable and unprofitable jobs.

(iii) It provides a basis for estimating costs for future quotations.

(iv) It helps in improving the future production planning.

(v) Adoption of predetermined overhead rates in job costing necessitates application of budgetary control with its advantages. Cost data from job costing is useful in the preparation of future budgets.

(vi) Spoilage of material and defective work can be identified with specific job. Determining responsibility and follow-up action can result in better future control over such losses.

(vii) It helps the management in fixing the selling prices of special contracts and also cost plus contracts.

(viii) The systematic costing records maintained for each job provide a reliable database for statistical trend analysis of costs over a period of time.

**Demerits or limitations of job costing**

(i) The method needs an excellent system of production control, material control and labor control systems which may not be existing in most of the small firms.

(ii) It involves a lot of clerical work making it a relatively expensive method.

(iii) Costs of different jobs are not comparable since each job has its own features.

(iv) Absorption of overheads on the basis of predetermined rates is necessary which makes budgeting a prerequisite. The firm may not be practising budgeting system.

(v) Due to extensive clerical work involved, their is chance for mistakes.

(vi) Job costing ascertains costs only after the completion of jobs. So, for control purpose it is not much use unless it is combined with standard costing system or estimated costing.

**Estimating and its importance in job costing**

Estimating is a vital part of job costing. The costing department prepares an estimate of the costs of each job before quoting price to the prospective customers.

*Cost estimates of each job are based on the following:*

Past experience,

Cost sheets of similar jobs,

Forecasts of material, labour and overheads.

When a job is accepted, production order for the job is issued and estimated costs are recorded on the job cost sheet so that comparison of actual costs and estimated costs can be made at various stages of completion of the job. The estimated costs act like guidelines for the personnel involved with the job in different ways.

**Job costing procedure**

The following are the different steps involved in practice for each job in a firm:

*(a) Customers' Enquiry:* Routine enquiries are usually received from customers regarding the technical aspects of a job and the price to be paid by him. It may be formal or informal, written or oral.

*(b) Quotation for the job:* Based on the customer's enquiry, detailed and specific estimates are made regarding the production aspects and the costs. A quotation is prepared and conveyed to the customer appropriately.

*(c) Customer's Order:* If the customer is satisfied with the quotation, he may place an order which may be accepted by the firm for execution.

*(d) Production Order:* For every customer's order accepted, a separate production order is prepared. This order includes specific instructions to the production departments to proceed with the work and it is the written authority for executing the job. Copies of the order with relevant instructions are circulated to all the departments and operation centres involved. Production control department will allot a job number or production order number which acts as the reference point for the job till it is finished and delivered.

*(e) Cost Accumulation:* The costs pertaining to each job are collected and recorded with reference to the job number or production order number. A job cost sheet or job cost card is opened for each job. Entries in the card are made as follows:

(i) Material costs of the job are based on material requisitions or materials issue analysis sheet.

(ii) Wages are recorded with the help of wages analysis sheets, Time sheets and job cards.

(iii) Direct expenses are accumulated on the basis of relevant expense vouchers.

(iv) Overheads are accumulated with the use of standing order numbers or cost accounts numbers relevant to each overhead.

*(f) Completion of Job:* The production control department sends a completion report to the costing department when a job is completed. The costing department compiles the different elements of cost and completes the job cost sheet. Any deviations from the estimated costs are also noted on the sheet for control purposes.

*(g) Profit recognition:* The total cost of the job is compared with the price charged to the customers. The difference represents profit or loss on the job which is transferred to costing P & L A/c.

**From used in job costing**

The following are some of the widely used forms under the job costing system.

***(i) Production order:*** This is the written authority to the production department to perform a job.

***Production Order***

Serial No. _____ Customer Order No. _____

Code No. _____ Quantity Ordered _____

Bill of Material No. _____ Date of Order _____

Description of Job _____ Date of Commencement _____

Scheduled Date of Finish _____

| Clock Time | Operation No. | Dept. No. | Operation No. Details | Quantity Made Rejected |
|---|---|---|---|---|
| | | | | |

Ordered by _____ Approved by _____

Checked by _____

***(ii) Job Cost sheet:*** It is the 'Core document' of job costing method. Actual cost of materials labour and overheads are recorded along with the estimated costs in this sheet. The sheet usually reveals profit or loss of the particular job.

***Rama Ltd***

***Job Cost Sheet***

No. _____

Description _____ Job No. _____

Customer _____ Quantity _____

Blueprint No. _____ Date of Delivery _____

Material No. _____ Date Commenced _____

Ref. No. _____ Date Finished _____

| Date | Reference | Details | Material | Labour | Overheads |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | Total | | | |

| Summary of costs | Estimated Rs. | Actual Rs. |
|---|---|---|
| Direct Material | xxx | xxx |
| Direct Wages | xxx | xxx |
| Production over head | xxx | xxx |
| Works cost | xxx | xxx |
| Office, Selling & Distribution overheads | xxx | xxx |
| Total cost | xxxx | xxxx |
| Profit/Loss | xxx | xxx |
| Selling Price | xxxx | xxxx |

For the Job _____

United Produced _____

Cost per Unit _____

Remarks _____

Prepared By _____

Checked By _____

## BATCH COSTING

Batch costing is a modification or variation of job costing. Job costing is employed to deal with the costing of jobs undertaken as per specific orders of customers to suit their particular requirements. Batch costing is more suitable when articles are produced in definite batches and held in stock for future sale or stored as components for assembling a finished product.

According to I.C.M.A., London, "Batch Costing is that form of specific order costing which applies where similar articles are manufactured in batches either for sale or use within the company". A 'Batch' according to I.C.M.A., London is "a cost unit which consists of a group of similar articles which maintain its identity throughout one or more stages of production".

In watch making, Radio and T.V. assembling Batch Costing is extensively used to compute the cost of individual components. Similarly, in the manufacturing of toys, shoes, etc., also batch costing is employed to ascertain cost per finished unit of the product.

A 'Batch' is the 'unit of cost' in Batch costing. A separate 'Batch order number' is issued for each batch. Material requisitions and time sheets or job tickets provide the material and labour costs for the batch. Overheads are absorbed on some appropriate basis. A 'Batch cost sheet' is prepared to ascertain the total cost of a Batch and Cost per unit in the Batch. The Batch cost sheet is similar to job cost sheet.

**Determination of Economic Batch Quantity (EBQ) or Economic lot size**

Determining economic batch quantity is a very important aspect in batch costing. Economic Batch Quantity is the optimum quantity which balances the advantages of larger batches and the disadvantages of larger inventory.

Setting-up costs are the clerical and machine setup costs and machine disassembling costs relating to a particular batch. They are fixed in nature and are independent of the batch size. Maximising the batch size can reduce the cost per unit.

Carrying costs are the costs of storage, interest and material losses. The carrying costs increase in proportion to the size of the batches.

Economic batch quantity is the lot size at which the setting-up and carrying costs are equal and the total cost is minimum possible.

Determining the economic batch quantity is affected by the following factors.

(a) Setting-up cost per batch (b) Manufacturing cost for the batch (c) Cost of storage (d) Rate of consumption of the product (e) Interest rate on capital.

There are different approaches and different formulae for ascertaining economic batch quantity. However, the following formula is the most commonly used.

$$EBQ = \sqrt{\frac{2.U.S.}{C}}$$

Where

EBQ = Economic Batch Quantity

U = Annual usage of units to be produced in one year (or) Annual demand for the product

S = Setting-up and order processing cost per batch

C = Cost of carrying one unit in inventory for one year.

When interest rate per annum and manufacturing cost per unit are given, the formula is readjusted as follows:

$$EBQ = \sqrt{\frac{2.U.S.}{I.C}}$$

Where

I = Interest rate per annum

C = Cost of manufacturing per unit.

## CONTRACT COSTING

**Introduction**

Contract costing is one of the variations of specific order costing. It is employed to ascertain cost and profit of specific contracts undertaken. A 'contract' is the cost unit. It is similar to job costing but they differ basically in the aspects of size and duration. The method is widely used in construction works. Examples are construction of buildings, roads, ships, plants, dams, etc. Due to high unit value, each contract is negotiated by the contractor and contractee in detail and usually a formal contract deed is signed which specifies all the terms agreed upon in detail. The contract price, method of work certification, mode of cash payment are specifically included.

**Definition :**

As per the official CIMA Terminology (Chartered Institute of Management Accountants of London) (earlier known as ICMA), Contract costing is "a form of specific order costing in which costs are attributed to individual contracts".

**Characteristic features of Contracts and Contract costing**

(a) The cost unit is a specific contract.

(b) Each contract is performed over a significantly long period of time, some times stretching over two or more accounting periods.

(c) The work is done usually at the site chosen by the customer, as per his specifications and instructions.

(d) Payment is usually received in different stages of completion of the work.

(e) Most of the costs involved are direct in nature and can be allocated to the particular contract.

(f) Overheads are comparatively insignificant and may constitute the administrative costs of the main office and stores.

(g) Cost control becomes difficult due to the size of the work and site. Pilferages and thefts of materials and tools are common.

(h) Plant, equipment and materials may be constantly transported and shifted between central stores, contract site and other contracts.

**Distinction between Job Costing and Contract costing**

Both methods are variations of specific order costing. They involve orders accepted from specific customers and the job or contract becomes the cost unit. However, they differ from each other in the following aspects.

(a) *Size:* Jobs are smaller and contracts are bigger in monetary terms and also in physical aspects.

(b) *Duration:* Jobs takeup lesser time and usually completed within one accounting period. Contracts take longer period and may even stretch over several accounting periods.

(c) *Site:* Jobs are normally performed at the contractor's shop or factory or place. Contracts are executed at the contractee's site.

(d) *Payment:* Selling price of a job is collected on delivery. For contracts payment is received in several instalments.

(e) *Work certification:* Jobs are usually finished without much interference or inspection from the customer. Contracts are routinely inspected by contractee's representatives and work performance is accepted on the basis of their certification.

(f) *Investment:* The contractor has to invest huge amounts in plant, materials etc., initially for contracts, compared to jobs.

(g) *Nature of costs:* Elaborate system of overhead absorption is followed in job costing because the indirect expenses constitute an important portion of the cost. In contract costing, most of the costs are direct and overheads may constitute a small portion of the total cost.

(h) *Profit recognition:* Jobs are generally completed in short period and the profit or loss is fully transferred to profit & loss A/c. Contracts usually spill over to the subsequent accounting years. So, the problem of recognising profit on incomplete contracts arises. A portion of profit is credited to P & L A/c and the balance is kept in reserve.

**The system of contract costing**

The method of accounting for costs in contract costing is very simple. A separate account is opened in the general ledger for each contract. If there is a large number of contracts, a separate contract ledger may be opened and in that ledger, individual accounts are opened for each contract.

All the costs incurred for contract are debited to it. Any overhead apportioned to the contract is also debited. When the contract is completed, the contract price is credited to the account. Any balance of materials and tools are also credited. The difference in the account represents profit or loss on the contract which is fully transferred to the profit and loss account.

If accounts are finalised before a contract is completed, the work certified by the contractee till that data and the cost of work uncertified are credited to the contract account as work-in-progress. If the balance in the account is loss, it is fully debited to P & L A/c. If there is profit, it is termed as 'Notional profit' and a portion of it is credited to the P & L A/c. The work-in-progress is shown as asset in the Balance Sheet.

**Recording of costs of a contract**

The following is the recording procedure for different costs relating to a contract.

1. Materials: Contract Account is debited with the following, relating to materials.
   (a) Materials specially purchased and sent to contract site
   (b) Materials supplied from central stores of the firm
   (c) Materials transferred from other contracts.
   (d) Materials permitted to be purchased directly by the contract supervisor.

The contract account is credited with the following relating to the materials.

(a) Materials returned to the central stores.
(b) Materials on hand at the site on completion of the contract or on the accounting date.
(c) Materials transferred to other contracts.
(d) Materials returned to suppliers from contract site due to unsuitability.
(e) Materials sold at the site, due to various reasons.
(f) Materials abnormally lost in accidents, theft, due to fire, etc.

The objective of the above treatment is to see that the contract account is debited with the actual material consumed or used for contract.

2. *Labour or Wages:* The remuneration of all the employees at the contract site should be regarded as direct wages and debited to the contract account. Wages outstanding on the date of finalising accounts or on the date of completion of the contract should also be ascertained and debited.

3. *Direct Expenses:* All other expenses incurred at the contract site, other than material and wages may be taken as direct expenses and debited to the contract account.

4. *Overheads:* Head office expenses, and other expenses not directly identifiable with particular contracts may be apportioned to all the contracts on a reasonable basis.

5. *Plant and Machinery:* Unlike manufacturing and other service organisations, plant and machinery are utilised at contract sites in a flexible manner. There can be return or transfer or loss of plant and machinery which was sent to the contract site.

The main objective is to see that the contract is duly charged for the use of plant and machinery. There are two ways of dealing with plant in the context of contracts.

(a) The contract can be debited with depreciation for use of plant and machinery. This method is desirable if the same plant is used on different contracts either simultaneously or for short periods. The working life and scrap value are taken into account and depreciation rates either on hourly basis or on daily basis may be determined. Each contract is debited for depreciation on usage basis.

(b) The contract can be debited with the book value of existing plant sent to site or the cost of any new plant purchased and sent to site.

At the end of the accounting year and also when the contract is completed, the plant must be revalued and credited to the contract account. The following are the relevant debits to the contract account relating to plant and machinery.

(a) Existing plant sent to contract site at its book value.

(b) New plant purchased and sent to site at cost

(c) Plant or machinery directly purchased at contract site, at cost:

The following are the credits to the contract account relating to plant and machinery:

(a) Plant at site. less depreciation

(b) Plant returned to stores, less depreciation

(c) Plant transferred to other contracts less depreciation

(d) Plant lost abnormally in accident or theft, less depreciation till that date.

6. *Extra Work:* Contractee may request for some additional work or alterations in the original contract. The additional cost is debited to contract and extra charge agreed for such changes is credited to contract account along with contract price or work certified.

7. *Sub-contracts:* Some portions or specified aspects of the contract may be given to sub-contractors. For example, special flooring, plumbing work, electrical fitting, interior decoration, etc. Amount paid to the sub-contractors is debited to the contract account, just like other costs.

**Recording of value and profit on contracts**

**1. Work certified:** The contractee usually engages his own experts for verification of the work done by the contractor. The experts usually certify the amount of work completed. The certificate issued by the expert forms the basis for payment of cash by the contractee. If the contract is certified as completed, the full contract price becomes payable. If work certified is shown on the credit side of the contract account as a part of work-in-progress, it is also shown in the Balance Sheet assets side as part of work-in-progress.

**2. Accounting methods of recording work certified:** The following methods are in practice to record the work certified.

(a) Debiting the contractee's account and crediting the contract account for the amount of work certified. When cash is collected the contractee is credited and cash is debited.

For the balance in his account, the contractee appears as a debtor in the Balance Sheet.

(b) Debiting the contractee for the cash payable, crediting the contract account for the total work certified. Contractee is credited when cash is paid. Retention money appears on the Balance Sheet assets side.

(c) Work certified is credited to the contract account. It also appears in the balance sheet as part of work-in-progress. When contractee pays cash, it is credited to his personal account. It is deducted from work-in-progress on the assets side of the Balance Sheet. When contract is completed, contractee is debited for the contract price and the contract account is credited. Any balance in contractee's account represents the amount due from him. *This last method is more popular and is generally used.*

**3. Work Uncertified:** This is work done but not yet certified by the contractee's representative. It must be valued at cost. It is shown on the credit side of the contract account and also on the assets side of the Balance sheet along with work certified.

**4. Retention Money:** When contractee's representative certifies the workdone by the contractor, the contractee usually makes cash payment, as per the terms of the contract. Generally, full value of the work certified is not paid, unless the contract is completed. The contractee pays 70% to 80% of the work certified and the balance of the work certified is kept as a provision. Such provision is called 'Retention money'

The retention money is intended to ensure that the contractor continues the work and completes it in due course. But for the retention money, some contractors may not continue their contracts on which loss is expected.

**5. Work-in-progress:** Work certified and work uncertified together constitute the work-in-progress till a contract is completed, when method 'c' above is adopted. The work-in-progress is shown on the credit side of the contract account. In the Balance Sheet it appears on the asset's side. Cash received from the contractee and the profit kept in reserve are subtracted from the work-in-progress and the balance is shown as an asset.

## 6. PROFIT OR LOSS ON CONTRACTS

(a) ***Completed contracts:*** When a contract is completed, the overall profit or loss on the contract is transferred to the profit & Loss Account fully.

(b) ***Incomplete Contracts:*** When there is loss on an incomplete contract, it is fully transferred to the profit and loss account.

When the contract account of an incomplete contract shows profit, it should not be treated as profit earned but only as 'Notional profit. Uncertainty exists relating to material prices and wage rates. Natural calamities like rains and floods can cause loss on contracts. So, a conservative policy of making provision for contingencies and taking to the credit of P & L A/c the balance of notional profit is usually practised.

The following are the rules or principles to be followed in relation to profit on incomplete contracts.

(a) *When work-certified is less than 25% of contract price:* No profit should be transferred to P & L A/c. The entire notional profit is kept in reserve for contingencies.

(b) *When work certified is 25% or more but less than 50% of the contract:* 1/3rd of the notional profit, subject to the ratio of cash received to work certified, is transferred to P & L A/c.

$$\text{Profit credited to P \& L A/c} = \text{Notional profit} \times \frac{1}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$

(c) *When work certified is 50% or more of the contract price:* 2/3rd of the notional profit is transferred to P & L A/c, after reducing it further in the ratio of cash received to work certified.

$$\text{Profit credited to P \& L A/c} = \text{Notional profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$

**When a contract is nearing completion**

Contracts on the verge of completion or nearing completion are dealt with in a different manner.

The additional expenditure required to complete the contract is estimated. On this basis, the total estimated profit on the contract is ascertained. Then any one of the following formulae can be used to credit profit to P & L A/c.

$$\text{(a) Estimated profit} \times \frac{\text{Work certified}}{\text{Contract price}}$$

$$\text{(b) Estimated profit} \times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work Certified}}$$

(c) Estimated profit $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}}$

(d) Estimated profit $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work Certified}}$

Formulae (a) & (b) are more popular because they are based on work certified. Formula (b) is more conservative and preferable.

***(7) Escalation Clause:*** When a contract is negotiated, 'escalation clause' may be included if the contract is likely to take some length of time. In periods of inflation and also when the economy is unstable, the contractor may feel that protection is needed against rise in material prices and wages rates.

The clause may provide for compensation to the contractor if the escalation in costs is more than an agreed limit. In such cases the contract price is increased to the agreed extent after calculating the exact amount of compensation. It can be credited to the contract account in case of incomplete contracts along with the work certified and uncertified.

***(8) Cost plus Contracts:*** Estimating the costs exactly may prove difficult in some cases. Violent fluctuations in material prices and unexpected changes in wage rates may make quoting for a contract a hazardous task. The contractor may desire to make a specific rate of profit. In such circumstances, cost plus contracts are generally accepted.

**Advantages of cost plus contract**

(a) The contractor is sure of making desired profit, irrespective of cost fluctuations.

(b) It insures the contractor from price fluctuations.

(c) The contractee knows definitely the profit to be earned by the contractor.

(d) Contractee pays on the basis of cost rather than arbitrary price quoted.

**Disadvantages**

(1) There is premium or incentive for inefficiency because the contractor has no incentive to control or reduce costs.

(2) The contractor has the scope to inflate his costs and consequently his profits also.

(3) The burden of justifying each cost falls on the shoulders of the contractor.

(4) In contractee's anxiety to minimise the costs, quality may be sacrificed. Generally, cost plus contracts are more popular with government organisations.

## ILLUSTRATIONS
## JOB COSTING

**Illustration 1**

The following data is available in respect of Job No. 876 :

Direct Materials ; Rs. 17,000; Wages 160 hours at Rs. 50 per hour. Variable over heads incurred for all jobs Rs. 80,000 for 2000 Labour hours. Fixed overheads are absorbed at Rs. 20 per hour :

Find the profit or loss from the job if the job is billed for Rs. 40,000.

**Solution :**

**Job cost sheet for Job No. 876**

| *Particulars* | *Rs.* | *Rs.* |
|---|---|---|
| Direct Materials | | 17,000 |
| Wages (160 × 50) | | 8000 |
| Prime cost | | 25,000 |
| *Overheads :* | | |
| Variable $\frac{80,000}{2,000} \times 160$ | 6,400 | |
| Fixed 160 × 20 | 3,200 | 9,600 |
| Total Cost | | 34,600 |
| Profit (Bal. Fig) | | 5,400 |
| Job Bill | | 40,000 |

**Illustration 2**

Modern Printers undertook two jobs during the 1st week of June 2007. The following details are available

| | *Job 110* Rs. | *Job 120* Rs. |
|---|---|---|
| Materials supplied | 4,000 | 2,000 |
| Wages paid | 900 | 600 |
| Direct expenses | 200 | 100 |
| Material Transfer from Job 120 to 110 | 200 | 200 |
| Material returned to stores | – | 100 |

Find the cost of each job and profit or loss if any, assuming that job 120 is completed and invoiced to the customer at Rs. 3,000.

***[Madras, B.Com(PZ5A) Nov. 2007]***

**Solution**

**Job 110 A/C**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Material | 4,000 | By Balance c/d | 5,300 |
| To wages | 900 | | |
| To Direct Expenses | 200 | | |
| To Material transferred from job 120 | 200 | | |
| | 5,300 | | 5,300 |
| To Balance b/d | 5,300 | | |

**Job 120 A/c**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Material | 2,000 | By Material transferred to Job 110 | 200 |
| To wages | 600 | By Material returned to stores | 100 |
| To Direct expenses | 100 | By Sales | 3,000 |
| To P & L A/c (Profit Transferred) | 600 | | |
| | 3,300 | | 3,300 |

**Illustration 3**

The following data are from the costing records of Samarth Industries Ltd., in respect of Job No. 76:

Materials consumed Rs. 6,000

Wages:

Cutting Department 20 hours at Rs. 40 per hour

Shearing Department 10 hours at Rs. 40 per hour

Boring Department 5 hours at Rs. 60 per hour

Variable overheads for the respective departments are estimated as follows:

Cutting Department Rs. 40,000 for 2,000 Direct labour hours

Shearing Department Rs. 20,000 for 2,500 Direct labour hours

Boring Department Rs. 10,000 for 400 Direct labour hours

Fixed overheads are estimated at Rs. 1,00,000 for 20,000 normal working hours.

You are required to ascertain the cost of job No. 76 and calculate the price to be charged so as to give a profit of 20% on cost.

