

7

Contract Costing

Basic Concepts

Contract Costing	Contract costing is a form of specific order costing where job undertaken is relatively large and normally takes period longer than a year to be getting completed.
Sub-contract	When a contract either completely or partly <i>given to another contractor</i> by the principal contractor (to whom contractee has entered into an agreement) to get the work completed is known as sub-contracting and work given is known as sub-contract work.
Extra work	Any work <i>in addition to the original work</i> for which a contract has been entered into between the contractor and contractee is known as extra work. For the extra work the contractee has to pay separately in addition to original contract value. If the extra work is substantial in volume or value it is treated as separate contract.
Work Certified	The portion of work which is <i>certified as complete</i> by architecture, surveyor, engineer or any other person as may be agreed between the contractor and contractee is called work certified.
Value of Work Certified	The proportion of work certified to the <i>value</i> of contract (contract price) is called value of work certified.
Cost of work certified	The proportion of work certified to the total <i>cost</i> incurred to date is called cost of work certified.
Work uncertified	It represents the <i>cost</i> of the work which has been carried out by the contractor but has not been certified by the architect. It is always shown at cost price.
Progress Payment	Contractors receive payments from the contractees periodically for the work done on the contract. This is known as progress payment or running payment. This is paid on the basis of certificate of work completion issued by the architect or surveyor.

7.2 Cost Accounting

Retention Money	Retention money is a part of the value of work certified which though certified but is not paid by the contractee. Retention amount is kept by the contractee as security amount against any damage.
Work-in-progress	In Contract Accounts, the value of the work-in-progress consists of (i) Value of work certified and (ii) the cost of work uncertified.
Notional profit	It represents the <i>difference between</i> the <i>value</i> of work certified <i>and cost</i> of work certified
Estimated profit	It is the excess of the contract price over the estimated total cost of the contract.
Cost plus contract	Under Cost plus contract, the contract price is ascertained by adding a percentage of profit to the total cost of the work. Such type of contracts are entered into when it is not possible to estimate the contract cost with reasonable accuracy due to unstable condition of material, labour services, etc.
Escalation Clause	Escalation clause is a clause written in the agreement (contract) between the contractor and contractee which states that in case of increase in the prices of materials, wages or other supplies beyond a certain level the contract price will be increased by an agreed amount.
Profits on incomplete contracts	Profits on incomplete contracts are recognised on prudent basis. The overriding principle being that there can be no attributable profit until the outcome of a contract can reasonably be foreseen.

Basic Formulae

Value of work certified	= Value of Contract × Percentage of work certified.
Cost of work certified	= Cost of work to date - (Cost of work uncertified + Materials at site + Plant at site)
Cost of work uncertified	= Cost of work to date – Cost of work certified
Estimated Profit	= Value of Contract – Total estimated cost of contract completion.
Percentage of work Completed	= $\frac{\text{Value of Work Certified}}{\text{Contract Value}} \times 100$
	Profits on Incomplete Contracts

<p>When work on contract has not reasonably advanced</p>	<p>No profit is calculated when work certified is less than 25% of the value of the contract. No Profit is taken</p>
<p>When work certified is 25% or more but less than 50% of the contract price</p>	$\frac{1}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}}$
<p>When work certified is 50% or more but less than 90% of the contract price.</p>	$\frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}}$
<p>When the contract is almost complete i.e. 90% or more of the contract price.</p>	<p>An estimated total profit is determined by deducting aggregate of cost to date and estimated additional expenditure from contract price. A portion of this estimated total profit is credited to profit and loss account. The figure to be credited to profit and loss account is ascertained by adopting any of the following formulae:</p> $\text{Estimated total profit} \times \frac{\text{Work certified}}{\text{Contract price}}$ <p>Or, $\text{Estimated total profit} \times \frac{\text{Cash received}}{\text{Contract price}}$</p> <p>Or, $\text{Estimated total profit} \times \frac{\text{Cost of Work to date}}{\text{Estimated total cost}}$</p> <p>Or, $\text{Estimated total profit} \times \frac{\text{Cost of Work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$</p>
<p>Note: “Students are requested to refer the Study Material and Practice Manual of ‘Accounting’ (Paper-1 CA-Intermediate) to see and learn accounting perspective of contract accounting and applicability of Accounting Standard- 7. Here only specific aspect of Contract Costing is discussed.”</p>	

SECTION-A

Question-1

Write note on cost-plus-contracts.