*[Madras, B.Com(CS) (ICE) Oct. 2008]*

**Solution:**

**Cost Sheet – Job No. 76**

| *Particulars* | *Rs.* | *Rs.* |
|---|---|---|
| Materials consumed | | 6,000 |
| *Wages:* | | |
| Cutting Department: 20 hours at Rs. 50 each | 1,000 | |
| Shearing Department: 10 hours at Rs. 40 each | 400 | |
| Boring Department: 5 hours at Rs. 60 each | 300 | 1,700 |
| Prime cost | | 7,700 |
| *Variable overheads (W.N.I) :* | | |
| Cutting Department: 20 hours at Rs. 20 each | 400 | |
| Shearing Department: 10 hours at Rs. 8 each | 80 | |
| Boring Department: 5 hours at Rs. 25 each | 125 | 605 |
| Variable cost | | 8,305 |
| *Fixed overheads (W.N.2):* | | |
| 35 hours @ Rs. 5 per hour | | 175 |
| Total cost | | 8,480 |
| Profit at 20% on cost | | 1,696 |
| Selling price | | 10,176 |

***Working Note (1):* Departmental variable over heads rates**

Cutting Department: Rs. 40,000 ÷ 2,000 hours = Rs. 20 per hour

Shearing Department: Rs. 20,000 ÷ 2,500 hours = Rs. 8 per hour

Boring Department: Rs. 10,000 ÷ 400 hours = Rs. 25 per hour

***Working Note (2):* Fixed overhead recovery rate:**

Rs. 1,00,000 ÷ 20,000 hours = Rs. 5 per hour

**Illustration 4**

From the data given below, obtained from the books of M/s Anitha & Co., for the year ended 31st Dec. 2010, prepare (1) Consolidated completed jobs account showing the profit or loss; and (2) Consolidated work in progress account.

| | Completed jobs Rs. | Work-in-progress Rs. |
|---|---|---|
| Raw material supplied from stores | 9,000 | 3,000 |
| Chargeablé expenses | 1,000 | 400 |
| Wages | 10,000 | 4,000 |
| Material transferred to work-in-progress | 200 | 200 |
| Material returned to stores | 100 | – |

Factory overhead is 80% of wages and office overhead 25% of factory cost.

The value of executed jobs during 1998 was Rs. 41,000

**Solution**

**Consolidated Completed Jobs Account for the year 2010**

| *Particulars* | *Rs* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|---|
| To Raw material consumed: | | | By Customers' A/C (value of jobs completed) | 41,000 |
| Supplies from stores: | 9,000 | | | |
| *Less:* Transferred to work-in-progress | 200 | | | |
| | 8,800 | | | |
| *Less:* Returned to stores | 100 | 8,700 | | |
| To Wages | | 10,000 | | |
| To Chargeable Expenses | | 1,000 | | |
| To Factory overheads (80% of wages) | | 8,000 | | |
| Factory cost | | 27,700 | | |
| To Administration overheads (25% of Rs. 27,700) | | 6,925 | | |
| To Profit transferred to P & L A/c | | 6,375 | | |
| | | 41,000 | | 41,000 |

**Consolidated Work-in-progress A/c for the year 2010**

| *Particulars* | *Rs.* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|---|
| To Raw material consumed: | | | By Balance c/d | 13,500 |
| Supplied from stores | 3,000 | | | |
| *Add:* Transfer from completed Jobs | 200 | 3,200 | | |
| To Wages | | 4,000 | | |
| To Chargeable expenses | | 400 | | |
| To Factory overheads (80% of wages) | | 3,200 | | |
| Factory Cost | | 10,800 | | |
| To Administration overheads (10,800 × 25%) | | 2,700 | | |
| | | 13,500 | | 13,500 |

**Illustration 5**

A foreman of Anura and Company presented the following cost for Job No. 421 to determine the selling price.

| | *Per unit* |
|---|---|
| | *Rs.* |
| Material | 70 |
| Direct wages 18 hrs @ Rs.250 | 45 |
| (Dept. X-8 hrs; Dept. Y-6 hrs; Dept. Z- 4 hrs) | |
| Chargeable expenses (Special store items) | 5 |
| | 120 |
| *Add:* $33\frac{1}{3}\%$ | 40 |
| Cost | 160 |

Analysis of the Profit and Loss A/c for 2005 shows the following :

| Particulars | Rs. | Rs. | Particulars | Rs. |
|---|---|---|---|---|
| To Material used | | 1,50,000 | By Sales less returns | 2,50,000 |
| To Direct wages: | | | | |
| Dept. X | 10,000 | | | |
| Dept. Y | 12,000 | | | |
| Dept. Z | 8,000 | 30,000 | | |
| To Special stores items | | 4,000 | | |
| To Overheads | | | | |
| Dept. X | 5,000 | | | |
| Dept. Y | 9,000 | | | |
| Dept. Z | 2,000 | 16,000 | | |
| To Gross Profit c/d | | 50,000 | | |
| | | 2,50,000 | | 2,50,000 |
| To Selling expenses | | 20,000 | By Gross Profit b/d | 50,000 |
| To Net profit | | 30,000 | | |
| | | 50,000 | | 50,000 |

It is also noted that average hourly labour rates for three departments *X, Y* and *Z* are similar. You are required to:

(1) Draw up a Job Cost Sheet

(2) Calculation the entire revised cost using 2005 actual figures as basis

(3) Add 20% to total cost to determine selling price.

***[Periyar, M.Com., M.Com(CA) April /May 2006]***



**Solution**

| Particulars | |
|---|---|
| Material | |
| Direct Wages: | |
| Dept. X | |
| Dept. Y | |
| Dept. Z | |
| Chargeable Expenses | |
| Prime Cost | |
| Overheads | |
| Dept. X | |
| Dept. Y | |
| Dept. Z | |
| Total Cost | |
| *Add:* Profit 20% on total cost | |
| Selling price | |

***Working note (1): Direct Labo***

Department X : $\frac{10,000}{2.5}$ = 4,000

Department Y : $\frac{8,000}{2.5}$ = 3,200 h

***Working note (2): Factory over***

| Particulars | |
|---|---|
| I. Overheads | 5,0 |
| II. Direct labour hours | 4,0 |
| III. Rate per hour I/II | 1. |

**Solution**

**Job Cost Sheet**

**Job No. 421**

| *Particulars* | *Rate Rs.* | *Hours* | *Amount Rs.* |
|---|---|---|---|
| Material | | | 70.00 |
| Direct Wages: | | | |
| Dept. X | 2.50 | 8 | 20.00 |
| Dept. Y | 2.50 | 6 | 15.00 |
| Dept. Z | 2.50 | 4 | 10.00 |
| Chargeable Expenses | | | 5.00 |
| Prime Cost | | | 120.00 |
| Overheads | | | |
| Dept. X | 1.250 | 8 | 10.00 |
| Dept. Y | 1.875 | 6 | 11.25 |
| Dept. Z | 0.625 | 4 | 2.50 |
| Total Cost | | | 143.75 |
| *Add:* Profit 20% on total cost | | | 28.75 |
| Selling price | | | 172.50 |

***Working note (1): Direct Labour hours in 2005:***

Department X : $\frac{10,000}{2.5}$ = 4,000 hours; Department Y : $\frac{12,000}{2.5}$ = 4,800 hours

Department Y : $\frac{8,000}{2.5}$ = 3,200 hours

***Working note (2): Factory overhead rates***

| *Particulars* | *Departments* | | |
|---|---|---|---|
| | *X* | *Y* | *Z* |
| | Rs. | Rs. | Rs. |
| I. Overheads | 5,000 | 9,000 | 2,000 |
| II. Direct labour hours | 4,000 | 4,800 | 3,200 |
| III. Rate per hour I/II | 1.25 | 1.875 | 0.625 |

**Illustration 6**

Following data is obtained from records of Rajalaxmi and Co. for month of December 2010:

| | *Job No. 500* Rs. | *Job No. 501* Rs. | *Total* Rs. |
|---|---|---|---|
| 1. Opening balance of job on 1st Dec. 2010 | | | |
| Direct Material | 160 | 840 | 1,000 |
| Direct Labour | 300 | 900 | 1,200 |
| Factory overheads | 400 | 800 | 1,200 |
| | 860 | 2,540 | 3,400 |

2. Direct material requisition during the month of December 2010

| *Job No.* | *Rs.* |
|---|---|
| 500 | 240 |
| 501 | 560 |
| 502 | 450 |
| 503 | 600 |
| | 1,850 |

3. Direct Labour distribution

| *Job No.* | *Hours* | *Rs.* |
|---|---|---|
| 500 | 800 | 1,200 |
| 501 | 400 | 900 |
| 502 | 600 | 1,350 |
| 503 | 200 | 450 |
| | 2,000 | 3,900 |

4. Factory overheads are applied to jobs on production according to direct labour hour rate which is Rs. 4
5. Factory overheads incurred in December 2010 is Rs. 8,400
6. Job Number 501 and 502 were completed during the month. They were billed to customer at a price which included 15% of the price of job for selling and distribution expenses and another 10% of price for the profit.
   (i) Find out job cost for job numbers 501 and 502.
   (ii) Determine price for the job
   (iii) Calculate the value of work-in-progress and
   (iv) Prepare an Income Statement showing gross profit for the month of December, 2010.

**Solution**

(i)

**Job Cost Sheet**

| | *Job No. 501* Rs. | *Job No. 502* Rs. |
|---|---|---|
| Opening Balance | 2,540 | – |
| Direct Material | 560 | 450 |
| Direct Labour | 900 | 1,350 |
| Prime Cost | 4,000 | 1,800 |
| Factory Overheads | 1,600 | 2,400 |
| Factory cost | 5,600 | 4,200 |
| *Add:* Selling and distribution expenses (15% of Billing price) | 1,120 | 840 |
| Cost of sales | 6,720 | 5,040 |
| Profit (10% of Billing price) | 747 | 560 |
| Billing price (W.N. ii) | 7,467 | 5,600 |

**Note:**

**(ii) Billing price: Job No : 501**

Suppose selling price of job No. 501 = $x$

Then $x = 5{,}600 + .15x + .10x$

$.75x = 5{,}600$ $x$ = Rs. 7,467

**Job No : 502**

Suppose selling price of job No. 502 = $y$

Then $y = 4{,}200 + .15y + .10y$

$.75y = 4{,}200$ $y$ = Rs. 5,600

**(iii)Calculation of work-in-progress**

| | *Materials* Rs. | *Labour* Rs. | *Overheads* Rs. | *Total* Rs. |
|---|---|---|---|---|
| Opening Balance | 1,000 | 1,200 | 1,200 | 3,400 |
| *Add:* Cost in December | 1,850 | 3,900 | 8,000 | 13,750 |
| | 2,850 | 5,100 | 9,200 | 17,150 |
| *Less:* Cost of jobs completed | 1,850 | 3,150 | 4,800 | 9,800 |
| Work-in-progress | 1,000 | 1,950 | 4,400 | 7,350 |

**(iv) Income Statement**

| | | Rs. | Rs. | Rs. |
|---|---|---|---|---|
| Selling price | Job 501 | 7,467 | | |
| | Job 502 | 5,600 | | 13,067 |
| *Less:* Cost of good sold | | | | |
| Factory cost of | Job 501 | 5,600 | | |
| Jobs Completed : | Job 502 | 4,200 | 9,800 | |
| Overheads under applied: | | | | |
| Incurred | | 8,400 | | |
| *Less:* Applied 2,000 hours × 4 | | 8,000 | 400 | 10,200 |
| Gross profit | | | | 2,867 |

## BATCH COSTING

**Illustration 1**

Calculate the economic batch quantity for a product using batch costing from the following details:

| | | |
|---|---|---|
| Annual demand for the product | = | 2,000 units |
| Set up cost per batch | = | Rs. 10. |
| Cost of carrying inventory per unit | = | Re. 1 |

**Solution**

$$\text{Economic Batch Quantity} = \sqrt{\frac{2US}{C}}$$

where U = Usage per annum (or) units to be produced in one year (or) units demanded per annum.

S = Set up and order processing cost per batch

C = Cost of carrying one unit in inventory per annum

$$\therefore \text{Economic Batch Quantity} = \sqrt{\frac{2 \times 2{,}000 \times 10}{1}}$$

$$= 200 \text{ units}$$

**Illustration 2**

The demand per annum of a product is 48,000 units. It is produced in batches and the largest size of a single batch is 8,000 units. The set up cost per batch is Rs. 1,500. The annual inventory carrying cost is Rs. 2.25 per unit.

Assume average inventory as 50% of the number of units made in each batch. Selecting 4, 6, 8, 12 and 24 batches per annum, determine annual cost of each batch and state the optimum number of batches to minimise the total cost.

**Solution**

**Statement showing annual cost of batches**

| *Particulars* | *Batch* | | | | |
|---|---|---|---|---|---|
| No. of Batches | 4 | 6 | 8 | 12 | 24 |
| Size of Batch units (48,000 ÷ No. of batches) | 12,000 | 8,000 | 6,000 | 4,000 | 2,000 |
| Average stock (50% of batch units) | 6,000 | 4,000 | 3,000 | 2,000 | 1,000 |
| Costs: | Rs. | Rs. | Rs. | Rs. | Rs. |
| Setting-up costs (No. of batches × 1,500) | 6,000 | 9,000 | 12,000 | 18,000 | 36,000 |
| Carrying costs (Average stock × 2.25) | 13,500 | 9,000 | 6,750 | 4,500 | 2,250 |
| Total cost | 19,500 | 18,000 | 18,750 | 22,500 | 38,250 |

Optimum number is 6 batches of 8,000 units each per annum. At that level, the total cost is the lowest, as demonstrated in the above table.

**Verification**

$$\text{Economic Batch Quantity} = \sqrt{\frac{2US}{C}}$$

$$= \sqrt{\frac{2 \times 48{,}000 \times 1{,}500}{2.25}}$$

$$= 8{,}000 \text{ units}$$

**Illustration 3**

From the following information relating to the manufacturing of a product in a cost centre, prepare a cost sheet showing both production and setting up costs, total and per unit, when the batch consists of 200 units:

Cost of materials 12 paise per unit
Operator's wages Rs. 1.44 an hour
Machine hour rate Rs. 3.00
Setting up time of the machine 4 hours and 40 minutes
Manufacturing time 20 minutes per unit.

*[Madras, 1st M.Com(CA2A) April 2010]*

**Solution:**

**Cost Sheet for the Batch of 200 components**

| *Particulars* | *Cost of per unit* | *Total* |
|---|---|---|
| *Setting up costs:* | | Rs. |
| Operators wages for 4 hours 40 mts at 1.44 an hour. | | 6.72 |
| Machine overheads for 4 hrs and 40 mts @ Rs. 3.00 an hour. | | 14.00 |
| Total setting up costs (A) | 0.1036 | 20.72 |
| *Production costs:* | | |
| Material cost for 200 units @ Rs. 0.12 per unit | 0.1200 | 24.00 |
| Wages of operators for 4,000 minutes at Rs. 1.44 an hour | 0.4800 | 96.00 |
| Machine overheads for 4,000 minutes @ Rs. 3.00 an hour | 1.0000 | 200.00 |
| Total production costs (B) | 1.6000 | 320.00 |
| Total cost (A + B) | 1.7036 | 340.72 |

**Illustration 4**

A work order for 1,000 units of a product passes through four machines for which the machine hour rates are as follows:

| | Rs. |
|---|---|
| Machine I | 2.50 |
| Machine II | 6.00 |
| Machine III | 8.00 |
| Machine IV | 5.00 |

Material cost of work order Rs. 40,000 and wages Rs. 3,000
Machine I worked for 400 hours
Machine II worked for 600 hours
Machine III worked for 480 hours
Machine IV worked for 200 hours

Upon completion of work order, materials worth Rs. 2,000 were returned to stores. Office overheads are to be charged @ 60% of works costs; 10% of the production is going to be discarded, being unsatisfactory for which $\frac{1}{2}$ the amount can be realised from sale in the market. Find out the rate of selling price per unit if 20% profit on selling price is desired.

**Solution:**

**Statement showing cost and selling price for 1,000 units**

| | Rs. | Rs. |
|---|---|---|
| Material used | 40,000 | |
| *Less:* Material returned | 2,000 | 38,000.00 |
| Wages | | 3,000.000 |
| Prime cost | | 41,000.00 |
| *Add:* Works overhead: Hours × Rate | | |
| Machine No. I 400 × Rs.2.50 | 1,000 | |
| II 600 × Rs.6.00 | 3,600 | |
| III 480 × Rs.8.00 | 3,840 | |
| IV 200 × Rs.5.00 | 1,000 | 9,440.00 |
| Works cost | | 50,440.000 |
| *Add:* Office overheads 60% of works cost (50,440 × 60%) | | 30,264.00 |
| Cost of Production | | 80,704.00 |
| *Less:* Sale of discarded units: | | |
| Cost of 10% discarded (80,704 × 10%) | 8,070.4 | |
| Half amount to be realised | 4,035.2 | 4,035.20 |
| Loss | 4,035.2 | |
| Total cost | | 76,668.80 |
| *Add:* 20% profit on selling price or 25% on cost | | 19,167.20 |
| Sales | | 95,836.00 |
| Selling price per unit = $\frac{\text{Rs. } 95,836}{1,000}$ = Rs. 95,836 | | |

*Note:* It is assumed that the net work order is 1,000 units. So the good output, after the discarded units are disposed off, is 1,000 units.

## CONTRACT COSTING

### Simple Finished Contracts

**Illustration 1**

Seema & Co., undertook a contract for construction of a private house. Contract price was Rs. 40,00,000. The following were the details :

| | | | Rs. |
|---|---|---|---|
| Materials sent to contract site | | | 16,00,000 |
| Labour : | Skilled | 6,00,000 | |
| | unskilled | 4,00,000 | |
| | | | 10,00,000 |
| Subcontracts for Plumbing and Electricity | | | 4,00,000 |
| Sundry expenses | | | 2,00,000 |
| Closing stock of materials at site | | | 1,00,000 |

Prepare contract account and determine the profit or loss.

**Solution :**

**Seema & Co. Contract Account**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Materials (sent) | 16,00,000 | By Closing stock of Material | 1,00,000 |
| To Labour : | | | |
| Skilled | 6,00,000 | By Contractee's Account (contract price) | 40,00,000 |
| Unskilled | 4,00,000 | | |
| To Subcontracts for Plumbing & Electricity | 4,00,000 | | |
| To Sundry expenses | 2,00,000 | | |
| To P & L A/c (Profit) (Bal. Fig) | 9,00,000 | | |
| | 41,00,000 | | 41,00,000 |

**Illustration 2**

The following are the expenses of Balaji & Co., in respect of a contract which commenced on 1st January 2010:

| | Rs. |
|---|---|
| Materials purchased | 50,000 |
| Materials on hand | 2,500 |
| Direct wages | 75,000 |
| Plant issued | 25,000 |
| Direct Expenses | 40,000 |

The contract price was Rs. 7,50,000 and the same was duly received when the contract was completed in August 2010. Charge indirect expenses at 15% on wages; provide Rs. 5,000 for depreciation on plant and prepare the contract account and the Contractee's Account.

**Solution:**

**Balaji & Co., - Contract Ledger**

**Contract A/c**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Material purchased | 50,000 | By Material on hand | 2,500 |
| To Direct wages | 75,000 | By Contractee's A/c | |
| To Direct expenses | 40,000 | (contract price) | 7,50,000 |
| To Indirect expenses | | | |
| (15% on wages) | 11,250 | | |
| To Depreciation on plant | 5,000 | | |
| To P & L A/c (Profit – Bal. fig) | 5,71,250 | | |
| | 7,52,500 | | 7,52,500 |

**Contractee's A/c**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Contract A/c | 7,50,000 | By Bank | 7,50,000 |
| | 7,50,000 | | 7,50,000 |

**Illustration 3**

Write up Contract No. 303 account in the contract ledger of Saravana & Co., from the following details:

| | Rs. |
|---|---|
| Direct Materials | 16,200 |
| Wages | 10,800 |
| Special plant | 8,000 |
| Stores issued | 2,880 |
| Loose tools | 1,500 |
| Tractor expenses | 3,420 |
| Contract price | 40,000 |

The contract was completed in 20 weeks. The special plant was returned subject to depreciation at 20% on original cost. The value of loose tools and stores returned were Rs. 1,000 and Rs. 400 respectively. The book value of the tractor used for the contract was Rs. 19,500 and depreciation to be charged to this contract is at 20% per annum on the book value. Provide 7% for administrative expenses on works cost.

**Solution**

**Saravana & Co., Contract Ledger**

**Contract No. 303 Account**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Direct Materials | 16,200 | By Special plant | |
| To Wages | 10,800 | (8,000 – 20% of 8,000) | 6,400 |
| To Special plant | 8,000 | By Loose tools (returned) | 1,000 |
| To Stores | 2,880 | By Stores (returned) | 400 |
| To Loose Tools | 1,500 | By Contractee's A/c | |
| To Tractor expenses | 3,420 | (contract price) | 40,000 |
| To Depreciation on tractor $\left(19{,}500 \times \frac{20}{100} \times \frac{20}{52}\right)$ | 1,500 | | |
| To Administrative expenses | 2,555 | | |
| To Profit and Loss A/c (Bal. fig) | 945 | | |
| | 47,800 | | 47,800 |

***Note:*** Depreciation on plant is 20% flat and not 20% per annum.

***Working note:*** Administrative expenses at 7% on works cost:

Works cost of the contract = 44,300 – 7,800 = Rs. 36,500

$$\text{Administrative expenses} = 36{,}500 \times \frac{7}{100} = \text{Rs. } 2{,}555$$

**Transfer of profit to profit & Loss Account**

**Illustration 4**

The following expenses were incurred on an unfinished contract during the accounting year 2010:

| | Rs. |
|---|---|
| Materials | 90,000 |
| Wages | 80,000 |
| Other expenses | 5,000 |

Rs. 2,00,000 was received from the contractee, being 80% of the work certified. Work done but not certified was Rs. 5,000. Determine the profit to be credited to Profit and Loss Account in all the three alternatives given below:

(i) Contract price Rs. 3,00,000

(ii) Contract price Rs. 5,50,000

(iii) Contract price Rs. 12,00,000

**Solution**

**Contract Account for the year ended 31.12.2010**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Materials | 90,000 | By work-in-progress: | |
| To Wages | 80,000 | Work certified | |
| To Other expenses | 5,000 | $\left(2,00,000 \times \frac{100}{80}\right)$ | 2,50,000 |
| To Notional profit c/d | 80,000 | Work uncertified | 5,000 |
| | 2,55,000 | | 2,55,000 |

**Profit to be credited to profit and Loss Account**

***(i) When contract price is Rs. 3,00,000***

Work certified is more than 50% of the contract price $\left(\frac{2,50,000}{3,00,000} \times 100 = 83.33\%\right)$

$\therefore$ Profit to be credited to P & L A/c = Notional Profit $\times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$

$$= 80,000 \times \frac{2}{3} \times \frac{80}{100} = \text{Rs. } 42,667$$

Profit kept in reserve $= 80,000 - 42,667 = \text{Rs. } 37,333$

***(ii) When contract price is Rs. 5,50,000***

Work certified is 45.55% *i.e.*, less than 50% but more than 25% of the

$$\text{Contract Price}\left(\frac{2,50,000}{5,50,000}\times 100\right)$$

$$\therefore \text{ Profit to be credited to P \& L A/c} = \text{Notional Profit} \times \frac{1}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= 80,000 \times \frac{1}{3} \times \frac{80}{100} = \text{Rs. } 21,333$$

$$\text{Profit kept in reserve} = 80,000 - 21,333 = \text{Rs. } 58,667$$

***(iii) When contract price is Rs. 12,00,000***

Works certified is 20.83% $\left(\frac{2,50,000}{12,00,000}\times 100 = 20.83\%\right)$ i.e., less than 25% of the contract price. No profit is to be transferred to Profit and Loss A/c. The entire notional profit is to be kept in reserve.