Solution:

These contracts provide for the payment by the contractee of the actual cost of construction plus a stipulated profit, mutually decided between the two parties.

The main features of these contracts are as follows:

1. The practice of cost-plus contracts is adopted in the case of those contracts where the probable cost of the contracts cannot be ascertained in advance with a reasonable accuracy.
2. These contracts are preferred when the cost of material and labour is not steady and the contract completion may take number of years.
3. The different costs to be included in the execution of the contract are mutually agreed, so that no dispute may arise in future in this respect. Under such type of contracts, contractee is allowed to check or scrutinize the concerned books, documents and accounts.
4. Such a contract offers a fair price to the contractee and also a reasonable profit to the contractor.

The contract price here is ascertained by adding a fixed and mutually pre-decided component of profit to the total cost of the work.

Question-2

Write notes on Escalation Clause.

Solution:

Escalation Clause: This clause is usually provided in the contracts as a safeguard against any likely changes in the price or utilization of material and labour. If during the period of execution of a contract, the prices of materials or labour rise beyond a certain limit, the contract price will be increased by an agreed amount. Inclusion of such a term in a contract deed is known as an 'escalation clause'.

An escalation clause usually relates to change in price of inputs, it may also be extended to increased consumption or utilization of quantities of materials, labour etc (where it is beyond the control of the contractor). In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency.

Question-3

Discuss briefly the principles to be followed while taking credit for profit on incomplete contracts.

Solution:

Principles to be followed while taking credit for profit on incomplete contracts:

The portion of profit to be credited to, Costing profit and loss account should depend on the stage of completion of the contract. This stage of completion of the contract should refer to the certified work only. For this purpose, uncertified work should not be considered as far as possible. For determining the credit for profit, all the incomplete contracts should be classified into the following four categories.

- (i) Contract less than 25% complete
- (ii) Contracts is 25% or more but less than 50% complete
- (iii) Contracts is 50% or more but less than 90% complete
- (iv) Contracts nearing completion, say between 90% and 100% complete.

The transfer of profit to the costing profit and loss account in each of the above cases is done as under:

- (i) *Contract less than 25% complete:* If the contract has just started or it is less than 25% complete, no profit should be taken into account.
- (ii) *Contract is 25% or more but less than 50% complete:* In this case one third of the notional profit reduced in the ratio of cash received to work certified, may be transferred to the profit and loss account. The amount of profit to be transferred to the profit and loss account may be determined by using the following formula:

$$\frac{1}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

- (iii) *Contract is 50% or more but less than 90% complete:* In this case, two third of the notional profit, reduced by the portion of cash received to work certified may be transferred to the profit and loss account. In this case the formula to be used is as under:

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

- (iv) *Contracts nearing completion, say between 90% and 100% complete:* When a contract is nearing completion or 90% or more work has been done on a contract. The amount of profit to be credited to costing profit and loss account may be determined by using any one of the following formula.

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

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

7.6 Cost Accounting

$$\text{or Estimated profit} \times \frac{\text{Cash Received}}{\text{Contract price}}$$

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

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

$$(e) \text{ Notional profit} \times \frac{\text{Work certified}}{\text{Contract price}}$$

Question-4

Explain the following:

- (i) *Notional profit in Contract costing*
- (ii) *Retention money in Contract costing*

Solution:

- (i) **Notional profit in Contract costing:** It represents the difference between the value of work certified and cost of work certified.

Notional Profit = Value of work certified – (Cost of works to date – Cost of work not yet certified)

- (ii) **Retention Money in Contract Costing:** A contractor does not receive the full payment of the work certified by the surveyor. Contractee retains some amount to be paid after some time, when it is ensured that there is no default in the work done by the contractor. If any deficiency or defect is noticed, it is to be rectified by the contractor before the release of the retention money. Thus, the retention money provides a safeguard against the default risk in the contracts.
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Question 5

What is cost plus contract? State its advantages.

Solution

Cost plus contract: Under cost plus contract, the contract price is ascertained by adding a percentage of profit to the total cost of the work. Such types of contracts are entered into when it is not possible to estimate the contract cost with reasonable accuracy due to unstable condition of material, labour services etc.

Following are the advantages of cost plus contract:

- (i) The contractor is assured of a fixed percentage of profit. There is no risk of incurring any loss on the contract.
- (ii) It is useful specially when the work to be done is not definitely fixed at the time of making the estimate.
- (iii) Contractee can ensure himself about the 'cost of contract' as he is empowered to examine the books and documents of the contractor to ascertain the veracity of the cost of contract.

Question 6

Explain the importance of an Escalation Clause in contract cost.

Solution

During the execution of a contract, the prices of materials, or labour etc., may rise beyond a certain limit. In such a case the contract price will be increased by an agreed amount. Inclusion of such a clause in a contract deed is called an Escalation Clause.

SECTION- B

Question 1

Arnav Construction Ltd. commenced a contract on November 1, 2012. The total contract was for ₹ 39,37,500. It was decided to estimate the total profit on the contract and to take to the credit of Costing Profit & Loss A/c that proportion of estimated profit on cash basis, which work completed bore to the total contract. Actual expenditure for the period November 1, 2012 to October 31, 2013 and estimated expenditure for November 1, 2013 to March 31, 2014 are given below:

	<i>November 1,2012 to October 31, 2013 (Actual) (₹)</i>	<i>November 1,2013 to March 31 , 2014 (Estimated) (₹)</i>
<i>Material issued</i>	<i>6,75,000</i>	<i>12,37,500</i>
<i>Labour Paid</i>	<i>4,50,000</i>	<i>5,62,500</i>
<i>Prepaid</i>	<i>25,000</i>	<i>---</i>
<i>Outstanding</i>	<i>---</i>	<i>2,500</i>
<i>Plant purchased</i>	<i>3,75,000</i>	<i>---</i>
<i>Expenses Paid</i>	<i>2,00,000</i>	<i>3,50,000</i>
<i>Outstanding</i>	<i>50,000</i>	<i>25,000</i>

7.8 Cost Accounting

<i>Plant returned to store (Historical cost)</i>	<i>75,000 (on March 31, 2013)</i>	<i>3,00,000 (on March 31, 2014)</i>
<i>Work certified</i>	<i>20,00,000</i>	<i>Full</i>
<i>Work uncertified</i>	<i>75,000</i>	<i>---</i>
<i>Cash received</i>	<i>17,50,000</i>	<i>---</i>
<i>Material at site</i>	<i>75,000</i>	<i>37,500</i>

The plant is subject to annual depreciation @ 33.33% on written down value method. The contract is likely to be completed on March 31, 2014.

Required

Prepare the Contract A/c. Determine the profit on the contract for the year November, 2012 to October, 2013 on prudent basis, which has to be credited to Costing Profit & Loss A/c.

Solution

Arnav Construction Ltd. Contract A/c (November 1, 2012 to Oct. 31, 2013)

Dr.	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)	Dr.
To Materials issued		6,75,000	By Plant returned to store on 31/03/13 at cost	75,000		
To Labour paid	4,50,000		Less: Depreciation for 5 months @ 33.33%	(10,417)	64,583	
Less: Prepaid wages	(25,000)	4,25,000	By W-I-P:			
To Plant purchased & issued		3,75,000	Work certified	20,00,000		
To Expenses paid	2,00,000		Work un-certified	75,000	20,75,000	
Add: Outstanding exp.	50,000	2,50,000	By Plant at site (₹ 3,75,000 – ₹ 75,000)	3,00,000		
			Less: Depreciation @33.33%	1,00,000	2,00,000	
To Notional profit c/d		6,89,583	By Material at site		75,000	
		24,14,583			24,14,583	
To Costing P & L A/c (Working Note-1)		1,48,580	By Notional Profit b/d		6,89,583	
To Work-in –progress (Profit transferred to reserve)		5,41,003				
		6,89,583			6,89,583	

Arnav Construction Ltd. Contract A/c (November 1, 2012 to March 31, 2014)
(For computing estimated profit)