**Illustration 5**

How much profit any, you would allow to be considered in the following case?

| | *Rs,* |
|---|---|
| Contract cost | 11,20,000 |
| Contract value | 20,00,000 |
| Cash received | 10,80,000 |
| Uncertified work | 1,20,000 |

Deduction from bills by way of security deposit is 10%

***[Madras, M.Com., May 2002 (ICE)*** $\left(\frac{1}{4}\ \textit{figures}\right)$***]***

**Solution :**

Cash received = 100 – 10% = 90% of bills or work certified

$$\text{Work certified} = \text{Cash received} \times \frac{100}{90}$$

$$= 10,80,000 \times \frac{100}{90} = 12,00,000$$

Notional profit = Work-in-progress – Contract cost

= (12,00,000 + 1,20,000) – 11,20,000 = Rs. 2,00,000

Work certified is more than 50% of the contract price

$$= \left(\frac{12,00,000}{20,00,000} \times 100 = 60\%\right)$$

∴ Profit to be considered for crediting to P & L A/c

$$= \text{Notional Profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= 2,00,000 \times \frac{2}{3} \times \frac{90}{100} = \text{Rs. } 1,20,000$$

**Treatment of Plant in Contract Account**

**Illustration 6**

Show the treatment of plant in contract account from the following information:

(a) Plant issued to contract on Ist January 2010 Rs. 2,00,000.

(b) Plant costing Rs. 10,000 was transferred to another contract on 30th June 2010.

(c) A plant costing Rs. 6,000 was stolen in transit and another costing Rs. 5,000 was destroyed by fire before installation. There was fire cum burglary insurance to the full value.

(d) Plant costing Rs. 2,000 was sold for Rs. 3,000.

(e) Plant at the end of December was valued by charging depreciation at 10% per annum.

**Solution:**

**Contract Account (includes)**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| To Plant | 2,00,000 | By Profit & Loss | | |
| To Profit & Loss A/c | | Plant lost by theft | 6,000 | |
| (Profit on sale of plant) | 1,000 | Plant destroyed by fire | 5,000 | 11,000 |
| | | By Plant transferred at cost | 10,000 | |
| | | *Less:* Depreciation | 500 | 9,500 |
| | | By Plant sold | | 3,000 |
| | | By plant at site: | | |
| | | Cost | 1,77,000 | |
| | | *Less:* Depreciation | 17,700 | 1,59,300 |

*Note:* In the absence of dates, plant stolen, destroyed and sold are taken to be at the beginning of the year and no depreciation is provided on them.

***Working Note:***

Cost of plant at the end = Rs. 2,00,000 – 6,000 – 5,000 – 10,000 – 2,000 = Rs. 1,77,000

**Incomplete Contracts - Contract Account and Transfer of profit to P & L A/c**

**Illustration 7**

The following is the information relating to Contract No. 123

| | *Rs.* |
|---|---|
| Contract Price | 6,00,000 |
| Wages | 1,64,000 |
| General expenses | 8,600 |
| Raw Materials | 1,20,000 |
| Plant | 20,000 |

As on date, cash received was Rs. 2,40,000 being 80% of work certified. The value of materials remaining at site was Rs. 10,000. Depreciate plant by 10%. Prepare contract Account showing profit to be credited to P & L A/c

***[Bharathiar, B.Com(CA) Nov. 2007]***

***[Madras, B.Com(CA) Nov. 2007; Madras, M.Com(ICE) May 2006; M.Com., (Old) April 2002; B.Com. April 2002 (Double Figs.)]***

**Solution:**

**Contract No. 123 Account**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| To Raw materials | 1,20,000 | By Materials at site | | 10,000 |
| To wages | 1,64,000 | By Plant at site: | | |
| To General expenses | 8,600 | Cost | 20,000 | |
| To Plant | 20,000 | *Less:* Depreciation at 10% | 2,000 | 18,000 |
| To Notional profit c/d | 15,400 | By Work-in-progress: Work certified $\left(2,40,000 \times \frac{100}{80}\right)$ | | 3,00,000 |
| | 3,28,000 | | | 3,28,000 |
| To Profit & Loss A/c $\left(15,400 \times \frac{2}{3} \times \frac{80}{100}\right)$ | 8,213 | By Notional Profit b/d | | 15,400 |
| To Work-in-progress A/c (reserve) | 7,187 | | | |
| | 15,400 | | | 15,400 |

*Note:* Work certified is 50% of contract price. So 2/3 of notional profit, subject to cash received to work certified ratio, is transferred to P & L A/c.

**Illustration 8**

From the following information of Velmurugan Construction Company prepare the contract amount for 2009. Also show what part of the profit on the contract should be taken credit of in 2009. The contract was for Rs. 8,00,000.

| | *Rs* |
|---|---|
| Materials issued from stores | 1,50,000 |
| Wages paid | 2,20,000 |
| General charges | 8,000 |
| Plant installed at site on Ist July 2009 | 40,000 |
| Materials on hand at close | 8,000 |
| Wages accrued due | 8,000 |
| Work Certified | 4,00,000 |
| Work completed but not certified | 12,000 |
| Cash received | 3,00,000 |
| Materials transferred to other contracts | 8,000 |
| Depreciation on plant is to be provided at 10% per annum. | 2,000 |

**Solution :**

**Velmurugan Construction Company**

**Contract Accounting for the year ended 31.12.2009**

| *Particulars* | *Rs.* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|
| To Materials: | | | By Materials : | | |
| Issued from stores | 1,50,000 | | On hand at site | 8,000 | |
| Transferred from Other contracts | 2,000 | 1,52,000 | Transferred to other contracts | 8,000 | 16,000 |
| To Wages paid | 2,20,000 | | By Plant at site: | | |
| Add: Wages accrued due | 8,000 | 2,28,000 | Cost | 40,000 | |
| To General charges | | 8,000 | *Less:* Depreciation $\left(40{,}000 \times \frac{10}{100} \times \frac{6}{12}\right)$ | 2,000 | 38,000 |
| To Notional profit c/d | | 38,000 | By work-in-progress : | | |
| | | | Work certified | | 4,00,000 |
| | | | Work uncertified | | 12,000 |
| | | 4,66,000 | | | 4,66,000 |

| | | | | |
|---|---|---|---|---|
| To Profit & Loss A/c | | | By Notional profit b/d | 38,000 |
| $\left(38,000 \times \frac{2}{3} \times \frac{3,00,000}{4,00,000}\right)$ | 19,000 | | | |
| To Work-in-progress A/c (reserve) | | 19,000 | | |
| | 38,000 | | | 38,000 |

***Note:*** Work certified is 50% of contract price. So $\frac{2}{3}$ rd of notional profit, subject to cash received to work certified ratio is transferred to P & L A/c.

**Illustration 9**

Raja Sekhar building contractors began to trade on 1.1.2010. The following was the expenditure on a contract for Rs. 12,00,000.

| | *Rs.* |
|---|---|
| Material issued from stores | 3,00,000 |
| Material purchased for the contract | 80,000 |
| Plant installed at cost | 1,40,000 |
| Wages paid | 4,80,000 |
| Direct expenses paid | 44,000 |
| Establishment expenses | 20,000 |
| Direct expenses accrued due on 31.12.2010 | 6,000 |
| Wages accrued due on 31.12.2010 | 4,000 |

Of the plant and materials charged to the contract, plant which cost. Rs. 10,000 and materials costing Rs. 8,000 were lost. Some part of the materials costing Rs. 5,000 were sold at a profit of Rs. 1,000. On 31st Dec. 2010 plant which cost Rs. 4,000 was returned to stores and plant which cost Rs. 3,000 was transferred to some other contract.

The work certified was Rs. 9,60,000 and 80% of the same was received in cash. The cost of work done but uncertified was Rs. 6,000. Charge depreciation on plant at 10% p.a You are required to prepare the contract account for the year ended 31st Dec. 2010 by transferring to the Profit and Loss account the portion of profit, if any, which you consider reasonable.

**Solution**

**Contract A/c**

| *Particulars* | *Rs.* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|
| To Material issued | | 3,00,000 | By P & L A/c : | | |
| To Material purchased | | 80,000 | Material lost | | 8,000 |
| To Wages paid | 4,80,000 | | Plant lost | | 10,000 |
| *Add:* Accrued | 4,000 | 4,84,000 | By Sale of Material | | 6,000 |
| | | | By Plant returned | | |
| To Direct exp. paid | 44,000 | | at the end | 4,000 | |
| *Add:* Accrued | 6,000 | 50,000 | *Less:* Depreciation | 400 | 3,600 |
| To Establishment charges | 20,000 | | By Plant transferred | 3,000 | |
| To Plant | | 1,40,000 | *Less:* Depreciation | 300 | 2,700 |
| To P & L A/c | | | By Plant at site | | |
| (profit on sale | | | (1,40,000 - 17,000) | 1,23,000 | |
| of materials) | | 1,000 | *Less:* Depreciation | 12,300 | 1,10,700 |
| | | | By Work-in-progress A/c: | | |
| | | | Work certified | 9,60,000 | |
| To Notional profit c/d | | 32,000 | Work uncertified | 6,000 | 9,66,000 |
| | | 11,07,000 | | | 11,07,000 |
| To P & L A/c | | | | | |
| $\left(32,000 \times \frac{2}{3} \times \frac{80}{100}\right)$ | | 17,067 | By Notional Profit b/d | | 32,000 |
| To Work-in-progress A/c | | | | | |
| (reserve) | | 14,933 | | | |
| | | 32,000 | | | 32,000 |

**Illustration 10**

Sakthi Construction Company undertook a contract for constructing a Flyover for a total value of 24 lakhs on 1.1.2009. It was estimated that the contract would be completed by 31.7.2010. You are required to prepare a contract account for the year ending 31.12.2009.

| | Rs. |
|---|---|
| Wages | 6,00,000 |
| Materials | 3,00,000 |
| Materials at site on 31.12.2009 | 40,000 |
| Special plant | 2,00,000 |
| Overheads | 1,20,000 |
| Work certified | 16,00,000 |

Depreciation at 10% per annum on plant.

Cash received is 80% of work certified. 8% of value of materials issued and 7% of wages may be taken to have been incurred for the portion of work completed but not yet certified. Overheads are charged as percentage of direct wages.

**Solution:**

**Sakthi Construction Company**

**Contract Account for the year ended 31.12.2009**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| To Material | 3,00,000 | By Materials at site | | 40,000 |
| To Wages | 6,00,000 | By Plant | 2,00,000 | |
| To Overheads | 1,20,000 | *Less:* Depreciation | 20,000 | 1,80,000 |
| To Special plant | 2,00,000 | By Work-in-progress: | | |
| | | Work certified | 16,00,000 | |
| | | Work uncertified | 74,400 | 16,74,400 |
| To Notional profit c/d | 6,74,400 | | | |
| | 18,94,400 | | | 18,94,400 |
| To profit and Loss A/c | | By Notional profit b/d | | 6,74,400 |
| $6,74,000 \times \frac{2}{3} \times \frac{80}{100}$ | 3,59,680 | | | |
| To Work-in-progress A/c (reserve) | 3,14,720 | | | |
| | 6,74,400 | | | 6,74,400 |

***Working note: Calculation of work uncertified:***

| | Rs. |
|---|---|
| 8% of materials issued (3,00,000 × 8%) | 24,000 |
| 7% of wages (6,00,000 × 7%) | 42,000 |
| Overheads, 20% of wages $\left(\frac{1,20,000}{6,00,000} \times 100 = 20\%\right)$ | |
| 42,000 × 20% | 8,400 |
| Work uncertified | 74,400 |

**Illustration 11 (Calculation of work uncertified)**

M/s. Kishore and Company commenced work on a particular contract on 1st April 1990. They close their books of account for the year on 31st December each year. The following information is available from their closing records on 31.12.1990:

| | Rs. |
|---|---|
| Materials sent to site | 50,000 |
| Foreman's salary | 12,000 |
| Wages paid | 1,00,000 |

A machine costing Rs. 32,000 remained in use on site for 1/5th of year. Its working life was estimated at 5 years and scrap value at Rs. 2,000. A supervisor is paid Rs. 2,000 per month and had devoted one half of his time on the contract.

All other expenses were Rs. 15,000. The material on site was Rs. 9,000. The contract price was Rs. 4,00,000. On 31st December, 2/3rd of the contract was completed. However, the architect gave certificate only for Rs. 2,00,000 on which 75% was paid.

Prepare the contract account in the company's books.

***[B.Com., Kerala, April 1993]***

**Solution**

**M/s. Kishore and Company**

**Contract Account for the year ending 31.12.1990**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Materials | 50,000 | By Materials on site | 9,000 |
| To Wages | 1,00,000 | By Work-in-progress: | |
| | | Work certified | 2,00,000 |
| To Foreman's salary | 12,000 | Work uncertified | 44,550 |
| To Depreciation on machinery: | | | |
| $\left[(32,000-2,000)\times\frac{1}{5}\times\frac{1}{5}\right]$ | 1,200 | | |
| To Supervisor's salary | 9,000 | | |
| $\left(2,000\times 9\times\frac{1}{2}\right)$ | | | |
| To Other expenses | 15,000 | | |
| To Notional profit c/d | 66,350 | | |
| | 2,53,550 | | 2,53,550 |
| To P & L A/c | | | |
| $\left(66,350\times\frac{2}{3}\times\frac{75}{100}\right)$ | 33,175 | By Notional Profit b/d | 66,350 |
| To Work-in-progress A/c (reserve) | 33,175 | | |
| | 66,350 | | 66,350 |

***Working note: Computation of work uncertified***

| | *Rs.* |
|---|---|
| Total expenditure on the contract = 1,87,200 - 9,000 = | 1,78,200 |
| Which is 2/3 complete | |
| ∴ Total cost for full contract = $1,78,200\times\frac{3}{2}$ = | 2,67,300 |

Work certified Rs. 2,00,000 is $\frac{1}{2}$ of contract price of Rs. 4,00,000

| | |
|---|---|
| Net expenditure on contract till the date = | 1,78,200 |
| *Less:* Cost of work certified = $2,67,300\times\frac{1}{2}$ = | 1,33,650 |
| Cost of work uncertified | = 44,550 |

**Incomplete contracts - Contract Account and Balance Sheet Extracts**

**Illustration 12**

M/s. Arun and Varun undertook a contract for Rs. 2,50,000 for constructing a college building. The following is the information concerning the contract during the year 2007.

| | Rs. |
|---|---|
| Materials sent to site | 85,349 |
| Labour engaged on site | 74,375 |
| Plant installed at site at cost | 15,000 |
| Direct expenditure | 3,167 |
| Establishment charges | 4,126 |
| Materials returned to stores | 549 |
| Work certified | 1,95,000 |
| Value of plant as on 31st Dec. 2007 | 11,000 |
| Cost of work not yet certified | 4,500 |
| Materials at site 31st Dec. 2007 | 1,883 |
| Wages accrued 31st Dec. 2007 | 2,400 |
| Direct expenditure accrued 31st Dec. 2007 | 240 |
| Cash received from contractee | 1,80,000 |

Prepare contract account, contractee's account and show how the work-in-progress will appear in the Balance Sheet as on 31st Dec. 2007.

*[Madurai, B.Com., Nov. 2008]*

*[Madras, B.Com(AF) Ap 2008; B.Com (Sem - PZ5A) April 2006; B.Com., April 2005; April 2001]*

**Solution**

**M/s. Arun and Varun**

**Contract A/c for the year ended 31.12.2007**

| Particulars | Rs. | Rs. | Particulars | Rs. | Rs. |
|---|---|---|---|---|---|
| To Material sent to site | | 85,349 | By Material returned to Stores | | 549 |
| To Labour | 74,375 | | By Plant at site | | 11,000 |
| *Add:* Outstanding | 2,400 | 76,775 | By Material at site | | 1,883 |
| To Direct expenditure | 3,167 | | By Work-in-progress: | | |
| *Add:* Accrued | 240 | 3,407 | Work certified | 1,95,000 | |
| To Establishment charges | | 4,126 | Work uncertified | 4,500 | 1,99,500 |
| To Plant (at cost) | | 15,000 | | | |
| To Notional Profit c/d | | 28,275 | | | |
| | | 2,12,932 | | 2,12,932 | |

| | | | |
|---|---|---|---|
| To P & L A/c $\left(28,275 \times \frac{2}{3} \times \frac{1,80,000}{1,95,000}\right)$ | 17,399 | By Notional profit b/d | 28,275 |
| To Work-in-progress A/c (reserve) | 10,876 | | |
| | 28,275 | | 28,275 |

**Contractee's A/c**

| *Particulars* | *Rs.* | *Particulars* | *Rs* |
|---|---|---|---|
| To Balance c/d | 1,80,000 | By Bank | 1,80,000 |

**Balance Sheet (Extract) as on 31.12.2007**

| *Liabilities* | *Rs.* | *Assets* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| Profit and Loss A/c | 17,399 | *Fixed assets:* | | |
| Wages outstanding | 2,400 | Plant | 15,000 | |
| Expenses due | 240 | *Less:* Depreciation | 4,000 | 11,000 |
| | | *Current assets :* | | |
| | | Materials at site | 1,883 | |
| | | Material in store | 549 | 2,432 |
| | | *Work-in-progress:* | | |
| | | Work certified | 1,95,000 | |
| | | Work uncertified | 4,500 | |
| | | | 1,99,500 | |
| | | *Less:* Reserve | 10,876 | |
| | | | 1,88,624 | |
| | | *Less:* Cash received | 1,80,000 | 8,624 |

***Note:*** When Balance sheet 'Extracts' are shown, there is no need to total both the sides, because they cannot tally. All the assets and liabilities are not available to complete the Balance Sheet.

**Illustration 13**

The following particulars are extracted from the books of a building contractor on 31.12.1991.

| *Materials* | *Rs.* |
|---|---|
| Purchased | 80,000 |
| Transfer from other contracts | 2,00,000 |
| Issued from central stores | 5,50,000 |
| Wages | 8,75,000 |
| Indirect expenses | 35,000 |
| Inspection fees | 15,000 |
| General stores | 40,000 |
| Establishment charges | 66,000 |
| Scrap (material sold) | 6,000 |

A cement mixing plant was purchased on 1st Jan. 1991 for Rs. 80,000 and installation charges amounted to Rs. 20,000. Of the plant and material charged to the contract plant which cost Rs. 3,000 and material which cost Rs. 2,500 were lost. On June 30 plant was transferred to another contract. An additional plant was purchased on October 1, for Rs. 2,00,000. Of the materials charged to contract, materials which cost Rs. 5,000 were sold for Rs. 5.500.

The contract price Rs. 50 lakhs. Cash received on account till 31st Dec. 1991 amounted to Rs. 20 lakhs being 80% of work certified. The cost of work done but not certified was Rs. 75,000. The value of material on hand was Rs. 20,000. Charge depreciation on plant at 10% per annum. Prepare contract account. Show how work in progress account will appear in the Balance Sheet on 31st Dec. 1991.

***[Mangalore, B.Com., May 1992]***

**Solution**

**Contract Account for the year ended 31.12.1991**

| *Particulars* | *Rs.* | *Particulars* | | *Rs.* |
|---|---|---|---|---|
| To Materials : | | By Sales of Material scrap | | 6,000 |
| Purchased | 80,000 | By Profit and Loss A/c: | | |
| Issued from stores | 5,50,000 | Plant lost | 3,000 | |
| Trans. from other contracts | 2,00,000 | Materials lost | 2,500 | 5,500 |
| | 8,75,000 | By Sale of Materials | | 5,500 |
| To Wages | 35,000 | By Materials on hand | | 20,000 |
| To Indirect expenses | 15,000 | By Plant transferred : | | |
| To Inspection fees | 40,000 | cost (1,00,000 - 3,000) | 97,000 | |
| To General stores | | *Less:* Depn $\left(97{,}000\times\frac{10}{100}\times\frac{6}{12}\right)$ | 4,850 | 92,150 |
| To Establishment charges | 66,000 | | | |
| To Plant (80,000 + 20,000) | 1,00,000 | By Plant at site: | | |
| (Purchased on 1.1.91) | | Cost | 2,00,000 | |
| To Profit & Loss A/c | | *Less:* Depreciation | | |
| (Profit on sale of material) | 500 | $\left(2{,}00{,}000\times\frac{10}{100}\times\frac{3}{12}\right)$ | 5,000 | 1,95,000 |
| To Plant | | By Work-in-progress: | | |
| (Purchased on 1.10.91) | 2,00,000 | Work certified | | |
| | | $\left(20{,}00{,}000\times\frac{100}{80}\right)$ | | 25,00,000 |
| To Notional profit c/d | 7,37,650 | Work uncertified | | 75,000 |
| | 28,99,150 | | | 28,99,150 |
| To P & L A/c $\left(7{,}37{,}650\times\frac{2}{3}\times\frac{80}{100}\right)$ | 3,93,413 | By Notional Profit b/d | | 7,37,650 |
| To Work-in-progress A/c (reserve) | 3,44,237 | | | |
| | 7,37,650 | | | 7,37,650 |

**Balance Sheet (Extracts) As on 31.12.1991**

| *Liabilities* | | *Rs.* | *Rs.* | *Assets* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|---|
| Profit & Loss A/c | | 3,93,413 | | *Fixed Assets:* | | |
| *Add:* Profit on sale of materials | | 500 | | Plant (1,00,000 + 2,00,000) | 3,00,000 | |
| | | | | *Less:* Plant lost | 3,000 | |
| | | 3,93,913 | | | 2,97,000 | |
| *Less:* | | | | | | |
| Plant lost | 3,000 | | | *Less:* Depreciation (4,850 + 5,000 + 4,850) | 14,700 | 2,82,300 |
| Materials lost | 2,500 | 5,500 | 3,88,413 | | | |
| | | | | Current Assets: | | |
| | | | | Material | | 20,000 |
| | | | | Work-in-progress: | | |
| | | | | Work certified | 25,00,000 | |
| | | | | Work uncertified | 75,000 | |
| | | | | | 25,75,000 | |
| | | | | *Less:* Cash received | 20,00,000 | |
| | | | | | 5,75,000 | |
| | | | | *Less:* Reserve | 3,44,237 | 2,30,763 |

*Note:* Depreciation on plant transferred to another contract should also be reduced from the plant in the balance sheet for full year. The other contract is to be debited for the depreciation of the later 6 months.