Dr.		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To Material issued (₹ 6,75,000 + ₹ 12,37,500)	19,12,500	By Material at site	37,500
To Labour (Paid & Outstanding) (₹4,25,000 + ₹5,87,500 + ₹2,500)	10,15,000	By Plant returned to stores on 31/03/13	64,583
To Plant purchased	3,75,000	By Plant returned to stores on 31/03/14	
To Expenses (2,50,000 + 3,25,000)	5,75,000	WDV on 31/10/2013	2,00,000
		Less: Depreciation for 5 months @ 33.33%	(27,778)
To Estimated profit	3,34,305	By Contractee A/c	39,37,500
	42,11,805		42,11,805

Working Note:

Profit to be taken to Costing Profit & Loss A/c on prudent basis:

$$\text{Estimated profit} \times \frac{\text{Cash received}}{\text{Work certified}} \times \frac{\text{Work certified}}{\text{Total Contract}}$$

$$₹ 3,34,305 \times \frac{₹ 17,50,000}{₹ 20,00,000} \times \frac{₹ 20,00,000}{₹ 39,37,500} = ₹ 1,48,580$$

Question 2

Paramount Engineers are engaged in construction and erection of a bridge under a long-term contract. The cost incurred upto 31.03.2014 was as under:

	Amount (₹) in lakhs
<i>Fabrication Costs:</i>	
<i>Direct Materials</i>	280
<i>Direct Labour</i>	100
<i>Overheads</i>	60
	440
<i>Erection Cost to date</i>	110
	550

7.10 Cost Accounting

The contract price is ₹ 11 crores and the cash received on account till 31.03.2014 was ₹ 6 crores. The technical estimate of the contract indicates the following degree of completion of work. Fabrication – Direct Material – 70%, Director Labour and Overheads 60% Erection – 40%.

You are required to estimate the profit that could be taken to Costing Profit and Loss Account against this partly completed contract as at 31.03.2014.

Solution

Estimation of Profit to be taken to Profit and Loss Account against partly completed contract as at 31.03.2014.

$$\begin{aligned} \text{Profit to be taken to P/L Account} &= \frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}} \\ &= \frac{2}{3} \times ₹ 92.48 \text{ lakhs} \times \frac{₹ 600 \text{ lakhs}}{₹ 642.48 \text{ lakhs}} = ₹ 57.58 \text{ lakhs} \end{aligned}$$

(Refer to Working Notes 1,2,3 & 4)

Working Notes :

- Statement showing estimated profit to date and future profit on the completion of contract

Particulars	Cost to date		Further Costs		Total Cost (₹) (a) + (b)
	(%) Completion to date	Amount (₹) (a)	(%) completion to be done	Amount (₹) (b)	
<i>Fabrication costs:</i>					
Direct material	70	280.00	30	120.00	400.00
Direct labour	60	100.00	40	66.67	166.67
Overheads	60	60.00	40	40.00	100.00
Total Fabrication cost (A)		440.00		226.67	666.67
Erection cost: (B)	40	110.00	60	165.00	275.00
Total estimated costs (A+B)		550.00		391.67	941.67
Profit		92.48		65.85	158.33
		642.48		457.52	1,100.00

- Profit to date (Notional Profit) and future profit are calculated as below:

$$\text{Profit to date (Notional Profit)} = \frac{\text{Estimated profit on the whole contract} \times \text{Cost to date}}{\text{Total Cost}}$$

$$= \frac{\text{₹ } 158.33 \times \text{₹ } 550}{\text{₹ } 941.67} = \text{₹ } 92.48 \text{ (lakhs)}$$

Future Profit = ₹ 158.33 – ₹ 92.48 = ₹ 65.85

3. Work certified:

= Cost of the contract to date + Profit to date

= ₹ 550 + ₹ 92.48 = ₹ 642.48 lakhs

4. Degree of Completion of Contract to date:

$$= \frac{\text{Work Certified}}{\text{Contract Price}} \times 100 = \frac{\text{₹ } 642.48 \text{ lakhs}}{\text{₹ } 1,100 \text{ lakhs}} \times 100 = 58.40\%$$

Question 3

A construction company undertook a contract at an estimated price of ₹ 108 lakhs, which includes a budgeted profit of ₹ 18 lakhs. The relevant data for the year ended 31.03.2014 are as under:

	(₹ '000)
Materials issued to site	5,000
Direct wages paid	3,800
Plant hired	700
Site office costs	270
Materials returned from site	100
Direct expenses	500
Work certified	10,000
Progress payment received	7,200

A special plant was purchased specifically for this contract at ₹ 8,00,000 and after use on this contract till the end of 31.02.2014, it was valued at ₹ 5,00,000. This cost of materials at site at the end of the year was estimated at ₹ 18,00,000. Direct wages accrued as on 31.03.2014 was ₹ 1,10,000.

Required

Prepare the Contract Account for the year ended 31st March, 2014 and compute the profit to be taken to the Costing Profit and Loss account.

7.12 Cost Accounting

Solution

Contract Account for the year ended 31st March, 2014

	(₹'000)		(₹' 000)
To Material issued to site	5,000	By Material at site	1,800
To Direct wages 3,800		By Material returned	100
Add: Outstanding wages <u>110</u>	3,910	By Cost of contract	8,780
To Plant hire	700		
To Site office cost	270		
To Direct expenses	500		
To Depreciation (special plant)	300		
	10,680		10,680
To Cost of contract	8,780	By Work certified	10,000
To Profit & Loss A/c	1,200		
To W-I-P (Profit in reserve) c/d	20		
	10,000		10,000

Working Notes

- Percentage of contract completion = $\frac{\text{Value of work certified}}{\text{Value of the contract}} \times 100 = \frac{100 \text{ lakhs}}{108 \text{ lakhs}} \times 100 = 92.59\%$
- Since the percentage of Contract completion is more than 90% therefore the profit to be taken to Profit and Loss Account can be computed by using the following formula.

Profit to be taken to P & L A/c

$$= \text{Budgeted/ Estimated Profit} \times \frac{\text{Cash received}}{\text{Work certified}} \times \frac{\text{Work certified}}{\text{Contract price}}$$

$$= 1,800 \times \frac{7,200}{10,000} \times \frac{10,000}{10,800} = ₹ 1,200 \text{ lakhs.}$$

Question 4

Modern Construction Ltd. obtained a contract No. B-37 for ₹ 40 lakhs. The following balances and information relate to the contract for the year ended 31st March, 2014:

	1.4.2013 (₹)	31.3.2014 (₹)
<i>Work-in-progress:</i>		
<i>Work certified</i>	9,40,000	30,00,000
<i>Work uncertified</i>	11,200	32,000

Materials at site	8,000	20,000
Accrued wages	5,000	3,000

Additional information relating to the year 2013-2014 are:

	(₹)
Materials issued from store	4,00,000
Materials directly purchased	1,50,000
Wages paid	6,00,000
Architect's fees	51,000
Plant hire charges	50,000
Indirect expenses	10,000
Share of general overheads for B-37	18,000
Materials returned to store	25,000
Materials returned to supplier	15,000
Fines and penalties paid	12,000

The contractee pays 80% of work certified in cash. You are required to prepare:

- (i) Contract Account showing clearly the amount of profits transferred to Profit and Loss Account.
- (ii) Contractee's Account.
- (iii) Balance Sheet

Solution:

**Books of Modern Constructions Ltd.
Contract No. B-37 Account for the year ended 31st March, 2014**

Particulars	(₹)	Particulars	(₹)
To WIP b/d:		By Materials returned to Store	25,000
- Work certified	9,40,000	By Material returned to suppliers	15,000
- Work uncertified	11,200	By WIP c/d :	
To Stock (Materials) b/d	8,000	Work Certified 30,00,000	
To Materials issued	4,00,000	Uncertified work <u>32,000</u>	30,32,000
To Materials purchased	1,50,000	By Materials stock c/d	20,000
To Wages paid 6,00,000			
Less: Opening O/s (5,000)			
Add: Closing O/s <u>3,000</u>	5,98,000		

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To Architect's fees	51,000		
To Plant Hire charges	50,000		
To Indirect expenses	10,000		
To General overheads	18,000		
To Notional profit c/d	8,55,800		
	30,92,000		30,92,000
To Profit and Loss A/c $\left(\frac{2}{3} \times ₹ 8,55,800 \times \frac{80}{100}\right)$	4,56,427	By Notional Profit b/d	8,55,800
To WIP Reserve c/d	3,99,373		
	8,55,800		8,55,800

Note: Fines and penalties are not shown in contract accounts.

Contractee's Account

	(₹)		(₹)
To Balance c/d	24,00,000	By Balance b/d (80% of 9,40,000)	7,52,000
		By Bank	16,48,000
	24,00,000		24,00,000

Balance Sheet (Extract) as on 31.3.2014

	(₹)		(₹)
P & L A/c	4,56,427	Materials stock at site	20,000
Less: Fines	<u>12,000</u>	Materials stock in store	25,000
Outstanding wages	3,000	WIP:	
		Work Certified	30,00,000
		Work Uncertified	<u>32,000</u>
			30,32,000
		Less: Advance	<u>24,00,000</u>
			6,32,000
		Less: WIP Reserve	<u>3,99,373</u>
			2,32,627

Question 5

Compute a conservative estimate of profit on contract (which has been 90% complete) from the following particulars:

	(₹)
Total expenditure to date	22,50,000
Estimated further expenditure to complete the contract (including contingencies)	2,50,000
Contract Price	32,50,000
Work certified	27,50,000
Work uncertified	1,75,000
Cash received	21,25,000

Solution:

The contract is 90% complete; the method used for transfer of profit to Costing Profit and Loss Account for the current year will be on the basis of estimated profit on completed contract basis.

Profit to be credited in Costing Profit & Loss Account

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

Estimated profit on completed contract basis

$$= \text{Contract Price} - (\text{Total expenditure to date} + \text{Estimated further expenditure to complete contract})$$

$$= ₹ 32,50,000 - (₹ 22,50,000 + ₹ 2,50,000)$$

$$= ₹ 7,50,000.$$

$$\text{Credit to Costing Profit & Loss Account} = 7,50,000 \times \frac{27,50,000}{32,50,000} \times \frac{21,25,000}{27,50,000} = ₹ 4,90,385$$

Question 6

A contract expected to be completed in year 4, exhibits the following information:

End of Year	Value of work certified	Cost of work to date	Cost of work not yet certified	Cash received
	(₹)	(₹)	(₹)	(₹)
1.	0	50,000	50,000	0
2.	3,00,000	2,30,000	10,000	2,75,000
3.	8,00,000	6,60,000	20,000	7,50,000

The contract price is ₹ 10,00,000 and the estimated profit is 20%.

7.16 Cost Accounting

You are required to calculate, how much profit should have been credited to the Profit and Loss A/c by the end of years 1, 2 and 3.

Solution:

End of year	Value of work certified (₹)	Cost of work certified* (₹)	Notional profit** (₹)	Amount that should have been credited to Profit and Loss A/c by the end of year (₹)
1	0	0	0	0
2	3,00,000	2,20,000	80,000	$\frac{1}{3} \times 80,000 \times \frac{2,75,000}{3,00,000} = 24,444$
3	8,00,000	6,40,000	1,60,000	$\frac{2}{3} \times 1,60,000 \times \frac{7,50,000}{8,00,000} = 1,00,000$

Workings:

End of year	Completion of Contract	Profit credited to P & L Account
Year 1	less than 25 per cent.	No profit credited
Year 2	25 per cent or more than 25 per cent but less than 50 per cent.	Cumulative profit = $\frac{1}{3} \times \text{notional profit} \times \frac{\text{Cash received}}{\text{Value of work certified}}$
Year 3	50 per cent or more than 50 per cent but less than 90 per cent.	Cumulative profit = $\frac{2}{3} \times \text{notional profit} \times \frac{\text{Cash received}}{\text{Value of work certified}}$

* Cost of Work Certified = Cost of work to date – Cost of work not yet certified

** Notional Profit = Value of Work Certified – (Cost of Work to date – Cost of Work not yet certified)

Question 7

A contract is estimated to be 80% complete in its first year of construction as certified. The contractee pays 75% of value of work certified, as and when certified and makes the final payment on the completion of contract. Following information is available for the first year:

	(₹)
Cost of work-in-progress uncertified	8,000
Profit transferred to Costing P & L A/c at the end of year- 1 on incomplete contract	6,000
Cost of work to date	88,000

Calculate the value of work- in-progress certified and amount of contract price.