**Illustration 14 (Two or more contracts)**

Modern Construction Ltd., has taken contracts on 1st Oct. 1985. The position of contracts on 30th Sep. 1986 is as follows:

| | *Contract I* Rs. | *Contract II* Rs. |
|---|---|---|
| Contract price | 27,00,000 | 60,00,000 |
| Materials | 5,80,000 | 10,80,000 |
| Wages paid | 11,24,000 | 16,50,000 |
| Other expenses | 28,000 | 60,000 |
| Plant at site | 1,60,000 | 3,00,000 |
| Unused materials at site | 40,000 | 60,000 |
| Wages payable | 36,000 | 54,000 |
| Other expenses due | 4,000 | 9,000 |
| Work certified | 16,00,000 | 30,00,000 |
| Cash received | 12,00,000 | 22,50,000 |
| Work completed but not yet certified | 80,000 | 90,000 |

The plant at site is to be depreciated at 10%. Prepare the contract account in respect of each work, showing the notional profit and also the profit to be transferred to profit and Loss Account.

*[A.C.S. Dec., 1987]*

**Solution**

| *Particulars* | *Contract I* | *Contract II* | *Particulars* | *Contract I* | *Contract II* |
|---|---|---|---|---|---|
| To Materials | 5,80,000 | 10,80,000 | By Materials at site | 40,000 | 60,000 |
| To Wages paid | 11,24,000 | 16,50,000 | By Work-in-progress: | | |
| Wages payable | 36,000 | 54,000 | Work certified | 16,00,000 | 30,00,000 |
| To Other expenses | 28,000 | 60,000 | Work uncertified | 80,000 | 90,000 |
| Expenses due | 4,000 | 9,000 | | | |
| To Depreciation on plant at site at 10% | 16,000 | 30,000 | | | |
| To Notional profit c/d | | 2,67,000 | By P & L A/c (loss) | 68,000 | |
| | 17,88,000 | 31,50,000 | | 17,88,000 | 31,50,000 |
| To Profit and Loss A/c | | | By Notional profit b/d | | 2,67,000 |
| $2,67,000 \times \frac{2}{3} \times \frac{22,50,000}{30,00,000}$ | | 1,33,500 | | | |
| To Work-in-progress A/c (Reserve) | | 1,33,500 | | | |
| | | 2,67,000 | | | 2,67,000 |

***Note:*** Loss on contract I is fully transferred to P & L A/c. Work certified on contract II is 50% of contract price. So, 2/3rd of the notional profit, subject to cash received is transferred to P & L A/c.

**Illustration 15**

Kovai Construction Co. Ltd., undertook two contracts on 1st April 2010 and 1st July 2010 respectively. Their accounts showed the following position on 31st Dec. 2010.

| | *Contract A* | *Contract B* |
|---|---|---|
| | *Rs.* | *Rs.* |
| Contract price | 1,20,000 | 1,00,000 |
| Work certified | 80,000 | 64,000 |
| Work uncertified | 2,400 | 3,200 |
| Materials | 28,500 | 23,000 |
| Wages | 44,000 | 45,000 |
| General expenses | 1,900 | 1,300 |

| | | |
|---|---|---|
| Cash received in respect of work Certified | 60,000 | 48,000 |
| Wages accrued | 1,400 | 1,500 |
| General expenses accrued | 500 | 200 |
| Plant installed | 8,000 | 6,400 |
| Materials on hand | 1,400 | 1,520 |

On the respective dates of the contracts, the plant was installed, depreciation there on being taken at 15% per annum. Write up contract ledger and ascertain the profit or loss on each contract and show the relevant items in the company's balance sheet.

**Solution:**

**Kovai Construction Ltd**

**Contract Account**

| *Particulars* | *Contract A* Rs. | *Contract B* Rs. | *Particulars* | *Contract A* Rs. | *Contract B* Rs. |
|---|---|---|---|---|---|
| To Materials | 28,500 | 23,000 | By Material on hand | 1,400 | 1,520 |
| To Wages | 44,000 | 45,000 | By Work-in-progress | | |
| Wages due | 1,400 | 1,500 | Work certified | 80,000 | 64,000 |
| To General Expenses | 1,900 | 1,300 | Work uncertified | 2,400 | 3,200 |
| General expenses due | 500 | 200 | By P & L A/c (loss) | | 2,760 |
| To Depreciation | | | | | |
| $8,000 \times \frac{15}{100} \times \frac{9}{12}$ | 900 | | | | |
| $6,400 \times \frac{15}{100} \times \frac{6}{12}$ | | 480 | | | |
| To Notional Profit c/d | 6,600 | | | | |
| | 83,800 | 71,480 | | 83,800 | 71,480 |
| To P & L A/c | | | By Notional profit b/d | 6,600 | |
| $\left(6,600 \times \frac{2}{3} \times \frac{60,000}{80,000}\right)$ | 3,300 | | | | |
| To Work-in-progress A/c (Reserve) | 3,300 | | | | |
| | 6,600 | | | 6,600 | |

**Balance Sheet as on 31.12.2010 (Extracts)**

| *Liabilities* | *Rs.* | *Rs.* | *Assets* | | *Rs.* | *Rs.* |
|---|---|---|---|---|---|---|
| P & L A/c | | | *Fixed Assets:* | | | |
| Contract – A Profit | 3,300 | | Plant | | | |
| Contract – B Loss | 2,760 | 540 | Contract A | | 8,000 | |
| | | | Contract B | | 6,400 | |
| Wages due | | | | | | 14,400 |
| Contract – A | 1,400 | | | | | |
| Contract – B | 1,500 | 2,900 | *Less:* Depreciation | | | |
| General Charges due | | | | 900 | | |
| Contract – A | 300 | | | 480 | 1,380 | 13,020 |
| Contract – B | 200 | 500 | Material on hand: | | | |
| | | | Contract A | | 1,400 | |
| | | | Contract B | | 1,520 | 2,920 |
| | | | Work-in-progress: | | | |
| | | | Contract A | | 82,400 | |
| | | | Contract B | | 67,200 | |
| | | | | | 1,49,600 | |
| | | | *Less:* Reserve of contract A | | 3,300 | |
| | | | | | 1,46,300 | |
| | | | *Less:* Cash received | | | |
| | | | Contract A | 60,000 | | |
| | | | Contract B | 48,000 | 1,08,000 | 38,300 |

**Incomplete Contracts - Contract Account and Full Balance Sheet**

**Illustration 16**

Omega Limited commenced its operations on 1st January 2010. The company was engaged on only contract, the price of which was Rs. 10,00,000. The trial balance of the company as on Dec. 2010 was as follows:

| | Rs. | Rs. |
|---|---|---|
| Share capital | | 2,00,000 |
| Creditors | | 20,000 |
| Cash received on contract (80% of work certified) | | 4,00,000 |
| Land and Buildings | 80,000 | |
| Bank balance | 48,000 | |
| *Charged to contract:* | | |
| Materials | 1,80,000 | |
| Plant (original cost 1.1.2010) | 50,000 | |
| Wages | 2,50,000 | |
| Expenses | 12,000 | |
| | 6,20,000 | 6,20,000 |

The following are the additional information which are to be considered before finalisation of the accounts.

(i) Wages outstanding Rs. 30,000

(ii) Expenses outstanding Rs. 2,000

(iii) Depreciation on plant: 10% per annum on time basis

(iv) Materials on hand at site as on 31.12.2010 were Rs. 8,000

(v) A part of plant (original cost Rs. 10,000) was destroyed by fire on 30.9.2010

This was subsequently sold as scrap for Rs. 2,000 on 31.12.2010

(vi) Materials costing Rs. 8,000 was also destroyed on 30.9.2010

(vii) Plant (original cost Rs. 10,000) was returned to store on 31.12.2010

(viii) Work uncertified as on 31.12.2010 was Rs. 4,000.

You are required to prepare :

(a) Contract Account for the period ended 31.12.2010

(b) Abnormal loss Account

(c) Balance Sheet as on 31.12.2010

*[C.A. Inter]*

**Solution:**

**Omega Ltd.**

**Contract Account for the year ended 31.12.2010**

| *Particulars* | *Rs.* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|
| To Materials | | 1,80,000 | By Abnormal loss A/c: | | |
| To Wages | 2,50,000 | | Plant destroyed cost | 10,000 | |
| *Add:* Outstanding | 30,000 | 2,80,000 | *Less:* Depreciation | | |
| | | | $10,000 \times \frac{10}{100} \times \frac{9}{12}$ | 750 | |
| To Expenses | 12,000 | | | 9,250 | |
| *Add:* Outstanding | 2,000 | 14,000 | Materials destroyed | 8,000 | 17,250 |
| To Plant | | 50,000 | | | |
| To Notional profit c/d | | 41,250 | By Plant returned to stores: | | |
| | | | Cost | 10,000 | |
| | | | *Less:* Depreciation | 1,000 | 9,000 |
| | | | By Materials at site | | 8,000 |
| | | | By Plant at site: | | |
| | | | Cost (50,000 – 10,000 – 10,000) | 30,000 | |
| | | | *Less:* Depn. 30,000 × 10% | 3,000 | 27,000 |
| | | | By Work-in-progress A/c | | |
| | | | Work certified $\left(4,00,000 \times \frac{100}{80}\right)$ | | 5,00,000 |
| | | | Work uncertified | | 4,000 |
| | | 5,65,250 | | | 5,65,250 |
| To P & L A/c $\left(41,250 \times \frac{2}{3} \times \frac{80}{100}\right)$ | | 22,000 | By Notional Profit b/d | | 41,250 |
| To Work-in-progress A/c (Reserve) | | 19,250 | | | |
| | | 41,250 | | | 41,250 |

**Balance Sheet as on 31st December 2010**

| *Liabilities* | *Rs.* | *Rs.* | *Assets* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|
| Share Capital | | 2,00,000 | Fixed Assets | | |
| Profit & Loss A/c | 22,000 | | Land & Buildings | | 80,000 |
| *Less*: Abnormal loss (7,250 + 8,000) | 15,250 | 6,750 | Plant: | | |
| | | | At site | 30,000 | |
| | | | In store | 10,000 | |
| Creditors | | 20,000 | | | |
| Wages outstanding | | 30,000 | | 40,000 | |
| Expenses outstanding | | 2,000 | *Less*: Depreciation | 4,000 | 36,000 |
| | | | Current Assets: | | |
| | | | Materials at site | | 8,000 |
| | | | Work-in-progress: | | |
| | | | Work certified | 5,00,000 | |
| | | | Work uncertified | 4,000 | |
| | | | | 5,04,000 | |
| | | | *Less*: Cash received | 4,00,000 | |
| | | | | 1,04,000 | |
| | | | *Less*: Reserve | 19,250 | 84,750 |
| | | | Bank Balance | | 48,000 |
| | | | Debtors A/c (plant scrap) | | 2,000 |
| | | 2,58,750 | | | 2,58,750 |

**Abnormal Loss Account**

| | *Rs.* | | *Rs.* |
|---|---|---|---|
| To Contract A/c: | | | |
| Loss of plant | 9,250 | By sales of plant as scrap | 2,000 |
| Loss of materials | 8,000 | By P & L A/c (transfer) | 15,250 |
| | 17,250 | | 17,250 |

**Illustration 17**

The following is the Trial Balance of Premium Construction Company, engaged on the execution of contract No. 850 for the year ended 31st March 2010.

| | Rs. | Rs. |
|---|---|---|
| Contractee's Accounts: | | |
| Amount received | | 3,00,000 |
| Buildings | 1,60,000 | – |
| 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 850 was commenced on 1st April 2009. Materials costing Rs. 1,70,000 were sent to site of the contract, but of those of Rs. 6,000 were destroyed in an accident. Wages of Rs. 1,80,000 were paid during the year. Plant costing Rs. 50,000 was used on the contract all through the year. Plant which cost Rs. 2,00,000 was used from 1st April to 31st Dec. and was then returned to the stores. Materials of the cost of Rs. 4,000 were at site on 31st March 2010.

The contract was for Rs. 6,00,000 and the contractee pays 75% of the work certified. Work certified was 80% of the total contract work at the end of 31-3-2010. Uncertified work was estimated at Rs. 15,000 on 31.3.2010.

Expenses are charged at 25% of wages. Plant is to be depreciated at 10% for the entire year. Prepare contract No. 850. Account for the year end is 31.3.2010 and make out the Balance Sheet as on 31st March 2010 in the books of Premier Construction Company.

**Solution:**

**Premier Construction Company**

**Contract No. 850 Account**

**For the year ended 31.3.2010**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| To Materials | 1,70,000 | By P & L A/c: | | 6,000 |
| To Wages | 1,80,000 | Materials destroyed | | |
| To Plant | 2,50,000 | By Plant Returned to stores : | | |
| | | Cost | 2,00,000 | |
| To Expenses $\left(1,80,000 \times \frac{25}{100}\right)$ | 45,000 | *Less:* Depreciation | | |
| To Notional profit c/d | 90,000 | $2,00,000 \times \frac{10}{100} \times \frac{9}{12}$ | 15,000 | 1,85,000 |
| | | By Plant at site : | | |
| | | Cost | 50,000 | |
| | | *Less:* Depreciation | 5,000 | 45,000 |
| | | $50,000 \times \frac{10}{100}$ | | |
| | | By Materials at site | | 4,000 |
| | | By Work-in-progress A/c: | | |
| | | Work certified 6,00,000 × 80% | | 4,80,000 |
| | | Work uncertified | | 15,000 |
| | 7,35,000 | | | 7,35,000 |
| To Profit & Loss A/c $\left(90,000 \times \frac{2}{3} \times \frac{3,00,000}{4,80,000}\right)$ | 37,500 | By Notional profit b/d | | 90,000 |
| To Work-in-progress A/c (Reserve) | 52,500 | | | |
| | 90,000 | | | 90,000 |

***Note:*** It is clearly given that 80% of the total contract is certified. So, it is taken as basis for work certified.

Though it is mentioned that contractee pays 75% of the work certified, it does not agree with actual cash received. So, actual cash received to work certified ratio is used to calculation transfer of profit to P & L A/c.

**Balance Sheet as on 31st March 2010**

| *Liabilities* | *Rs.* | *Rs.* | *Assets* | *Rs.* | *Rs.* |
|---|---|---|---|---|---|
| Capital | | 5,00,000 | *Fixed Assets:* | | |
| Profit & Loss A/c | 37,500 | | Buildings | | 1,60,000 |
| *Less*: Unabsorbed expenses (47,000 - 45,000) | 2,000 | | Plant at site | 50,000 | |
| | 35,500 | | *Less:* Depreciation | 5,000 | 45,000 |
| *Less*: Depreciation on plant in store | | | Plant in store | 2,00,000 | |
| $\left(2,00,000 \times \frac{10}{100} \times \frac{3}{12}\right)$ | 5,000 | | *Less:* Depreciation (15,000 + 5,000) | 20,000 | 1,80,000 |
| | 30,500 | | *Current Assets:* | | |
| *Less*: Materials destroyed | 6,000 | 24,500 | Materials in store (2,00,000 – 1,70,000) | | 30,000 |
| Creditors | | 72,000 | Materials at site | | 4,000 |
| | | | Work-in-progress: | | |
| | | | Work certified | 4,80,000 | |
| | | | Work uncertified | 15,000 | |
| | | | | 4,95,000 | |
| | | | *Less*: Cash received | 3,00,000 | |
| | | | | 1,95,000 | |
| | | | *Less:* Reserve | 52,500 | 1,42,500 |
| | | | Bank Balance | | 35,000 |
| | | | | | 5,96,500 |
| | | 5,96,500 | | | |

**Estimated profit and Transfer of profit to P & L A/c**

**Illustration 18**

The expenditure on a contract till 31st March 2010 was Rs. 2,00,000 and the work certified was Rs. 3,00,000. The contract price is Rs. 4,00,000 and the contractee paid Rs. 2,50,000 till 31.3.2010. The cost of work done but not certified on that date amounted to Rs. 40,000.

It is estimated that the contract will take a further 4 months to complete and will necessitate an additional expenditure of Rs. 40,000.

You are consulted as to the amount to be credited to P & L A/c on 31.3.2010 state the different amounts of profit that may reasonably be credited to the P & L A/c.

**Solution:**

**Contract Account for the period ended 31.3.2010**

| *Particular* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Cost of contract | 2,00,000 | By Work-in-progress: | |
| To Notional profit c/d | 1,40,000 | Work certified | 3,00,000 |
| | | Work uncertified | 40,000 |
| | 3,40,000 | | 3,40,000 |

Since estimated expenditure to complete the contract is given, it is appropriate to ascertain the estimated profit and on the basis, a reasonable amount out of notional profit can be transferred to P & L A/c.

***Calculation of Estimated profit:***

| | *Rs.* |
|---|---|
| Total cost of contract till 31.3.2010 | 2,00,000 |
| *Add:* Additional expenditure estimated | 40,000 |
| Estimated total cost of contract | 2,40,000 |
| Contract price | 4,00,000 |
| Estimated profit | 1,60,000 |

Different amounts of profit which may reasonably be credit to P & L A/c are as follows:

(1) Estimated Total Profit $\times \dfrac{\text{Work certified}}{\text{Contract price}}$

$$= 1,60,000 \times \frac{3,00,000}{4,00,000} = \text{Rs. } 1,20,000$$

In this case reserve = 1,40,000 – 1,20,000 = Rs. 20,000

(2) Estimated Total Profit $\times \dfrac{\text{Work certified}}{\text{Contract price}} \times \dfrac{\text{Cash received}}{\text{Work certified}}$

$$= 1,60,000 \times \frac{3,00,000}{4,00,000} \times \frac{2,50,000}{3,00,000} = \text{Rs. } 1,00,000$$

Profit in reserve = 1,40,000 – 1,00,000 = Rs. 40,000

(3) Estimated Total Profit $\times \dfrac{\text{Cost of work to date}}{\text{Estimated total cost}}$

$$= 1,60,000 \times \frac{2,00,000}{2,40,000} = \text{Rs. } 1,33,333$$

Profit in reserve = 1,40,000 – 1,33,333 = Rs. 6,667

(4) Estimated profit $\times \dfrac{\text{Cost of work to date}}{\text{Estimatred total cost}} \times \dfrac{\text{Cash received}}{\text{Work certified}}$

$$= 1,60,000 \times \frac{2,00,000}{2,40,000} \times \frac{2,50,000}{3,00,000} = \text{Rs. } 1,11,111$$

Profit in reserve = 1,40,000 – 1,11,111 = Rs. 28,889

**Illustration 19**

An expenditure of Rs. 1,82,000 has been incurred on a contract to the end of 31st March 1995. The Value of work done and certified is Rs. 2,10,000. The cost of work done but not yet certified is Rs. 6,000. It is estimated that the contract will be completed by June 30, 1995 and an additional expenditure of Rs. 28,000 will have to be incurred to complete the contract. The total estimated expenditure on the contract is to include a provision of 12.5% for contingencies. The contract price is Rs. 2,80,000 and Rs. 1,68,000 has been realised in cash up to March 31, 1995.

Calculate the portion of profit to be taken to profit and loss account as on 31st March 1995, after preparing the contract account in the contract ledger.

***[Madras, M.Com., October 1997, ICE]***

**Solution:**

**Contract Account for the period ended 31.3.95**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Expenditure | 1,82,000 | By Work-in-progress A/c: | |
| To Notional profit c/d | 34,000 | Work certified | 2,10,000 |
| | | Work uncertified | 6,000 |
| | 2,16,000 | | 2,16,000 |
| To P & L A/c | | By Notional Profit b/d | 34,000 |
| $\left(40,000 \times \frac{2,10,000}{2,80,000} \times \frac{1,68,000}{2,10,000}\right)$ (Note 2) | 24,000 | | |
| To Work-in-progress A/c (Reserve) | 10,000 | | |
| | 34,000 | | 34,000 |

**Memorandum Contract Account till June 30, 1995**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Expenditure (1,82,000+28,000) | 2,10,000 | By Contractee's A/c | 2,80,000 |
| To Provision for contingencies $\left(2,10,000 \times \frac{12.5}{87.5}\right)$ *(note 1)* | 30,000 | | |
| To Net profit (Estimated) | 40,000 | | |
| | 2,80,000 | | 2,80,000 |

**Note 1:** If total expenditure on contract is 100, provision for contingencies must be 12.5. So, on expenditure excluding the provision, the provision must be 12.5/87.5.

**Note 2:** Since estimated expenditure to complete the contract is given, estimated profit may be ascertained and profit is transferred to P & L A/c on the basis of the estimated profit as follows:

Profit transferred to P & L A/c

$$= \text{Estimated total profit} \times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= 40,000 \times \frac{2,10,000}{2,80,000} \times \frac{1,68,000}{2,10,000} = \text{Rs. } 24,000$$

Profit in reserve = Notional profit – Profit Transferred to P & L A/c

$$= 34,000 - 24,000 = \text{Rs. } 10,000$$

The following are the other formulae which may also be used to determine the transfer of profit to P & L A/c.

(1) $\text{Estimated total profit} \times \frac{\text{Work certified}}{\text{Contract price}}$

$$= 40,000 \times \frac{2,10,000}{2,80,000} = \text{Rs. } 30,000$$

(2) $\text{Estimated total Profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}}$

$$= 40,000 \times \frac{1,82,000}{2,10,000} = \text{Rs. } 34,667$$

(3) Estimated total profit $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$

$$= 40,000 \times \frac{1,82,000}{2,10,000} \times \frac{1,68,000}{2,10,000} = \text{Rs. } 27,733$$

***It can be noted in (2) above that the profit to be transferred to P & L A/c exceeds the notional profit made during the period up to 31st March 1995.***

***Transfer to P & L A/c cannot exceed the notional profit earned. Thus, it is essential to keep the profit earned in mind while determining the transfer to P & L A/c.***

**Illustration 20**

AB contractors obtained a contract to build houses, the contract price being Rs. 4,00,000; work commenced on 1st January, 2009 and the expenditure incurred during the year was – Plant and tools Rs. 20,000; Stores and materials Rs. 72,000; Wages Rs. 65,000; Sundry expenses Rs. 5,300 and establishment charges Rs. 11,700.

Certain materials costing Rs. 12,000 were unsuitable to the contract and were sold for Rs. 14,500. A portion of the plant was scrapped and sold for Rs. 2,300.

The Value of the plant and tools on site on 31st December, 2009 was Rs. 6,200 and the value of stores and materials on hand Rs. 3,400. Cash received on account was Rs. 1,40,000 representing 80% of the work certified. The cost of the work done but not certified was Rs. 21,900, and this was certified later for Rs. 25,000.

AB decided (i) to estimate what further expenditure would be incurred in completing the contract. (ii) to compute from this estimate and the expenditure already incurred the total profit that would be made on the contact and (iii) to take to the credit of profit and loss account for the year 2009 that proportion of the total which correspond to the work certified by 31st Dec. The estimate was as follows:

(a) That the contract would be completed by 30th Sep. 2010.

(b) That the wages on the contract in 2010 would amount to Rs. 71,500.

(c) That the cost of stores and materials required in addition to those in stock on 31st December, 2009 would be Rs. 68,600 and that further expenses relating to contract would amount to Rs. 6,000.

(d) That a further Rs. 25,000 would have to be laid out on plant and tools and that residual value of the plant and tools on 30th September, 2010 would be Rs. 3,000.

(e) That the establishment charges would cost the same per month as in 2009.

(f) That 2.5% of the total cost of the contract would be due to defects, temporary maintenance and contingencies.

Prepare contract account for the year ended 31st December 2009 and show your calculations of the amount credited to the profit and loss account for the year.

**Solution:**

**AB Contractors**

**Contract Account for the year ended 31.12.2009**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Stores and Materials | 72,000 | By Materials sold | 14,500 |
| To Wages | 65,000 | By Plant sold | 2,300 |
| To Plant & Tools | 20,000 | By Plant & Tools on site | 6,200 |
| To Sundry expenses | 5,300 | By Stores & Materials | 3,400 |
| To Establishment charges | 11,700 | | |
| To Profit & Loss Account (profit on sale of materials) | 2,500 | By Work-in-progress A/c: Work certified | 1,75,000 |
| To Notional profit c/d | 46,800 | Work uncertified | 21,900 |
| | 2,23,300 | | 2,23,300 |
| To Profit & Loss A/c *(W. No.1)* | | By Notional profit b/d | 46,800 |
| $54,795 \times \frac{1,75,000}{4,00,000}$ | 23,973 | | |
| To Work-in-progress A/c (reserve) | 22,827 | | |
| | 46,800 | | 46,800 |

***Note(1):*** It is clearly given that the portion of total profit which corresponds to the work certified should be taken to the credit of P & L A/c.

$$\therefore \text{Profit transferred to P \& L A/c} = \text{Total estimated profit} \times \frac{\text{Work certified}}{\text{Contract price}}$$

$$= 54,795 \times \frac{1,75,000}{4,00,000} = \text{Rs. } 23,973$$

The above amount need not be adjusted for cash received

***Working Note 1***

**Memorandum Contract Account Till 30th September 2010**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Wages (65,000 + 71,500) | 1,36,500 | By Balance c/d | 3,36,575 |
| To Stores & Materials (72,000 + 68,600 – 12,000) | 1,28,600 | | |
| To Sundry Expenses (5,300 + 6,000) | 11,300 | | |
| To Plant & Tools (20,000 + 25,000 – 2,300 – 3,000) | 39,700 | | |
| To Establishment charges $\left(11,700 \times \frac{21}{12}\right)$ | 20,475 | | |
| | 3,36,575 | | 3,36,575 |
| To Balance b/d | 3,36,575 | By Contractee's A/c (contract price) | 4,00,000 |
| To Provision for contingencies $\left(3,36,575 \times \frac{25}{975}\right)$ *(Note 2)* | 8,630 | | |
| To Estimated Profit | 54,795 | | |
| | 4,00,000 | | 4,00,000 |

***Note 2:*** Since 2.5% of the total cost of the contract would be for provision for contingencies, other costs should be 100 – 2.5 = 97.5.

**Continuing contracts or Contracts spreading over two or more accounting years**

**Illustration 21**

The information given below has been extracted from the books of a contractor relating to a contract for Rs. 3,75,000

| | *I Year* Rs. | *II Year* Rs. | *III Year* Rs. |
|---|---|---|---|
| Material | 45,000 | 55,000 | 31,500 |
| Direct expenses | 1,750 | 6,250 | 2,250 |
| Indirect expenses | 750 | 1,000 | – |
| Wages | 42,500 | 57,500 | 42,500 |
| Total work certified | 87,500 | 2,82,500 | 3,75,000 |
| Uncertified work | – | 5,000 | – |
| Plant | 5,000 | – | – |

The value of plant at the end of the 1 Year was Rs. 4,000, at the end of 11 Year Rs. 2,500 and at the end of III Year it was Rs. 1,000. It is customary to pay 90% in cash of the amount of work certified.

Prepare the contract account for all three years.

*[Calicut, B.Com., Oct. 1991]*

**Solution:**

**Contract Account**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| **I Year** | | | |
| To Material | 45,000 | By Plant at site | 4,000 |
| To Wages | 42,500 | By Work-in-progress: | |
| To Direct Expenses | 1,750 | Work certified | 87,500 |
| To Indirect expenses | 750 | By Profit & Loss A/c | |
| To Plant | 5,000 | (Loss) | 3,500 |
| | 95,000 | | 95,000 |
| **II Year** | | | |
| To Work-in-progress b/d | 87,500 | By Plant at site | 2,500 |
| To Plant at site b/d | 4,000 | By Work-in progress: | |
| To Material | 55,000 | Work certified | 2,82,500 |
| To Wages | 57,500 | Work uncertified | 5,000 |
| To Direct Expenses | 6,250 | | |
| To Indirect expenses | 1,000 | | |
| To Notional profit c/d | 78,750 | | |
| | 2,90,000 | | 2,90,000 |
| To P & L A/c $\left(78,750 \times \frac{2}{3} \times 90\%\right)$ | 47,250 | By Notional profit b/d | 78,750 |
| To Work-in-progress A/c (reserve) | 31,500 | | |
| | 78,750 | | 78,750 |

**III Year**

| *Particulars* | | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|---|
| To Work-in-progress b/d | | | By Plant at site | 1,000 |
| Work certified | 2,82,500 | | By Contractee's A/c | |
| Work uncertified | 5,000 | | (contract price) | 3,75,000 |
| | 2,87,500 | | | |
| *Less:* Reserve | 31,500 | 2,56,000 | | |
| To Plant at site b/d | | 2,500 | | |
| To Material | | 31,500 | | |
| To Wages | | 42,500 | | |
| To Direct expenses | | 2,250 | | |
| To Profit & Loss A/c (profit transferred) | | 41,250 | | |
| | | 3,76,000 | | 3,76,000 |

***Note:***

In the Ist year, the entire loss is transferred to P & L A/c.

In the 2nd year, the work certified is more than 50% of contract price. So, 2/3rd of the notional profit, subject to cash received, is transferred to P & L A/c. Balance profit is kept in reserve.

In the third year, the contract is completed and the whole of profit earned is transferred to P & L A/c.

**Illustration 22**

Mr. Richardson undertook a contract for Rs. 75,00,000. On an arrangement 80% of the value of the work done, as certified by the architects of the contractee should be paid immediately and the remaining 20% to be retained until the contract was completed.

In 1988 the amounts expended were materials Rs. 9,60,000, wages Rs. 8,50,000, carriage Rs. 30,000, cartage Rs. 5,000, Sundry expenses Rs. 35,000. The work was certified for Rs. 18,75,000 and 80% of this was paid as agreed.

In 1989, the amounts expended were materials Rs. 11,00,000, Wages Rs. 11,50,000, carriage Rs. 1,15,000, cartage Rs. 10,000, sundry expenses Rs. 20,000. Three fourths of the contract was certified as done by the 31st December and 80% of this was received accordingly. The value of the unused stock and work-in-progress uncertified was ascertained at Rs. 1,00,000.

In 1990 the amounts expended were materials Rs. 6,30,000, wages Rs. 8,50,000, cartage Rs. 30,000, sundry expenses Rs. 15,000. The whole contract was completed on 30th June, 1990.

Show contract account, contractee's account and the relevant items in the Balance Sheet for all the three years.

*[Madras, B.Com., September, 1992]*

**Solution:**

**In the contract ledger of Richardson**

**Contract Account**

**1988**

| *Particulars* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|
| To Materials | 9,60,000 | By Work-in-progress A/c: | |
| To Wages | 8,50,000 | Work certified | 18,75,000 |
| To Carriage | 30,000 | By Profit & Loss A/c | 5,000 |
| To Cartage | 5,000 | (loss transferred) | |
| To Sundry Expenses | 35,000 | | |
| | 18,80,000 | | 18,80,000 |
| **1989** | | | |
| To Work-in-progress b/d: | | By Work-in-progress A/c: | |
| Work certified | 18,75,000 | Work certified | |
| To Materials | 11,00,000 | $\left(75,00,000 \times \frac{3}{4}\right)$ | 56,25,000 |
| To Wages | 11,50,000 | Work uncertified | 1,00,000 |
| To Carriage | 1,15,000 | | |
| To Cartage | 10,000 | | |
| To Sundry expenses | 20,000 | | |
| To Notional profit c/d | 14,55,000 | | |
| | 57,25,000 | | 57,25,000 |
| To Profit & Loss A/c | | By Notional profit b/d | 14,55,000 |
| $\left(14,55,000 \times \frac{2}{3} \times 80\%\right)$ | 7,76,000 | | |
| To Work-in-progress A/c (reserve) | 6,79,000 | | |
| | 14,55,000 | | 14,55,000 |

**1990**

| *Particulars* | | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|---|
| To Work-in-progress b/d: | | | | |
| Work certified | 56,25,000 | | By Contractee's A/c | 75,00,000 |
| Work uncertified | 1,00,000 | | | |
| | 57,25,000 | | | |
| *Less:* Reserve | 6,79,000 | 50,46,000 | | |
| To Materials | | 6,30,000 | | |
| To Wages | | 8,50,000 | | |
| To Cartage | | 30,000 | | |
| To Sundry expenses | | 15,000 | | |
| To Profit & Loss A/c (profit transferred) | | 9,29,000 | | |
| | | 75,00,000 | | 75,00,000 |

**Contractee's Account**

| **1988** | | | **1988** | |
|---|---|---|---|---|
| *Particulars* | | *Rs.* | *Particulars* | *Rs.* |
| To Balance c/d | | 15,00,000 | By Bank A/c (18,75,000 × 80%) | 15,00,000 |
| | | 15,00,000 | | 15,00,000 |
| **1989** | | | **1989** | |
| To Balance c/d | | 45,00,000 | By Balance b/d | 15,00,000 |
| | | | By Bank A/c (56,25,000 – 18,75,000) × 80% | 30,00,000 |
| | | 45,00,000 | | 45,00,000 |
| **1990** | | | **1990** | |
| To Contract A/c (contract price) | | 75,00,000 | By Balance b/d | 45,00,000 |
| | | | By Bank A/c (Bal. fig) | 30,00,000 |
| | | 75,00,000 | | 75,00,000 |

**Balance Sheet (Extracts only)**

| *Assets* | *Rs.* | *Liabilities* | *Rs.* | *Rs.* |
|---|---|---|---|---|
| **1988** | | **1988** | | |
| Profit & Loss A/c (loss) | 5,000 | Work-in-progress: | | |
| | | Work certified | 18,75,000 | |
| | | *Less:* Cash received | 15,00,000 | 3,75,000 |
| **1989** | | **1989** | | |
| Profit & Loss A/c | 7,76,000 | Work-in-progress: | | |
| | | Work certified | 56,25,000 | |
| | | Work uncertified | 1,00,000 | |
| | | | 57,25,000 | |
| | | *Less:* Cash received | 45,00,000 | |
| | | | 12,25,000 | |
| | | *Less:* Reserve | 6,79,000 | 5,46,000 |
| **1990** | | **1999** | – | |
| Profit & Loss A/c | 9,29,000 | | | |

**Escalation Clause**

**Illustration 23**

Deluxe Limited undertook a contract for Rs. 5,00,000 on 1st July 2004. On 30th June 2005, when the accounts were closed, the following details about the contract were gathered.

| | *Rs.* |
|---|---|
| Materials purchased | 1,00,000 |
| Wages paid | 45,000 |
| General expenses | 10,000 |
| Plant purchased | 50,000 |
| Materials on hand 30.6.2005 | 25,000 |
| Wages accrued 30.6.2005 | 5,000 |
| Work certified | 2,00,000 |
| Cash received | 1,50,000 |
| Work uncertified | 15,000 |
| Depreciation of plant | 5,000 |

The above contract contained an escalation clause which reads as follows:

"In the event of price of materials and rates of wages increasing by more than 5% the contract price will be increased accordingly by 25% of the rise in the cost of materials and wages beyond 5% in each case".

It was found that since the date of signing the agreement the price of materials and wage rates increased by 25%. The value of the work certified does not take into account the effect of the above clause.

Prepare the contract account. Workings should form part of the answer.

*[Periyar, M.Com., M.Com(CA) May 2006]*

*[CWA inter, Dec. 1992, C.A. Inter, Nov. 1987]*

**Solution:**

**Deluxe Ltd.**

**Contract Account for the year ended 30.6.2005**

| *Particulars* | *Rs.* | *Rs.* | *Particulars* | *Rs.* |
|---|---|---|---|---|
| To Materials | | 1,00,000 | By Materials on hand | 25,000 |
| To Wages paid | 45,000 | | By Work-in-progress: | |
| *Add:* Accrued | 5,000 | 50,000 | Work certified | 2,00,000 |
| To General expenses | | 10,000 | Work uncertified | 15,000 |
| To Depreciation on plant | | 5,000 | Escalation compensation | 5,000 |
| To Notional profit c/d | | 80,000 | | |
| | | 2,45,000 | | 2,45,000 |
| To profit & Loss A/c | | | By Notional profit b/d | 80,000 |
| $80,000 \times \frac{1}{3} \times \frac{1,50,000}{2,00,000}$ | | 20,000 | | |
| To Work-in-progress A/c (reserve) | | 60,000 | | |
| | | 80,000 | | 80,000 |

***Note:*** Work certified is less than 50% but more than 25% of contract price. So, 1/3 of notional profit, subject to cash received, is transferred to P & L A/c

***Working note: Escalation Compensation:***

***1. Materials***

If cost of materials at the time of agreement = 100

*Add:* Increase 25

125

125 = (1,00,000 – 25,000) = 75,000

*Total Increase* *Up to 5%* *Beyond 5%*

$75{,}000 \times \frac{25}{125} = 15{,}000$ $75{,}000 \times \frac{5}{125} = 3{,}000$; 15,000 – 3,000 = Rs. 12,000

***(2) Wages***

$50{,}000 \times \frac{25}{125} = 10{,}000$ $50{,}000 \times \frac{5}{125} = 2{,}000$ 10,000 – 2,000 = 8,000

Total increase = Material + Wages beyond 5%

= 12,000 + 8,000 = 20,000

Increase in contract price as per escalation clause = $20{,}000 \times \frac{25}{100}$ = Rs. 5,000

## Theory Question

***(A) Short Answer Questions:***

1. Define job costing

***[Madras, B.Com(AF) April 2008; B.Com(CS) Ap 2007; B.Com., Ap 2007; B.C.S (ICE) May 2004]***

2. Write a note on job costing.

***[Madras, B.Com., Oct. 2002]***

3. Write note on job costing and the industries which adopt job costing.

***[Madras, B.Com(CS) Nov. 2007; B.Com., Oct. 2000]***

4. List out the objectives of job costing.
5. What is the role of 'Estimating' in job costing?
6. How do you determine Economic Batch Quantity or Economic Lot size?
8. What is contract costing?

***[Madras, B.Com(PZSA) April 2008]***

9. Explain the meaning of 'Work certified' and 'Work uncertified'
10. Explain the meaning of 'Surveyor's certificate'.

***[Madras, 2nd M.Com., April 2002]***

11. Write a note on 'Retention Money'

*[Madras, 2nd M.Com.., (ICE) May 2003; May 2002]*

12. Write a note on 'Cost plus contract'.

*[Madras, B.Com., April 2004; 2nd M.Com., (ICE) May 2003]*

13. Explain the meaning of 'Escalation clause'.

*[Madras, 2nd M.Com (ICE) May 2002; April 2002]*

14. Give the "Ground rules" for determining profit on incomplete contracts.

*[Madras 2nd M.Com., Oct 2002]*

**(B) Long Answer Questions:**

1. Define job costing. What are its prerequisites?

*[Madras, B.C.S. (ICE) May 2004]*

2. What are the main features and requisites of job costing?

*[Madras, B.Com., April 2008; B.C.S. (ICE) May 2000]*

3. Explain the features, objectives and prerequisites of job costing.

*[Madras, B.Com(CS) April 2008]*

4. Distinguish between job costing and contract costing.
5. What are the merits and limitation of Job costing?
6. Describe the procedure for ascertaining job cost and profit.
7. What is Batch costing? How does it differ from Job costing?
8. Define 'Batch costing' and explain the method of determining economic Batch quantity or lot size.
9. What is contract costing? Explain the characteristic features of contracts and contract costing.
10. Explain the method and applicability of contract costing.
11. How do you deal with (a) Materials and (b) Plant in contract costing?
12. State the necessary adjustment usually required to close the books at the end of the costing period where the contract is incomplete.

*[Madras, 2nd M.Com. (ICE) Oct. 2002]*

13. Explain the different methods of calculating profit on an incomplete contracts.

*[Madras, 2nd M.Com., (ICE) May 2003]*

14. What is 'Retention Money'? Explain its purpose.
15. How do you show 'work-in-progress' in contract accounts? Illustrate your answer with imaginary figures.
16. Write short notes on (a) Work certified (b) Work uncertified (c) Escalation clause (d) Cost plus contract (e) Estimated profit (f) Retention money and (g) Notional profit.

## Objective Type Questions

**1. Multiple choice:**

***Choose the correct answer to the following***

1. Job costing is the most suitable method for
   (a) Oil processing units; (b) Transport companies
   (c) Sugar industry (d) Repair shops
2. Job cost is usually estimated on the basis of
   (a) Customer's specifications (b) Production cost
   (c) Competitor's prices (d) Govt. regulations.
3. Batch costing is useful to determine
   (a) Maximum quantity of output (b) Minimum quantity of output
   (c) Economic batch quantity (d) None of these
4. Contract costing is the most appropriate method of costing for
   (a) Construction industry (b) Banking industry
   (c) Textile mills (d) Cement industry
5. Cost of a contract and profit or loss thereon are determined by preparing
   (a) Cost sheet (b) P & L A/c
   (c) Trading A/c (d) Separate ledger Account.
6. The basis for determining profit to be taken into account on incomplete contracts is
   (a) Cost of contract (b) Contract price
   (c) Percentage of work certified as done (d) Uncertified work
7. When there is loss on an incomplete contract, the transfer to P & L A/c is
   (a) Proportionate loss to work certified
   (b) Proportionate loss to cash received to work certified
   (c) Full amount of the loss (d) None of these.
8. Usually, a contract account of an incomplete contract reveals
   (a) Gross profit (b) Net profit
   (c) Operating profit (d) Notional profit
9. Profit to be Transferred to P & L A/c, if a contract is complete to the extent of only 20%
   (a) $\frac{2}{3}$ (b) Nil
   (c) $\frac{1}{3}$ (d) Full profit
10. When a contract is completed to the extent of 40%, profit to be taken to P & L A/c is :
   (a) Full amount (b) Nil
   (c) $\frac{1}{3}$ (d) $\frac{2}{3}$

**[Ans: 1. (d); 2. (a); 3. (c); 4. (a); 5. (d); 6. (c); 7. (c); 8. (d); 9. (b); 10. (c)]**

**II. Fill-in the Blanks**

***Fill the blanks in the following with suitable words***

1. Specific order costing includes job costing, _____ costing and contract costing.
2. In job costing, each _____ is a cost unit.
3. Optimum quantity to be manufactured in a batch is called _____ batch quantity.
4. Most of the costs in contract costing are _____ costs.
5. In contract, payment of cash to the contractor is made on the basis of work _____
6. When a contract is debited with the original cost of the plant issued to contract, it should be credited with its _____ value at the and of the accounting period, or at the time the contract is completed.
7. _____ Profit is the basis for computing profit on incomplete contracts.
8. The full amount of loss, whether a contract is complete, or incomplete, is transferred to the costing _____ account.
9. In _____ contract, the contractor gets a predetermined profit in addition to his cost.
10. _____ Clause is inserted in contracts to provide for unexpected increase in material prices, wage rates etc.

**[Ans: 1. Batch; 2. Job; 3. Economic; 4. Direct; 5. Certified; 6. Depreciated; 7. Notional; 8. Profit and loss; 9. Cost plus; 10. Escalation]**

**III. True or False**

***Indicate whether the following statements are True or False.***

1. Job costing is suitable in those industries where service is rendered.
2. Job costing can be used along with marginal costing technique.
3. Job costing is very suitable for small scale firms, executing customer's orders.
4. Optimum quantity to be produced is revealed as 'Economic batch quantity' in Batch Costing Method.
5. Contract costing is one of the methods under the 'broad classification' of specific order costing.
6. Most of the items of cost are indirect in contract costing than in job costing.
7. When a contract is less than 1/4 complete, 2/3 of National profit can be taken to P & L A/c
8. In cost plus contracts, the contractor runs no risk of incurring loss.
9. The final price to be paid is predetermined under cost plus contracts.
10. Escalation clause helps contractor to recover unforeseen increase in costs.

**[Ans: 1. False; 2. True; 3. True; 4. True; 5. True; 6. False; 7. False; 8. True; 9. False; 10. True].**

## Exercises

**(A) Short Answer problems:**

1. Find out the cost of job no.201:

| | | |
|---|---|---|
| Materials consumed | : | Rs. 40,000 |
| Wages | : | Rs. 20,000 |

Factory overhead 20% of wages.

**[Ans: Rs. 64,000]**

2. Ascertain the cost of Job No.305:

| | | |
|---|---|---|
| Prime cost | : | Rs. 8,000 |
| Factory overhead | : | 10% of prime cost |

Administration overhead 20% of works cost.

**[Ans: Rs. 10,560]**

3. Calculate the cost of sales of job No. 618:

Works cost Rs. 6,000; office on cost: 10% of work cost

Selling over head 5% of works cost.

**[Ans: Rs. 6,900]**

4. Compute the profit of job No. 602:

Cost of Sales: Rs. 9,000

Profit 10% of Sales.

**[Ans: Rs. 1,000]**

5. Find out the quotation for job No.1001:

| | | |
|---|---|---|
| Cost of sales | : | Rs. 15,000 |
| Profit | : | 20% of sales |

**[Ans: Rs. 18,750]**

6. Calculate the selling price of job No. 804 :

| | | |
|---|---|---|
| Cost of sales | : | Rs. 20,000. |
| Profit | : | 20% of cost. |

**[Ans : Rs. 24,000]**

7. Prepare a job cost sheet :

Material Rs. 2000; Labour 50 hours @ Rs. 10 per hour; Works overhead 100% of wages; Office overhead 60% of works cost; Profit 20% on sales.

***[Madras, B.Com(AF) (AF6D) Nov. 2009]***

**[Ans : Job Sales Value : Rs. 6,000]**

8. From the following information prepare an estimate for Job 151 :

| | Rs. |
|---|---|
| Direct material | 1,000 |
| Direct wages | 2,000 |

Factory expenses – 60% on wages

Office expenses – 20% on factory cost

The tender should include a profit of 20% on selling price.

*[Madras, B.Com (PZ5A) Nov. 2008]*

**[Ans : Tender estimate : Rs. 6,300]**

9. Calculate the economic batch quantity for a Chemical manufacturing company from the following details:

   Annual demand for the products 16,000 units. Setting up cost Rs. 50.

   Carrying cost per unit of production Rs. 10 per annum.

**[Ans: 400 units]**

10. Compute Economic Batch Quantity through E.B.Q. formula.

    Annual demand 2,500 units; Setting up cost Rs. 250; Cost of production per unit Rs. 250; Rate of interest 20% p.a.

*[Madras, B.Com (AF) (AF6D) Nov. 2008]*

**[Ans : EBQ : 158 units]**

11. Compute the economic batch quantity for a company using batch costing with the following information:

| | | |
|---|---|---|
| Monthly demand for the component | – | 2,000 units |
| Setting-up cost per batch | – | Rs. 120 |
| Annual rate of interest | – | 6% |
| Cost of manufacturing per unit | – | Rs.6 |

*[Madras, B.Com (AF) (AF6D) Ap 2009; B.Com., Sep. 1992]*

**[Ans: 4,000 units]**

12. Calculate the amount of cash received:

| | | |
|---|---|---|
| Work certified | : | Rs. 4,00,000 |
| Cash received | : | 80% of work certified |

**[Ans: Rs. 3,20,000]**

13. Calculate the Value of work certified:

    Cash received: Rs. 9,00,000, being 90% of work certified

**[Ans: Rs. 10,00,000]**

14. Compute the amount of work certified:

    Cash received Rs. 4,80,000. Cash received is after Retension money of 20%.

**[Ans: Rs. 6,00,000]**

15. Calculate profit that can be reasonably credited to P & L A/c from the following details:

| | Rs. |
|---|---|
| Notional profit | 79,000 |
| Cash received | 3,30,000 |
| Work certified | 4,00,000 |
| Contract price | 6,00,000 |

**[Ans: Profit to be credited to P & L A/c Rs. 43,450]**

16. Ascertain the amount of profit taken to P & L A/c:

| | | |
|---|---|---|
| Notional profit | : | Rs. 60,000 |
| Work certified | : | Rs. 8,00,000 |
| 80% of work certified is paid in cash | | |
| Contract price | : | Rs. 10,00,000 |

**[Ans: Rs. 32,000]**

17. The following details are given to you:

Contract price Rs. 1,00,000; work certified Rs. 80,000; Cost incurred to date Rs. 60,000.

Determine the profit to be taken to P & L A/c if 75% of work certified is received in cash.

**[Ans: Notional profit: Rs. 20,000**

**Profit to be taken to P & L A/c: Rs. 10,000]**

18. Contract price: Rs. 4,00,000; Work certified: Rs. 3,20,000;

Cost incurred to date: Rs. 2,40,000. Cash received: Rs. 2,40,000.

Ascertain the profit to be transferred to P & L A/c if further estimated cost to complete the contract is Rs. 52,000.

**[Ans: Estimated profit: Rs. 1,08,000; Profit transferred to P & L A/c**

**Rs. 64,800** $\left(1,08,000 \times \frac{3,20,000}{4,00,000} \times \frac{2,40,000}{3,20,000}\right)$ **Notional profit: Rs. 80,000**

**Reserve: Rs. 15,200]**

19. Prepare a Contract Account :

| | |
|---|---|
| Material | Rs. 3,36,000 |
| Wages | Rs. 3,40,000 |
| Plant purchased | Rs. 60,000 |
| Work certified | Rs. 7,50,000 |
| Material at site | Rs. 40,000 |

***[Madras, B.Com., April 2006]***

**[Ans : Notional profit : (a) If plant depreciation is ignored : Rs. 1,14,000**

**(b) If Plant is assumed to be fully depreciated : Rs. 54,000]**

## (B) Other Exercises

### JOB COSTING

1. From the following details, compute the overhead rate to be charged on the basis of the direct labour rate to Job No. 707 and determine the total cost and selling price :

| | |
|---|---|
| Material used | Rs. 4,000 |
| Direct wages | Rs. 3,000 |
| Direct labour hours | 700 hours |

Estimated factory overheads for the year Rs. 1,05,000

Estimated labour hours for the year 2,10,000

Gross profit ratio on sales is 25%.

**[Madras, BCA/BSc (ICE) Oct. 2008]**

**[Ans : Overhead Rate : Re. 0.50 Per labour hour;**

**Total cost : Rs. 7,350; Selling price : Rs. 9,800]**

2. From the following information prepare Job No. 236 account in the Job Cost Ledger:

| | *Rs.* |
|---|---|
| Direct materials purchased | 3,600 |
| Direct materials received from stores | 25,200 |
| Direct wages | 14,400 |
| Other direct expenses | 1,500 |

The works overheads are to be taken at 75% of wages and administrative overheads at 25% of works cost. The contract price of Job No. 236 which is completed is fixed as Rs. 82,500.

***[Madras, B.Com., (ICE) Oct. 2002]***

**[Ans: Profit: Rs. 13,125; Cost of production: Rs. 69,375]**

3. The following details are relating to a company during the year 1996

Raw materials used Rs. 36,000; Direct wages Rs. 30,000

Total overheads Rs. 25,000

Labour hours worked 24,000; hours of machine operation 20,000.

Details relating to job number 100:-

Materials used Rs. 2,000; Labour hours 1,650

Direct wages Rs. 1,650; Machine hours 1,200.

Using direct wages method, labour hour method and machine hour method, calculate by all the three different methods the overheads chargeable to the job.

***[Madras, B.A. Crop. October 1998; March 1990]***

**[Ans: (a) Percentage of overheads on wages: 83.33%**

**Overheads of the job: Rs. 1,375;**

**(b) Labour hour rate: Rs. 1.042 Overheads of the job: Rs. 1,719**

**(c) Machine hour rate: Rs. 1.25 Overheads of the job: Rs. 1,500]**

4. Job ledger of Karuna Engineering shows the following details regarding an order for window grills:

Materials used Rs. 20,000

Wages booked for 40 hours at Rs. 50 per hour.

Variable overheads are at labour hour rate of Rs. 10 per hour. Fixed overheads are apportioned at Rs. 1,600 for the job. If the customer is charged Rs. 30,000 for the order, find out the profit and its percentage on cost.

**[Ans: Profit: Rs. 6,000;**

**Profit percentage on cost: 25%]**

5. Print well Ltd., received an order for a job of 2,000 letter pads. You are required to ascertain the amount to be billed to the customer at the agreed rate of 20% profit on sales from the following additional data:

Paper & other materials Rs. 3,000

Labour: 10 workers working for a full shift of 10 hours, claiming a wage rate of Rs. 20 per hour.

Works overheads 50% on wages

Administration cost 1/3rd of the works cost.

**[Ans : Amount to be billed to customer: Rs. 10,000;**

**Profit : Rs. 2,000]**

6. A factory uses job costing system. The following data are obtained from its books for the year ended 31st Dec. 1992.

| | *Rs.* |
|---|---|
| Direct materials | 90,000 |
| Direct wages | 75,000 |
| Profit | 60,900 |
| Selling & Distribution overhead | 52,500 |
| Administration overheads | 42,000 |
| Factory overheads | 45,000 |

(a) Prepare a job cost sheet indicating the prime cost, works cost, cost of production, cost of sales and the sales value.

(b) In 1993, the factory receives on order for a number of jobs. It is estimated that direct materials required will be Rs. 1,20,000 and direct labour will cost Rs. 75,000. What should be the price for these jobs if the factory intends to earn the same rate of profit on sales as in 1992, assuming that the selling and distribution overheads have 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, based on cost rates prevailing in the previous year.

***[Madras, B.A. Corp. March 1994]***

**[Ans: (a) Prime cost: Rs. 1,65,000; Works cost: Rs. 2,10,000; Cost of production: Rs. 2,52,000; Cost of sales: Rs. 3,04,500; Sales value: Rs. 3,65,400; (b) Price for the jobs: Rs. 4,28,400 Profit ratio to sales 1/6 or 16.67% or 20% on cost; Factory overheads to wages: 60%; Administration overheads to works cost: 20%; Selling and distribution overheads to works cost; 25%]**

7. The following information is extracted from the records in respect of Job 707 :

   Materials – Rs. 3,400

   Wages :

   Dept. A : 80 hours at Rs. 2.50 per hour

   Dept B : 60 hours at Rs. 4 per hour

   Variable Overheads :

   Dept. A : Rs. 5,000 for 4,000 hours

   Dept. B : Rs. 6,000 for 3,000 hours

   Fixed Overheads Rs. 7,500 for 10,000 hours.

   Calculate the price to be charged if the profit expected on cost is 10%.

   ***[Madras, B.Com(PZ5A) Nov. 2008]***

   **[Ans : Price to be charged : Rs. 4581.5]**

8. The information given below has been taken from the costing records of an engineering works in respect of job number 303.

   Materials Rs. 4,010.

   ***Wages:***

   Dept. A - 60 hours at Rs. 3 per hour

   Dept. B - 40 hours at Rs. 2 per hour

   Dept. C - 20 hours at Rs. 5 per hour

   Overhead expenses for these three departments were estimated as follows:

   ***Variable overheads:***

   Dept. A - Rs. 5,000 for 5,000 labour hours

   Dept. B - Rs. 3,000 for 1,500 labour hours

   Dept. 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 303 and calculate the price to give a profit of 25% on selling price.

   ***[Madurai, B.Com., April 2009]***

   ***[Madras, B.Com(CS) (SY5A) Ap 2009; B.Com(PZ5A) Ap 2008; BCS (PYE) Nov. 2007; B.Com(CS) (ST5E) Ap 2007; B.Com., Nov. 2004; BCS April 2004]***

   **[Ans: Cost of the job: Rs. 4,830; profit: Rs. 1,610; Selling price: Rs. 6,440]**

9. The costing records of a factory give the following information concerning job number 370.

Materials used : Rs. 5,000

Direct Wages :

Dept. X 10 hours at Rs. 25 hour

Dept. Y 8 hours at Rs. 30 per hour

Dept. Z 5 hours at Rs. 40 per hour.

The estimated variable overheads for these departments are as follows.

Dept. X Rs. 70,000 for 7,000 labour hours

Dept. Y Rs. 60,000 for 3,000 labour hours

Dept. Z Rs. 40,000 for 1,000 labour hours

The estimated fixed overheads are Rs. 3,00,000 for 7,500 normal working hours.

Provide for profit of $33\frac{1}{3}$% on the total cost. Prepare a cost sheet to know the sales price.

*[Madras, B.Com., C & M, April 1999]*

**[Ans: Total cost: Rs. 7,070; Profit: Rs. 2,357; Sales price: Rs. 9,427]**

10. The following particulars relate to the year ended 30th June 2010:

| | Completed Jobs Rs. | Work-in-progress Rs. |
|---|---|---|
| Material issued | 50,000 | 10,000 |
| Wages | 35,000 | 7,000 |
| Chargeable expenses | 7,500 | 500 |
| Material returned to stores | 500 | - |

Works expenses were 60% of prime cost. Administration overheads were 30% of works cost. The value of jobs completed during the year was Rs. 2,50,000. Prepare (i) Consolidated completed jobs account to ascertain profit or loss during the year and (ii) Consolidated work-in-progress account.

**[Ans: (i) Completed jobs: Total cost: Rs. 1,91,360; Profit: Rs. 58,640; (ii) Consolidated work-in-progress Closing work-in-progress value- Rs. 36,400]**

11. The following information for the year ended 31, December, 1996 is obtained from the books and records of a factory.

| | *Completed jobs* Rs. | *Work-in-progress* 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 | – |
| Materials returned to stores | 1,000 | – |

Factory overhead is 80% of wages and office overheads 25% of factory cost. The value of the executed contracts during 1996 was Rs. 4,10,000.

Prepare (a) Consolidated completed jobs account showing the profit made or loss incurred on the contracts and (b) Consolidated work-in-progress account.

*[Madras, B.A. Corp., September 1985; Madras, M.Com., Sep. 1997]*

**[Ans: (a) Consolidated completed jobs: Total cost: Rs. 3,46,250; Profit: Rs. 63,750; (b) Consolidated work-in-progress - Closing work-in-progress value: Rs. 1,35,000]**

12. M/s Vimal & Co., has supplied the following information regarding its production departments for the month of March 2010.

| | Rs. | Rs. |
|---|---|---|
| Material used | 72,000 | |
| Direct labour cost | 60,000 | |
| Direct labour hours worked | | 48,000 hrs |
| Hour's of machine operators | | 40,000 hrs |
| Factory overheads of departments | 50,000 | |

On one particulars job order carried out within the department, the relevant data were:

| | | |
|---|---|---|
| Material used | Rs. | 4,000 |
| Direct labour | Rs. | 3,300 |
| Direct labour | hours | 3,300 |
| Machine | hours | 2,400 |

Prepare a comparative statement of cost of the job order by using the following three methods of recovery of overheads:

(i) Direct labour hour method

(ii) Direct labour cost rate method

(iii) Machine hour rate method.

**[Ans: (i) Labour hour rate: Rs. 1.0417; Cost of job order: Rs. 10,738; (ii) Labour cost rate 5/6 or 83.33%; Cost of job order: Rs. 10,050; (iii) Machine hour rate: Rs. 1.25; Cost of job order: Rs. 10,300]**

13. As a newly appointed Cost Accounting, you find that selling price of job no. 1234 has been calculated on the following basis.

| | Rs. |
|---|---|
| Materials | 12.08 |
| Direct wages 22 hours at Re. 0.25 per hour | 5.50 |
| [Dept. A - 10 hours; Dept. B - 4 hours; and Dept. C - 8 hours] | |
| | 17.58 |
| Plus 331/3% on prime cost | 5.86 |
| | 23.44 |

An analysis of the previous year's profit and loss account shows the following:

| | Rs. | Rs. |
|---|---|---|
| Material used | | 77,500 |
| Direct Wages: | | |
| Dept. A | 5,000 | |
| Dept. B | 6,000 | |
| Dept. C | 4,000 | 15,000 |
| Factory overheads: | | |
| Dept. A | 2,500 | |
| Dept. B | 4,000 | |
| Dept. C | 1,000 | 7,500 |
| Selling cost | | 30,000 |
| | | 1,30,000 |

You are required to

(a) Draw up a job cost sheet

(b) Calculate and enter the revised cost using previous year's figures as basis.

(c) Add to the total job cost 10% for profit and give the final selling price.

*[Madras, B.Com., Sep. 1994 (old); B.A. Corp. March 1995; M.Com., May 1991]*

**[Ans: Selling price of Job: Rs. 28.60; Profit: Rs. 2.60; Cost of sales: Rs. 26; Works cost Rs. 20: Prime Cost: Rs. 17.58; Labour hour rate: Dept. A – Re. .125 per hour; B – Re. .1667 per hour; Dept. C – Re. .063 per hour; Selling cost to works cost – 30%]**

14. Following data relate to the month of December.

| | *Job No. 410* Rs. | *Job No. 411* Rs. | *Total* Rs. |
|---|---|---|---|
| (a) Opening balance of Job on Ist Dec. 1991: | | | |
| Direct Material | 80 | 420 | 500 |
| Direct Labour | 150 | 450 | 600 |
| Factory overheads | 200 | 400 | 600 |
| | 430 | 1,270 | 1,700 |

(b) Direct material requisitioned during the month of December 1991:

| Job No. | Rs. |
|---|---|
| 410 | 120 |
| 411 | 280 |
| 412 | 225 |
| 413 | 300 |
| | 925 |

(c) Direct labour Distribution

| Job No. | Hours | Rs. |
|---|---|---|
| 410 | 400 | 600 |
| 411 | 200 | 450 |
| 412 | 300 | 675 |
| 413 | 100 | 225 |
| | | 1,950 |

(d) Factory overheads are applied to jobs on production according to direct labour hour rate which is Rs. 2

(e) Factory overhead incurred in December 1991 Rs. 2,100.

(f) Job Nos. 411, 412 were completed during the month. They were billed to customer at a price which included 15% of the price of the job for selling and distribution expenses and another 10% of price for the profit.

Prepare:

(i) Job cost sheet for job Nos. 411 and 412

(ii) Determine the price for the jobs.

(iii) Calculation the value of work in progress

(iv) Prepare an income statement showing gross profit for the month of Dec. 1991.

*[Madras, B.Com., Sep. 1992]*

**[Ans: (i) Cost of sales – Job 411: Rs. 2,880; Job 412: Rs. 1,800; Profit – Job 411: Rs. 320; Job 412: Rs. 200; (ii) Billing price – Job 411: Rs. 3,200; Job 412: Rs. 2,000 (iii) Working-in-progress inventory - Total Value: Rs. 2,675; Material: Rs. 500; Labour: Rs. 975; Overhead: Rs. 1,200; (iv) Total sales: Rs. 5,200; Works cost: Rs. 4,000; Under absorbed factory overhead: Rs. 100; Gross Profit: Rs. 1,200]**

[*Hint:* Refer To Illustration No. 6]

## BATCH COSTING

1. M/s Better Tools Ltd. has an order to supply 48,000 special tools per annum. The setting-up cost of tools per run is Rs. 648. It is estimated that it costs 10 paise as inventory holding cost per tool per month. What should be the optimum run size for tools manufacturing?

**[Ans: 7,200 units]**

2. A component item involves material cost of Rs. 6 per unit and 10 minutes to produce. The operator is paid Rs. 72 per hour and machine hour rate is Rs. 150. The setting up of a machine to produce the component takes 2 hours and 20 minutes. Produce cost sheet showing production ad setting up costs for a batch of (a) 10 units (b) 100 units.

***[Madras, B.Com., April 1999]***

**[Ans: (a) For batch of 10 units; Production cost: Rs. 430; Setting up cost: Rs. 518; Total cost: Rs. 948; Cost per unit: Rs. 94.80; (b) For batch of 100 units; Production cost: Rs. 4,300; Setting up cost: Rs. 518; Total cost: Rs. 4,818; Cost per unit: Rs. 48.18]**

3. A contractor has to supply 10,000 paper cones per day. for 320 days in a year, He finds that when he starts production he can produce 20,000 units a day. The cost of holding a paper cone for one year is 2 paise and the setup cost of a production run is Rs. 20. How frequently should production run be made?

***[Madras, B.Com., Oct. 1999]***

**[Ans: Economic batch quantity of output 80,000 units;**

**Days required per batch 4 days;**

**Frequency of production** $\frac{320 \text{ days}}{4 \text{ days}} = 80 \text{ times}$ **]**

4. J & Co. agreed to supply 6000 units per year to K & Co. on a regular basis. The inventory holding cost amounts to Rs. 0.40 per unit per month and the setting up cost per batch run of the units is Rs. 576.

You are required to ascertain

(a) Economic Batch Quantity (EBQ) and

(b) The interval between two batch runs.

**[Ans : (a) EBQ = 1,200 units**

**(b) 72 days** $\left(\frac{1,200}{500} \times 30\right)$ **]**

5. The following information relate to the manufacturing of component Z - 10 in a cost centre.

Cost of materials - 10 paise per component.

Operator's wages - Re. 1.00 per hour

Machine hour rate - Rs. 2.00

Setting up time of the machine - 2 hours and 30 minutes.

Manufacturing time - 12 minutes per component.

Prepare cost sheet in columnar form showing both production and setting up costs - Total and per unit when a batch consists of (a) 100 components (b) 1.000 components.

*[Madras, M.Com., October 1989]*

**[Ans: (a) For batch of 100 units – Production cost: Rs. 70;**
**Setting up cost: Rs. 7.50; Total cost: Rs. 77.50;**
**Cost per unit: Re 0.775;**
**(b) For batch of 1,000 units – production cost: Rs. 700;**
**Setting up cost: Rs. 7.50; Total cost: Rs. 707.50**
**Cost per unit: Rs. 0.7075]**

6. A work order for 500 units of commodity has to pass through four different machines of which the machine hour rates are:

Machine No. 1 Rs. 1.25

Machine No. 2 Rs. 3.00

Machine No. 3 Rs. 4.00

Machine No. 4 Rs. 2.50

The following expenses have been incurred on the work order :

Materials Rs. 20,000 and wages Rs. 1,500

Machine 1 worked for 200 hours

Machine 2 worked for 300 hours

Machine 3 worked for 240 hours

Machine 4 worked for 100 hours

After the work order had been executed, materials worth Rs. 1,000 were returned to stores.

Office overheads are to be estimated at 60% of works cost: 10% of the production is going to be discarded, being unsatisfactory for which 1/2 of the cost can be realised from sale in the scrap market.

Find out the rate of selling price per unit if 20% profit on sale price is desired. Assume the net resulted output is 500 units.

*[Madras, B.Com., C & M. (ICE), October 1998]*

**[Ans: Sales price: Rs. 86.86 per unit; Total sales: Rs. 43,434;**
**Profit: Rs. 8,687; Works cost: Rs. 22,860; Office overhead: Rs. 13,716;**
**Discarded units sold: Rs. 1,829]**

## CONTRACT COSTING

***I.Simple Finished contracts***

1. From the information given below prepare contract account:

| | Rs. |
|---|---|
| Material bought from market | 1,500 |
| Material issued from stores | 500 |
| Material returned to stores | 240 |
| Wages | 2,440 |
| Direct expenses | 294 |
| Works on cost 25% of direct wages | |
| Office on cost 10% of prime cost | |
| Contract price Rs. 6,000 | |

***[Madurai, B.Com., Nov. 2007]***

**[Ans : Profit Transferred to P & L A/c : Rs. 447]**

2. Senthil Construction Company undertook a contract for constructing a building from 1st Jan. 2010. contract price was Rs. 1,00,000. He incurred the following expenses.

| | *Rs.* |
|---|---|
| Materials issued | 6,000 |
| Materials in hand, at the end | 1,000 |
| Wages | 5,000 |
| Direct expenses | 20,000 |
| Plant purchased | 10,000 |

The contract was completed on 30th June 2010 and the contract price was duly received. Provide depreciation @ 20% p.a. on plant and charge indirect expenses at 20% on wages. Prepare contract account in the books of the company.

***[Madras, B.Com (A &F) Nov. 2009]***

**[Ans: Profit on the contract: Rs. 68,000]**

3. The following is the summary of transactions as on 31st December, 2006, relating to a special contract completed during the year.

| | *Rs.* |
|---|---|
| Materials bought from the market | 1,500 |
| Materials issued from the stores | 500 |
| Wages | 2,440 |
| Direct expenses | 294 |
| Office on cost-10% of prime cost. | |

You are required to prepare a contract account keeping in view that material returned amounted to Rs. 240.

***[Bharathiar, B.Com.(E-Com) Nov. 2007; B.Com(CA) Nov. 2003]***

***[Calicut, B.Com., April 1995]***

**[Ans: Profit: Rs. 447; Office on cost: Rs. 449]**

4. The following information relates to contract No. 123. You are required to prepare the contract account and contractee's account assuming that the amount due from the contractee was fully received.

| | | Rs. |
|---|---|---|
| Direct material | | 20,250 |
| Direct wages | | 15,500 |
| Stores issued | | 10,500 |
| Loose tools | | 2,400 |
| Tractor expenses: | | |
| Running materials | 2,300 | |
| Wages of drivers | 3,000 | 5,300 |
| Other direct charges | | 2,650 |

The contract price was Rs. 90,000 and the contract took 13 weeks in its completion. The value of loose tools and stores returned at the end of the period were Rs. 200 and Rs. 3,000 respectively. A plant was also used and returned at a value of Rs. 16,000 after charging depreciation at 20%. The value of tractor was Rs. 20,000 and depreciation was to be charged to the contract at 15% per annum. The administration and office expenses are to be provided at 10% on works cost.

**[Ans: Profit: Rs. 26,035; Works cost: Rs. 58,150; Depreciation on tractor: Rs. 750 and on plant: Rs. 4,000]**

*Hint: Depreciation on Plant is 20% flat where as it is 15% per annum on tractor.*

5. The following particulars are related to contract undertaken by Ram Construction Ltd.

Plant purchased Rs. 60,000; Wages paid Rs. 3,40,000; Overhead apportioned Rs. 40,000; Material issued to site Rs. 3,36,000; Plant at site Rs. 48,000; Work uncertified Rs. 20,000; Cash received Rs. 6,00,000 (being 80% of work certified).

Prepare contract account.

***[Madras, B.Com(AF) (AF6D) Nov. 2008]***

**[Ans : Notional profit : Rs. 42,000]**

*Hint* : Since contract price is not given, profit to be taken to P & L can not be computed.

***II. Transfer of Profit to P & L A/c :***

6. The following information are related to a contract of X Ltd. for the year 2006.

Material Rs. 4,00,000; Direct wages Rs. 2,75,000; Direct expenses Rs. 1,50,000; Indirect expenses Rs. 75,000.

The contract price is Rs. 14,00,000. The cash received amounted to Rs. 7,00,000 being 60% of work certified. The work uncertified is Rs. 30,000.

Prepare Contract Account.

***[Madras, B.Com (AF) (AF6D) Nov. 2008]***

**[Ans : Notional profit : Rs. 2,96,667; Transfer to P & L : Rs. 1,18,667; Reserve : Rs. 1,78,000]**

7. How much profit, if any, you would allow to be considered in the following case:

| | Rs. |
|---|---|
| Contract cost | 5,60,000 |
| Contract Value | 10,00,000 |
| Cash received | 5,40,000 |
| Uncertified work | 60,000 |

Depreciation made from bills by way of security deposit 10%

*[M.Com., (old) May 2002 (ICE) ($\frac{1}{3}$ Figs.); Kerala, B.Com., April, 1995]*

**[Ans: Notional profit: Rs. 1,00,000**
**Profit to be considered: Rs. 60,000]**

8. Given below are contract price, work completed, estimated cost to completion (for case IV only) and notional profits for 4 cases. Compute the amount of credit that can be given to costing profit and loss account:

| *Cases* | *Contract Price* | *Work Completed* | *Estd. Cost* | *Notional Profit* |
|---|---|---|---|---|
| 1. | Rs. 20,00,000 | 4,00,000 | – | 80,000 |
| 2. | Rs. 20,00,000 | 6,00,000 | – | 1,20,000 |
| 3. | Rs. 20,00,000 | 12,00,000 | – | 2,40,000 |
| 4. | Rs. 20,00,000 | 18,00,000 | 1,60,000 | 3,60,000 plus profit on work to be completed |

*[Madras, B.Com., Oct. 1999]*

**[Ans: Cases: (1) Nil: (2) Rs. 40,000 (3) Rs. 1,60,000; (4) Rs. 3,60,000**
**The above transfers of profits should be reduced to the proportion of cash received to work certified.]**

9. The following expenses were incurred on a contract still unfinished on 31.3.2010.

| | Rs. |
|---|---|
| Materials | 40,000 |
| Wages | 35,000 |
| Other expenses | 25,000 |

Rs. 2,00,000 was received from the contractee being 80% of work certified. Work uncertified was Rs. 10,000. You are required to calculate the profit to be credited to profit and loss account:

(a) If the contract price was Rs. 4,00,000
(b) If the contract price was Rs. 8,00,000
(c) If the contract price was Rs. 20,00,000

**[Ans: Notional Profit - 1,60,000; Profit to be credited to P & L A/c:**
**(a) Rs. 85,333; (b) Rs. 42,667; (c) Nil]**

**III. Treatment of plant in Contract Account.**

10. Show how you would deal with plant in a contract account with the following information:

Plant issued to contract on 1st March 1989 costing Rs. 40,000. Plant costing Rs. 2,000 was transferred to another contract on 31.8.89. Plant costing Rs. 1,000 was stolen and another plant costing Rs. 500 was destroyed by fire. Another plant costing Rs. 2,200 was sold for Rs. 2,200. Plant at the end of the year was valued by charging depreciation at 10% p.a. on 31st December 1989. Ignore depreciation on plant, sold, stolen and destroyed.

*[Madras, B.Com., Sep. 1990]*

**[Ans: Value of plant at the end of the year: Rs. 31,442;**
**Depreciation for 10 months on the closing plant: Rs. 2,858;**
**Total debit to contract A/c: Rs. 40,000;**
**Total credit to the contract account on account of plant: Rs. 37,042]**

11. A plant costing Rs. 1,50,000 was issued to a contract on 1.4.2010. Plant costing Rs. 10,000 was transferred to another contract on 30.9.2010. A plant costing Rs. 5,000 was stolen. Another plant worth Rs. 4,000 was destroyed by fire. Plant costing 3,000 was sold for Rs. 4,000. Charge depreciation at 10% per annum. Ignore depreciation for plant stolen, destroyed and sold. Show the extracts from contract account relating to plant.

**[Ans: Closing balance of plant: Rs. 1,15,200;**
**Depreciation on the plant at site: Rs. 12,800;**
**Total debit to contract account: Rs. 1,51,000;**
**Total credit to contract account: Rs. 1,37,700]**

***IV. Incomplete Contracts - Preparation of contract account and transfer of profit***

12. The contract ledger of a company showed the following expenditure on account of contract number 123 at 31st March 1998.

| | *Rs.* |
|---|---|
| Materials | 1,88,000 |
| Plant | 24,000 |
| Wages | 2,06,000 |
| Establishment charges | 13,400 |

The contract commenced on 1st April 1997 and the contract price is Rs. 8,00,000. The value of work certified by the architect is Rs. 4,30,000 of which 80% has been received in cash to date. The value of material on hand is Rs. 9,000 and the work uncertified is Rs. 8,000.

Assuming depreciation on plant at 10% per annum, prepare the contract account showing the profit the firm would be justified in taking to the credit of profit and loss account of the year.

*[Madras, M.Com., May 1999, ICE]*

**[Ans: Notional profit: Rs. 37,200;**
**Profit transferred to P & L A/c: Rs. 19,840]**

13. The following was the expenditure on a contract for Rs. 6,00,000 commenced in February 2004.

Materials - Rs. 1,20,000; Wages - Rs. 1,64,400; Plant - Rs. 20,000; Business charges Rs. 8,600

Cash received on account upto 31st Dec. 2004 amounted to Rs. 2,40,000 being 80% of work certified. The value of materials on hand at 31.12.2004 was Rs. 10,000. Prepare contract account for 2004 showing the profit to be credited to the year's profit and loss account. Plant is to be depreciated at 10%.

***[Madurai, B.Com., Nov. 2008]***

***[Madras, B.Com(AF) Ap 2009; B.Com(Old) Nov. 2008; B.Com (ICE) Nov. 2005 (2 Times); B.Com., Nov. 2004 April 2004]***

**[Ans: Notional profit: Rs. 15,000; Profit to be credited to the year's profit and loss account: Rs. 8,000]**

14. Subramaniam & Co., undertook a contract, the contract price being Rs. 1,00,000. The contract commenced on 1st January 2009. During the year work certified was valued at Rs. 50,000 of which 75% was received. Work uncertified amounted to Rs. 10,000. The following expenses were incurred.

Materials - Rs. 30,000; labour - Rs. 20,000; Plant Rs. 10,000;

Direct expenses - Rs. 8,000; Indirect expenses - Rs. 5,000.

At the end of the year wages accrued were Rs. 2,000: Materials in hand Rs. 1,000 and plant in hand Rs. 1,500. Prepare contract account.

**[Ans: Loss on contract: Rs. 12,500]**

15. 'A' undertook several large contracts and his ledger contained therefore a separate account for each contract. On 31.12.2004 the account of contract number 22 showed the following amounts as expended thereon.

| | *Rs.* |
|---|---|
| Materials directly purchased | 1,80,000 |
| Materials issued from stores | 50,000 |
| Wages | 2,44,000 |
| Direct expenses | 24,000 |
| Plant purchased | 1,60,000 |
| Proportionate establishment charges | 54,000 |

The contract was for Rs. 15,00,000 and upto 31.12.2004 Rs. 6,00,000 had been received in cash which represented 80% of work certified.

The material at site unconsumed were valued at Rs. 15,000. The contract plant was to be depreciated by Rs. 16,000

Prepare the contract account showing what profits thereon have been earned to date.

***[Bharathidasan, B.Com(old) Nov. 2005; Bharathiar, B.Com., Nov. 2004]***

***[Madras, B.Com., (ICE) May 2000]***

**[Ans: Notional profit: Rs. 1,97,000; Profit earned to date: Rs. 1,05,067]**

16. Pari & Co., obtained a contract for building a factory for Rs. 10,00,000. Building operations started on 1st April 1984 and at the end of March 1985, they received from the contractee a sum of Rs. 3,90,000 being 75% of the amount due on surveyor's certificate. The following additional information is given from the books of Pari & Co., Ltd.

| | Rs. |
|---|---|
| Stores issued to contract | 2,00,000 |
| Stores on hand on 31.3.1985 | 10,000 |
| Wages paid | 1,80,000 |
| Plant purchased | 2,00,000 |
| Direct expenses | 25,000 |
| Overheads allocated to contract | 12,000 |
| Work finished but not yet certified | 12,000 |

Plant to be depreciated at 10%. You are required to prepare an account showing profit and loss on contract as on 31.3.85 and amount of profit the company would be justified in taking to the credit of profit and loss account for the year.

***[Madras B.A. Corp. Sep 1985]***

**[Ans: Notional profit: Rs. 1,05,000;**

**profit to be taken to the credit of P & L A/c. Rs. 52,500]**

17. A firm of large contractors kept separate accounts for each contract. On 31.12.92 the following were shown as being the expenditure in connection with contract number 101:

| | Rs. |
|---|---|
| Materials issued from stores | 48,925 |
| Materials purchased | 2,90,315 |
| Wages | 3,68,170 |
| Direct expenses | 10,130 |
| Establishment charges | 43,600 |
| Plant which had been used on other contracts also | 62,615 |
| Additional plant purchased | 18,050 |

The contract which had commenced on 1.7.1992 was for Rs. 15,00,000 and the amount certified by the architect, after deduction of 20% retention money was Rs. 6,04,000, the work being certified till 31.12.1992. The materials on site on that date were valued at 49,290. The depreciation on plant in respect of this contract till 31.12.92 was Rs. 5,650.

Prepare a contract account, showing the profit on the contract upto 31.12.92.

***[Madras, B.A. Corp., March 1995 (old)]***

**[Ans: Notional profit: Rs. 37,500**

**Profit on the contract Rs. 20,000]**

18. A contractor makes up his accounts to December 31 in each year. You are given the following particulars in respect of a contract.

| | Rs. |
|---|---|
| Materials sent to contract site | 2,150 |
| Labour | 5,011 |
| Foremen's salary | 631 |

A machine costing Rs 1,500 has been on the site for 73 days. Its working life is estimated at 5 years and its final scrap value is estimated to be Rs. 100. An accountant who is paid Rs. 1,200 p.a. has spent one half of his time on this contract. All other expenses are Rs. 1,261. Materials on hand Rs. 248. The contract price is Rs. 20,000. Cash received was Rs. 8,000 being 80% of work certified. Cost of work uncertified was Rs. 2,328. You are required to prepare the contract account.

***[Madras, B.Com. (old) Nov. 2007 (10 times); B.Com., Sep. 1998]***

**[Ans: Notional profit: Rs. 2,867;**

**Profit taken to P & L A/c: Rs. 1,529;**

**Depreciation on machine: Rs. 56]**

19. Vikram Constructions Ltd., have obtained a contract for construction of a Bridge. The value of the contract is Rs. 12 lakhs and the work commenced on 1st Jan. 2008. The following details are shown in their books for the year ended 31st December 2008.

Plant purchased Rs. 60,000; Materials issued to site Rs. 3,36,000; wages paid Rs. 3,40,000; Direct expenses Rs. 8,000; general overheads apportioned Rs. 32,000; wages accrued due on 31.12.2008 Rs. 2,800; Materials at site as on 31.12.2008 Rs. 4,000; Direct expenses accrued as on 31.12.2008; Rs. 1,200; work not yet certified at cost Rs. 14,000; Cash received being 80% of work certified Rs. 6,00,000; Life of plant purchased is 5 years and scrap value is nil.

Prepare the contract account for the year ended 31.12.2008 and show the amount of profit which you consider might be fairly taken on the contract and show how you have calculated the same.

***[Thiruvalluvar, B.Com., Nov. / Dec. 2009 Modified]***

***[Madras, B.Com., April 1995]***

**[Ans: Notional profit: Rs. 36,000;**

**Profit to be taken on the contract:**

$$36{,}000 \times \frac{2}{3} \times 80\% = \text{Rs.}19{,}200\ ]$$

20. Sowmya accepted a contract for Rs. 10,00,000 on 1.4.09. By the end of March 2010, the work certified was Rs. 3,00,000 and the cost of uncertified work was Rs. 20,000. The following further details are available.

| | Rs. |
|---|---|
| Materials Purchased | 1,00,000 |
| Wages paid | 80,000 |
| Plant installed at site | 60,00 |

During the year, materials costing Rs. 10,000 were found damaged and were disposed of for 5,000. Plant costing Rs. 20,000 was found unsuitable and was returned at the beginning itself. Materials at site on 31.3.2010 were Rs. 5,000. Plant is to be depreciated by 20% p.a. Cash received was Rs. 2,10,000.

You are required to prepare contract account and determine the profit or loss to be taken to P & L A/c.

**[Ans: Notional profit: Rs. 1,47,000;**
**Profit credited to P & L A/c.**

$$\text{Rs.}34,300\left(1,47,000\times\frac{1}{3}\times\frac{2,10,000}{3,00,000}\right)]$$

21. Anil & Co., a firm of building contractors under took a contract for construction of a commercial complex on 1st January 2010. The following was the expenditure on the contract for Rs. 9,00,000.

| | Rs. |
|---|---|
| Materials issued to contract | 76.500 |
| Plant issued for contract | 22.500 |
| Wages | 1,21.500 |
| Other expenses | 7,500 |

Cash received on contract to 31st December 2010 amounted to Rs. 3,84,000 being 80% of work certified.

Of the plant and materials charged to the contract, plant which cost Rs. 9,000 and materials costing Rs. 7,500 were lost.

On 31st December 2010 plant costing Rs. 6,000 was returned to stores. The cost of work done but uncertified was Rs. 3,000 and materials costing Rs. 6,900 were in hand. Charge 15% depreciation on plant. Reserve 1/3rd profits earned and prepare contract account from the above particulars.

**[Ans: Notional profit: Rs. 2,89,875; closing plant at site:**
**Rs. 6,375; Profit kept in reserve at 1/3 = Rs. 96,625;**
**profit taken to P & L A/c: Rs. 1,93,250]**

***Hint:*** Due to the specific instruction to reserve 1/3rd of the profits increasing the reserve based on 'cash received to work certified ratio' may not be appropriate.

22. The following information is available in respect of a contract undertaken by a building contractor in 1990. The contract was for Rs. 2,40,000.

| | Rs. |
|---|---|
| Materials issued | 45,000 |
| Wages paid | 66,000 |
| General charges | 2,400 |
| Plant installed as site on 1st July 1990 | 12,000 |
| Materials in hand at the end | 2,400 |
| Wages accrued, due | 2,200 |
| Work certified | 1,20,000 |
| Work completed but not certified | 3,000 |
| Cash received | 90,000 |
| Materials transferred to other contracts | 2,400 |
| Materials received from other contracts | 600 |

Depreciation on plant is to be provided at 10% per annum. Prepare contract account and show what part of the profit on contract should be taken to the credit of P & L A/c in the year 1990.

*[Madras, B.Com., March 1991]*

**[Ans: Notional profit: Rs. 11,200;**

**Profit taken to the credit of P & L A/c. 5,600]**

23. A company of builders undertook a contract to construct a multistroyed structure for Rs. 20,00,000, estimating the cost to be Rs. 18,40,000. At the end of the year the company had received Rs. 7,20,000 being 90% of work certified. Work done, but not certified was Rs. 20,000. The following expenses were incurred.

| | Rs. |
|---|---|
| Materials | 2,00,000 |
| Labour | 5,00,000 |
| Plant | 40,000 |

Materials costing Rs. 10,000 were damaged. Plant is considered as having depreciated at 25%.

Prepare contract account and show the profit that can be reasonably taken to profit and loss account.

*[Madras, M.Com., April 2000; B.Com, March 1986]*

**[Ans: Notional profit Rs. 1,20,000;**

**(a) If notional profit is taken as basis,**

$$\text{profit taken to P \& L A/c} = \text{Rs. } 36{,}000 \left(1{,}20{,}000 \times \frac{1}{3} \times 90\%\right);$$

**(b) If estimated profit is taken as basis, Profit taken to P & L A/c = Rs. 57,600**

$$(20{,}00{,}000 - 18{,}40{,}000) \times \frac{8{,}00{,}000}{20{,}00{,}000} \times 90\%\,]$$

24. ***(Valuation of work uncertified)***

Contractors Ltd., undertook a special contract for a total value of Rs. 12 lakhs. It was expected that the contract would be completed by 31st March 2004. You are required to prepare a contract account for the year ending 31.1.2004 from he following:

| | Rs. |
|---|---|
| Wages | 3,00,000 |
| Materials sent to site | 1,50,000 |
| Materials lying at site on 31.2.2004 | 20,000 |
| Special plant | 1,00,000 |
| Overheads | 60,000 |
| Work certified | 8,00,000 |

Depreciation at 10% to be provided on plant. Cash received is 80% of work certified. 5% of the value of materials used and 6% of wages may be taken to have been incurred for the portion of work completed but not yet certified. Overheads are charged as a percentage of direct wages.

**[Periyar, M.Com., M.Com(CA) May 2005 $\frac{1}{2}$ Figs]**

**[Ans: Notional profit: Rs. 3,28,100**

**Profit transferred to P & L A/c: Rs. 1,74,987**

**Cost of work uncertified: Rs. 28,100]**

25. ***(Valuation of work uncertified)***

Meenakshi Co. Ltd., undertook a contract for construction of a bridge on 1.1.2009. The contract is expected to be completed by 30.6.2010. The contract price is Rs. 8,00,000. You are required to prepare contract account for the year ending 31.12.2009 from the following data:

| | Rs. |
|---|---|
| Materials issued | 2,00,000 |
| Wages | 75,000 |
| Materials returned to stores | 10,000 |
| Plant used for full year | 2,00,000 |
| General overheads | 80,000 |
| Depreciation of plant 10% | |
| Supervisor's salary | 10,000 |
| Work certified | 5,00,000 |

Cash received is 80% of work certified. 10% of materials issued and 15% of wages may be taken to have been incurred for the portion of work completed but not yet certified. General overheads are charged as percentage of direct wages.

**[Ans: Notional profit: Rs. 1,68,250;**

**Profit transferred to P & L A/c: Rs. 89,733;**

**Cost of work uncertified: Rs. 43,250]**

26. A building contractor having undertaken construction work at a contract price of Rs. 5,00,000 began the execution of the work on 1st January 1997. The following are the particulars of the contract upto 31st December, 1997.

| | Rs. |
|---|---|
| Machinery installed at site | 30,000 |
| Materials sent to site | 1,70,698 |
| Labour at site | 1,48,750 |
| Direct expenses | 6,334 |
| Overhead charges allocated | 8,252 |
| Materials returned from site | 1,098 |
| Work certified by architect | 3,90,000 |
| Cash received | 3,60,000 |
| Cost of work not certified | 9,000 |
| Materials on hand as at 31.12.97 | 3,766 |
| Wages accrued due on 31.12.97 | 5,380 |
| Value of machinery as on 31.12.97 | 22,000 |

It was decided that profit made on the contract in the year should be arrived at by deducting the cost of work certified from the total value of the architect's certificates, that 1/3rd of the profit so arrived at should be regarded as provision against contingencies and that such provision should be increased by taking to the credit of profit and loss account only such portion of the 2/3rd profit as the cash received before the amount is taken to the credit of the profit and loss account. Prepare contact account.

***[Madras, M.Com., April, 1998]***

**[Ans: Notional profit: Rs. 56,450;**

**Profit taken to the credit of P & L A/c: Rs. 34,738;**

**Total profit kept in reserve: Rs. 21,712]**

***IV. Incomplete contracts - Contract Account and Balance sheet extracts.***

27. A contractor obtained a contract for Rs. 6,00,000, on 1st Jan. 2008. The expenses incurred during the year ended 31st Dec. 2008 were as under.

| | Rs. |
|---|---|
| Materials | 1,80,000 |
| Wages paid | 1,60,000 |
| Wages accrued | 10,000 |
| Other expenses | 25,000 |

The plant, specially installed for the contract, worth Rs. 45,000 was returned to the stores subject to a depreciation of 20%. Materials at site on 31.12.08 were valued at Rs. 24,000

The contractor had received Rs. 3,60,000 in cash upto 31.12.08, representing 80% of the work certified. Work uncertified was estimated at Rs. 4,000.

Prepare the contract account, showing the profit for the year. Also show how the value of work-in-progress would appear in the balance sheet as on 31st Dec. 2008.

**[Ans: Notional profit: Rs. 94,000**
**Profit taken to P & L A/c: Rs. 50,133;**
**Profit kept in reserve: Rs. 43,867;**
**Work-in-progress in balance sheet: Rs. 50,133**

28. Arun Kumar undertook a contract for the construction of houses on 1st January, 2008. the contract price was Rs. 22,50,000.

The following figures are available for 2008 :

| | Rs. |
|---|---|
| Materials purchased | 3,60,000 |
| Materials issued from stores | 45,000 |
| Labour | 1,35,000 |
| Plant installed at site | 1,80,000 |
| Direct expenses | 90,000 |
| Establishment charges | 22,500 |
| Materials returned to stores | 22,500 |
| Materials on hand at the end | 9,000 |
| Plant in hand at the end | 1,35,000 |
| Wages outstanding | 36,000 |
| Direct expenses outstanding | 27,000 |
| Work uncertified | 95,400 |
| Cash received (80% of work certified) | 9,00,000 |

Prepare the contract account. Show the relevant items in the Balance Sheet.

***[Madras, B.Com (AF) (AF6D) April 2010]***

**[Ans : Notional profit : Rs. 4,91,400; Profit Transferred to P & L A/c : Rs. 2,62,080; Reserve Rs. 2,29,320; Work in progress in B/S : Rs. 91,080]**

29. The following balances were extracted from the books of a building contractor at 31st March, 2003:

| | Rs. |
|---|---|
| Materials issued to site | 62,720 |
| Wages paid | 73,455 |
| Wages outstanding on 31.3.2003 | 720 |
| Plant issued to site | 6,000 |
| Direct charges paid | 2,515 |
| Direct charges outstanding on 31.3.2003 | 210 |
| Establishment charges | 5,650 |
| Stock of materials at site on 31.3.2003 | 1,200 |
| Value of work certified at 31.3.2003 | 1,65,000 |
| Cost of work not yet certified | 3,500 |
| Cash received on account of architect's certificate | 1,41,075 |

The work was commenced on 1st April 2002 and the contract price agreed at Rs. 2,45,000. Prepare contract account for the year, providing for depreciation of plant at 25%. Calculate the profit or loss on the contract to date and make such provision in the contract account as you consider desirable. Set out also the contractor's balance sheet so far as it relates to the contract.

*[Madras, B.Com., Oct. 2003; M.Com., April., 1990]*

**[Ans: Notional profit: Rs. 22,930;**

**Profit credited to P & L A/c: Rs. 13,070;**

**Profit kept in reserve: Rs. 9,860;**

**Work-in-progress shown in balance sheet: Rs. 17,565]**

30. The following particulars relating to contract 'A' are obtained at the year end. Date of commencement April 1.

| | Rs. |
|---|---|
| Contract price | 6,00,000 |
| Materials delivered direct to site | 1,20,000 |
| Materials issued from store | 40,000 |
| Materials returned to store | 4,000 |
| Materials at site, on Dec. 31 | 22,000 |
| Direct labour | 1,40,000 |
| Direct expenses | 60,000 |
| Architect's fees | 2,000 |
| Establishment charges | 25,000 |
| Plant installed at cost | 80,000 |
| Value of plant on Dec. 31 | 65,000 |
| Accrued wages on Dec. 31 | 10,000 |
| Accrued expenses on Dec. 31 | 6,000 |
| Cost of contract not yet certified | 23,000 |
| Value of contract certified | 4,20,000 |
| Cash received from contractee | 3,78,000 |
| Materials transferred to contract 'B' | 9,000 |

You are required to show:

(1) Contract Account

(2) Contractee's Account

(3) Extracts from the balance sheet as at 31st Dec., clearly showing the calculation of work-in-progress.

*[Madras, B.Com., Sep, 1990]*

**[Ans: Notional profit: Rs. 60,000;**

**Profit taken to P & L A/c: Rs. 36,000**

**Profit kept in reserve: Rs. 24,000;**

**Contractee's Account Balance: Rs. 3,78,000;**

**Work-in-progress in Balance sheet: Rs. 41,000]**

31. A firm of building contractors began to trade on 1st April 2000. The following was the expenditure on the contract for Rs. 3,00,000.

| | Rs. |
|---|---|
| Materials issued to contract | 51,000 |
| Plant used for contract | 15,000 |
| Wages incurred | 81,000 |
| Other expenses incurred | 5,000 |

Cash received on account upto 31st March 2001 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 materials which cost Rs. 2,500 were lost. On 31st March 2001 plant which cost Rs. 2,000 were 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 and loss account 2/3rd of the profit received. Prepare a contract account, contractee's account and extracts from balance sheet from the above particulars.

***[Madras, M.Com., Oct. 2001; M.Com., May 1997, ICE; B.Com., March 1988]***

**[Ans: Notional profit: Rs. 27,000;**

**Profit taken to P & L A/c: Rs. 14,400**

**Profit kept to reserve: Rs. 12,600**

**Work-in-progress shown in balance sheet: Rs. 20,400]**

***Hint:*** As instructed, 2/3rd profit is taken to P & L A/c but, it is restricted on cash received basis i.e., 80%.

32. ***(Two or more contracts)***

During 2010, Indian Contractors Ltd., undertook two contracts, the first on 1st July 2010 and the second on 30th Sep. 2010. On 31st December when accounts were made up, their position was as follows:

| | *Contract I* Rs. | *Contract II* Rs. |
|---|---|---|
| Contract price | 2,70,000 | 3,00,000 |
| *Expenditure:* | | |
| Materials | 58,000 | 20,000 |
| Wages | 1,12,400 | 14,000 |
| General expenses | 2,800 | 1,000 |
| Plant installed | 16,000 | 12,000 |
| Materials on hand | 4,000 | 2,000 |
| Wages accrued | 3,600 | 1,600 |
| General expenses accrued | 400 | 200 |
| Work certified | 1,60,000 | 36,000 |
| Cash received | 1,20,000 | 27,000 |
| Work uncertified | 8,000 | 2,000 |

The plant was installed on the dates of the contracts and depreciation is to be provided at 10% p.a. Prepare contract accounts in columnar form and show the extracts in the balance sheet of the company relating to the two countries.

*[C.A. Adapted]*

**[Ans: Contract I - Loss fully transferred to P & L A/c: Rs. 6,000; Contract II - Notional profit: Rs. 2,900, fully kept in reserve; Work-in-progress in balance sheet - Contract I: Rs. 48,000; Contract II: Rs. 8,100; Total: Rs. 56,100]**

33. ***(Two or more Contracts)***

Construction Ltd., is engaged on two contracts A and B during the year. The following particulars are obtained at the end of Dec. 1998.

| | Contract A April I Rs. | Contract B Sep. I Rs. |
|---|---|---|
| Contract price | 6,00,000 | 5,00,000 |
| Materials issued | 1,60,000 | 60,000 |
| Materials returned | 4,000 | 2,000 |
| Materials at site Dec. 31 | 22,000 | 8,000 |
| Direct labour | 1,50,000 | 42,000 |
| Direct expenses | 66,000 | 35,000 |
| Establishment expenses | 25,000 | 7,000 |
| Plant installed at site at cost | 80,000 | 70,000 |
| Value of plant (Dec.31) | 65,000 | 64,000 |
| Cost of contract not yet certified | 23,000 | 10,000 |
| Value of contract certified | 4,20,000 | 1,35,000 |
| Cash received from contractees | 3,78,000 | 1,25,000 |
| Architect's fees | 2,000 | 1,000 |

During the period materials amounting to Rs. 9,000 have been transferred from contract A to contract B. You are required to show:

(a) Contract accounts

(b) Contractee's accounts

(c) Balance sheet extracts, showing work-in-progress clearly.

*[Madras, B.Com., Oct. 1998 (ICE) old]*

**[Ans: Contract A: Notional profit: Rs. 60,000; Profit credited to P & L A/c: Rs. 36,000; Contractee's A/c balance - A: Rs. 3,78,000; B: Rs. 1,25,000; Work-in-progress shown in balances sheet: Total: Rs. 61,000; A - Rs. 41,000; B - 20,000]**

34. ***(Two or more Contracts)***

Three contracts X, Y and Z commenced on 1st January, 1st July and 1st October 2010, respectively, were undertaken by the Sampath Contractors Ltd., and their accounts on 31st Dec. showed the following position:

| | X | Y | Z |
|---|---|---|---|
| | Rs. | Rs. | Rs. |
| Contract price | 8,00,000 | 5,40,000 | 6,00,000 |
| *Expenditure:* | | | |
| Raw materials | 1,44,000 | 1,16,000 | 40,000 |
| Wages paid | 2,20,000 | 2,24,800 | 28,000 |
| General charges | 8,000 | 5,600 | 2,000 |
| Plant installed | 40,000 | 32,000 | 24,000 |
| Materials in hand | 8,000 | 8,000 | 4,000 |
| Wages accrued | 8,000 | 8,000 | 3,600 |
| Work certified | 4,00,000 | 3,20,000 | 72,000 |
| Work finished but not certified | 12,000 | 16,000 | 4,200 |
| Cash received in respect of work certified | 3,00,000 | 2,40,000 | 54,000 |

The plant was installed on the date of commencement of each contract; depreciation is to be taken at 10% per annum.

Prepare the contact accounts in Tabular form and show how they would appear in the Balance sheet as on 31st December 2010.

**[Ans: X - Notional profit: Rs. 36,000; Profit taken to P & L A/c: Rs. 18,000; Y - Loss taken fully to P & L A/c: Rs. 12,000; Z - Notional profit: Rs. 6,000; Profit taken to P & L A/c: Nil; Work-in-progress in balance sheet - Total: Rs. 2,06,200; X - Rs. 94,000; Y - Rs. 96,000; Z - Rs. 16,200]**

***IV Incomplete Contracts: With full balance sheet***

35. The Chennai Construction Company, started their contract business on 1.4.2009. During the year the company was engaged in only one contract. The price of the contract was Rs. 3,00,000. During the year materials worth Rs. 6,000 were returned to stores. The work done but uncertified amount to Rs. 31,000 and materials costing Rs. 2,400 were on hand.

Charge 10% depreciation on plant; Prepare contract account from the following trial balance as on 31.3.2010 and balance sheet of the company on that date.

| | Dr. Rs. | Cr. Rs. |
|---|---|---|
| Share capital | | 37,000 |
| Cash received from contractee at 80% of work certified | | 1,20,000 |
| *Charged to contract:* | | |
| Materials | 54,000 | |
| Plant | 15,000 | |
| Wages | 84,000 | |
| Sundry charges | 4,000 | |
| | 1,57,000 | 1,57,000 |

**[Ans: Notional profit: Rs. 45,900;**
**Profit credited to P & L A/c: Rs. 24,480**
**Profit kept in reserve: Rs. 21,420;**
**Work-in-progress in balance sheet: Rs. 39,580;**
**Balance sheet total: Rs. 61,480]**

36. Haritha Ltd., a construction company having an authorised capital of Rs. 1,00,000 divided into 1,000 ordinary shares of Rs. 100 each, commenced operations on 1st January 2008 and during the year was engaged in one contract. The contract price was Rs. 4,00,000. The trial balance extracted from their books on 31st December 2008 stood as follows:

| | *Rs.* | *Rs.* |
|---|---|---|
| Share capital | | 80,000 |
| Sundry creditors | | 8,000 |
| Land & Buildings at cost | 34,000 | |
| Cash at bank | 9,000 | |
| Materials | 80,000 | |
| Plant | 15,000 | |
| Wages | 1,05,000 | |
| Expenses | 5,000 | |
| Cash received being 80% of work certified | | 1,60,000 |
| | 2,48,000 | 2,48,000 |

Of the plant and materials charged to the contract plant costing Rs. 2,000 and materials costing Rs. 2,000 were destroyed in an accident. On 31st Dec. 2008, plant which cost Rs. 4,000 was returned to stores. Value of material on site was 4,000 and cost of work done but not certified was Rs. 2,000. Charge depreciation at 10% on plant and carry to profit & Loss A/c two third of profit. Prepare contract account for the year and balance sheet on 31st Dec. 2008, and show your calculation of the amount to be credited to profit and loss account.

**[Ans: Notional profit: Rs. 16,700;**
**Profit carried to P & L A/c: Rs. 8,907;**
**Profit in reserve: Rs. 7,793;**
**Work-in-progress shown is Balance Sheet : Rs. 34,207; Balance sheet total: Rs. 92,907]**

***Hint:*** 2/3rd of profit is carried to P & L A/c as per instruction, but after further adjusting it for cash received *i.e.*, 80%.

37. Sudarshan contractors began to trade on 1st Jan 2006. During 2006 the company was engaged on only one contract of which the contract price was Rs. 5,00,000.

Of the plant and materials charged to contract, plant costing Rs. 5,000 and materials costing Rs. 4,000 were lost in an accident.

On 31st Dec. 2006, plant costing Rs. 5,000 were returned to stores. Cost of work uncertified, but finished Rs. 2,000. Materials costing Rs. 4,000 were in hand on site. Charge 10% depreciation on plant and compile contract account and balance sheet from the following:

| | Rs. | Rs. |
|---|---|---|
| Share capital | | 1,20,000 |
| Creditors | | 10,000 |
| Cash received (80% of work certified) | | 2,00,000 |
| Land and buildings | 43,000 | |
| Bank balance | 25,000 | |
| *Charged to contract:* | | |
| Materials | 90,000 | |
| Plant | 25,000 | |
| Wages | 1,40,000 | |
| Expenses | 7,000 | |
| | 3,30,000 | 3,30,000 |

***[Madras, B.Com(PZ5A) Nov. 2007 B.Com., Oct. 2002; B.Com., March 1994]***

**[Ans: Notional profit: Rs. 21,000;**
**Profit credited to P & L A/c: Rs. 11,200;**
**Profit kept in reserve: Rs. 9,800;**
**Work-in-progress shown in balance sheet: Rs. 42,200;**
**Balance sheet - Total: Rs. 1,32,200]**

38. Vijayan Construction Company Ltd., commenced its business of construction on 1.4.2009. The trial balance as on 31.3.2010 showed the following balances:

| | Dr. | Cr. |
|---|---|---|
| Paid up share capital | | 2,00,000 |
| Cash received on account of contract (80% of work certified) | | 2,40,000 |
| Land and buildings | 60,000 | |
| Machinery at cost (75% at site) | 80,000 | |
| Bank balance | 8,000 | |
| Materials sent to site | 80,000 | |
| Direct labour at site | 1,10,000 | |
| Expenses at site | 4,000 | |
| Lorries & Vehicles | 60,000 | |
| Furniture | 2,000 | |
| Office equipment | 20,000 | |
| Postage and telegrams | 1,000 | |
| Office expenses | 4,000 | |
| Rates & taxes | 6,000 | |
| Fuel and power | 5,000 | |
| | 4,40,000 | 4,40,000 |

The contract price is Rs. 6,00,000 and work certified is Rs. 3,00,000. The work completed since certification is made is valued at Rs. 2,000 (at cost). Machinery costing Rs. 4,000 was returned to stores at the end of the year. Stock of material at site on 31.3.2010 was of the value of Rs. 10,000. Wages outstanding were Rs. 400. Depreciation on machinery is at 10%. You are required to calculate the profit from the contract and prepare the balance sheet of company on 31.3.2010.

**[Ans: Notional profit: Rs. 1,11,600;**
**Profit transferred to P & L A/c: Rs. 59,520;**
**Profit kept in reserve = Rs. 52,080; P & L Balance taken to balance sheet (after all other expenses): Rs. 41,520;**
**Work-in-progress in balance sheet: Rs. 9,920;**
**Total of balance sheet: Rs. 2,41,920]**

***IV. Incomplete Contracts: Estimated profit and Transfer of profit to P & L A/c***

39. Ascertain the profit to be taken to the credit of profit and loss account from the following data:

Contract price Rs. 16,00,000
Cost incurred upto 31.3.2010 Rs. 9,00,000. Time required for completion 3 months
Additional expenditure required for completion Rs. 1,00,000.
Value of work certified Rs. 14,00,000
Cash received Rs. 12,00,000
Cost of work done but not certified Rs. 10,000.

**[Ans: Estimated profit: Rs. 6,00,000;**
**Profit taken to P & L A/c: Rs. 4,50,000**

$$\left(6,00,000 \times \frac{14,00,000}{16,00,000} \times \frac{12,00,000}{14,00,000}\right)]$$

40. Build well Ltd., commenced a contract on 1st Jan. 2009. The total contract was for Rs. 10,00,000 (estimated by the contractee) and was accepted by Build Well Ltd., at 10% less. It was decided to estimate the total profit and to take to the credit of P & L A/c that portion of estimated profit on cash basis which, work completed bore to the total contract. Actual expenditure in 2009 and estimated expenditure in 2008 are give below:

| | *2009 (Actual)* | *2010 (Estimated)* |
|---|---|---|
| | *Rs.* | *Rs.* |
| Materials | 1,50,000 | 2,60,000 |
| Labour: Paid | 1,00,000 | 1,20,000 |
| Accrued | 10,000 | - |
| Plant purchased (cost) | 80,000 | - |
| Expenses | 40,000 | 71,000 |
| Plant returned to store at (cost) | 20,000 | 50,000 |
| | (31st Dec. 2009) | ( on 30.9.2010) |
| Material at site | 10,000 | - |
| Work certified | 4,00,000 | Full |
| Work uncertified | 15,000 | - |
| Cash received | 3,00,000 | Full |

The plant is subject to annual depreciation @ 20% of cost. The contract is likely to be completed on 30th Sep. 2010. Prepare the contract account.

**[Ans: Notional profit: Rs. 1,09,000; Estimated profit: Rs. 1,37,500;**

**Profit credited to P & L A/c: Rs. 45,833** $\left(1,37,500 \times \frac{4,00,000}{9,00,000} \times \frac{3,00,000}{4,00,000}\right)$;

**Profit kept in reserve Rs. 66,500 (1,09,000 - 42,500)**

***Hint:*** Wages for 2010 after reducing accrued wages of 2009 = Rs 1,10,000; Materials for 2010: Rs. 2,50,000 (2,60,000 - 10,000); Plant not returned at the end of contract is to be presumed as normal loss and thus not credited to contract account.

41. An expenditure of Rs. 1,94,000 has been incurred on a contract to the end of 31st March 2001. The value certified is Rs. 2,20,000. The cost of work done but not yet certified is Rs. 6,000. It is estimated that the contract will be completed by 30th June 2001 and an additional expenditure of Rs. 40,000 will have to be incurred to complete the contract.

The total estimated expenditure on the contract is to include a provision of 2.5% for contingencies. The contract price is Rs. 2,80,000 and Rs. 2,00,000 has been realised in cash upto 31st March 2001. Calculate the proportion of profit to be taken to the profit and loss account as on 31st March 2001.

*[Madras, M.Com., April 2001; M.Com., Oct. 1998]*

**[Ans: Estimated profit: Rs. 40,000; Notional profit: Rs. 32,000;**

**Provision for contingencies: Rs. 6,000;**

**Profit to be taken to P & L A/c: Rs. 28,571**

$$\left(40{,}000 \times \frac{2{,}20{,}000}{2{,}80{,}000} \times \frac{2{,}00{,}000}{2{,}20{,}000}\right)]$$

***V. Continuing contracts (or) contracts Spreading over two or more accounting years***

42. The following information relates to a building contract for Rs. 10,00,000

| | 1986 Rs. | 1987 Rs. |
|---|---|---|
| Materials 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 | 8,000 | - |
| Materials at site | 5,000 | 7,000 |
| Plant issued | 14,000 | 2,000 |
| Cash received from contractee | 6,00,000 | 10,00,000 |

The Value of the plant at the end of 1986 and 1987 was Rs. 7,000 and Rs. 5,000 respectively.

Prepare (i) Contract account and (ii) Contractee's account for the two years 1986 and 1987 taking into consideration such profit for transfer to profit and loss account as you think proper.

*[Madras, M.Com., May 1990]*

**[Ans: For 1986: Notional profit: Rs. 1,98,000;**

**Profit taken to P & L A/c: Rs. 1,05,600;**

**For 1987: Profit on contract, fully taken to P & L A/c Rs. 1,32,000]**

43. The following information relates to a contract for Rs. 7,50,000 (The contractee paying 90% of the value of work done and certified by the Architect and rest on completion of the contract) of Murugan Construction Company.

| | *2007* | *2008* | *2009* |
|---|---|---|---|
| Materials | 90,000 | 1,10,000 | 63,000 |
| Wages | 85,000 | 1,15,000 | 85,000 |
| Direct expenses | 3,500 | 12,500 | 4,500 |
| Indirect expenses | 1,500 | 2,000 | – |
| Work certified | 1,75,000 | 5,65,000 | 7,50,000 |
| Work uncertified | – | 10,000 | – |
| Plant | 10,000 | – | – |

The value of plant at the end of 2007, 2008 and 2009 was Rs. 8,000, Rs. 5,000 and Rs. 2,000 respectively.

Prepare contract account for the three years in the book of Murugan Contraction Company.

**[Ans: 2007 - Loss transferred to P & L A/c: Rs. 7,000;**
**2008 - Notional profit: Rs. 1,57,500;**
**Profit credited to P & L A/c: Rs. 94,500; Profit kept in Reserve : Rs. 63,000;**
**2009 : Profit made, fully transferred to P & L A/c : Rs. 82,500]**

44. From the following prepare contract account for three years 1984, 85 and 86.

| | *1984* | *1985* | *1986* |
|---|---|---|---|
| Materials issued | 1,10,000 | 1,20,000 | 80,000 |
| Other charges | 10,000 | 8,000 | 20,000 |
| Wages | 2,20,000 | 60,000 | 2,00,000 |
| Machinery issued | 50,000 | – | – |
| Value of machinery at the end of the year | 45,000 | 40,000 | 36,000 |
| Materials returned | 1,000 | 500 | – |
| Materials at site | 3,000 | 4,000 | 2,000 |
| Work uncertified | 2,000 | 6,000 | – |
| Work certified | 4,00,000 | 10,00,000 | 12,00,000 |

The contract price was Rs. 12,00,000. Cash received was 80% of work certified.

***[Madras, B.Com., Sep. 1987]***

**[Ans:**

| | **1984** | **1985** | **1986** |
|---|---|---|---|
| **Notional profit** | **61,000** | **4,57,233** | **–** |
| **Profit earned** | **–** | **–** | **1,01,375** |
| **Profit credited to P & L A/c** | **16,267** | **2,43,858** | **1,01,375** |
| **Reserve** | **44,733** | **2,13,375** | **–]** |

***VI Escalation Clause***

45. Andal Construction Company undertook a contract on 1.1.2004 for construction of a stadium. With an escalation clause which provides that if materials price and wages rates increase by more than 12% the contractor gets compensation for 35% of such rise in the cost of material and wages beyond 12%. It was agreed that since signing of the agreement materials prices and wages rates have gone up by 42% on an average. The value of work certified does not take into account the effect of escalation clause.

The following are the details to the contract for the year ended 31st December 2004.

| | Rs. |
|---|---|
| Contract price | 3,00,000 |
| Materials issued | 60,000 |
| Wages | 80,000 |
| Overheads | 5,000 |
| Plant installed at the site | 10,000 |
| Material in hand a on 31.12.2004 | 5,000 |
| Work certified | 2,00,000 |
| Cash received | 1,60,000 |
| Depreciate plant at 10% per annum. | |
| Work done but not certified | 5,000 |

Prepare contract account and show the profit to be taken to P & L A/c

**[Ans: Notional profit: Rs. 73,982;**
**Profit transferred to P & L A/c: Rs. 39,457;**
**Compensation for escalation in prices, to be credited to the contract account: On material: Rs. 4,067;**
**On wages: Rs. 5,915; Total: Rs. 9,982]**

**Hint:** Escalation compensation is on material consumed.

46. New Vistas Builders Ltd., undertook a contract on 1st January 2004 with an escalation clause. The clause provided that if materials prices and wage rates increase by more than 10%, the contractor gets compensation for 60% of such rise in the cost of materials and 80% of such rice in wage rates beyond the 10% in each case. It is agreed that since the signing of the agreement till 31st Dec. 2004, the material prices had gone up by 25% and wage rates by 30%. The value of work certified does not take into account the effect of the escalation clause.

The following are the details relating to the contract for the year ended 31.12.2004.

| | Rs. |
|---|---|
| Contract price | 4,00,000 |
| Materials sent to site | 78,800 |
| Wages | 1,26,500 |
| Sundry expenses | 8,000 |
| Plant installed at site | 20,000 |
| Materials on hand | 4,000 |
| Work certified | 2,40,000 |
| Cash received in respect thereof | 1,80,000 |
| Work uncertified | 6,000 |
| Depreciation on plant at 10% p.a | |

Prepare contract account and show the profit to be taken to P & L Account.

***[C.A. Adapted]***

**[Ans: Notional profit: Rs. 55,654; Profit credited to P & L A/c: Rs. 27,827; Escalation compensation to be credited to Contract A/c; On material: Rs. 5,385; On wages: Rs. 15,569; Total: Rs. 20,954]**

*Hint*: For ascertaining escalation compensation, material consumed *i.e.*, 78,000 – 4,000 = Rs. 74,400 should be taken.