Solution:

As the contract is 80% complete, so 2/3rd of the notional profit on cash basis has been transferred to Profit & Loss A/c in the first year of contract.

$$\therefore \text{Amount transferred to Profit \& Loss A/c} = \frac{2}{3} \times \text{Notional Profit} \times \% \text{ of cash received}$$

$$\text{Or,} \quad 6,000 = \frac{2}{3} \times \text{Notional Profit} \times \frac{75}{100}$$

$$\text{Or,} \quad \text{Notional Profit} = \frac{6,000 \times 3 \times 100}{2 \times 75} = ₹12,000$$

Computation of Value of Work Certified

	(₹)
Cost of work to date	88,000
Add: Notional profit	12,000
	1,00,000
Less: Cost of work uncertified	8,000
Value of work certified	92,000

Computation of Contract price:

Since the Value of Work Certified is 80% of the Contract Price, therefore

$$\begin{aligned} \text{Contract Price} &= \frac{\text{Value of Work Certified}}{80\%} \\ &= \frac{₹92,000}{80\%} = ₹1,15,000. \end{aligned}$$

Question 8

SB Constructions Limited has entered into a big contract at an agreed price of ₹ 1,50,00,000 subject to an escalation clause for material and labour as spent out on the contract and corresponding actual are as follows:

Material:	Standard		Actual	
	Quantity	Rate per Ton	Quantity	Rate per Ton
	(Tons)	(₹)	(Tons)	(₹)
A	3,000	1,000	3,400	1,100
B	2,400	800	2,300	700
C	500	4,000	600	3,900
D	100	30,000	90	31,500

7.18 Cost Accounting

<i>Labour:</i>	<i>Hours</i>	<i>Hourly Rate</i> (₹)	<i>Hours</i>	<i>Hourly Rate</i> (₹)
<i>L₁</i>	60,000	15	56,000	18
<i>L₂</i>	40,000	30	38,000	35

You are required to:

- Give your analysis of admissible escalation claim and determine the final contract price payable.
- Prepare the contract account, if the all expenses other than material and labour related to the contract are ₹ 13,45,000.

Solution

In case of escalation clause in a contract, a contractor is paid for the any increase in price of materials and rate of labours which are beyond the control of the contractor. Any increase in the cost due to inefficiencies in usage of the materials and labours are not admissible. Thus any increase in cost due to usage in excess of standard quantity or hours are not paid.

- Statement showing Additional claim due to Escalation clause.

	Standard Qty / Hours	Std. Rate (₹)	Actual Rate (₹)	Variation in Rate (₹)	Escalation claim (₹)
	(a)	(b)	(c)	(d) = (c-b)	(e) = (a × d)
Material:					
A	3,000	1,000	1,100	+100	+3,00,000
B	2,400	800	700	-100	-2,40,000
C	500	4,000	3,900	-100	-50,000
D	100	30,000	31,500	+1,500	+1,50,000
Material escalation claim					1,60,000
Labour:					
L ₁	60,000	15	18	+3	+1,80,000
L ₂	40,000	30	35	+5	+2,00,000
Labour escalation claim					3,80,000

Statement showing Final Contract Price

	(₹)	(₹)
Agreed contract price		1,50,00,000
Add: Agreed escalation claim:		
Material Cost	1,60,000	
Labour Cost	3,80,000	5,40,000
Final Contract Price		1,55,40,000

(ii)

Contract Account

Dr.			Cr.	
Particulars		(₹)	Particulars	(₹)
To Material:			By Contractee's A/c	1,55,40,000
A – (3,400 × ₹ 1,100)	37,40,000			
B – (2,300 × ₹ 700)	16,10,000			
C – (600 × ₹ 3,900)	23,40,000			
D – (90 × ₹ 31,500)	28,35,000	1,05,25,000		
To Labour:				
L ₁ – (56,000 × ₹18)	10,08,000			
L ₂ – (38,000 × ₹35)	13,30,000	23,38,000		
To Other expenses		13,45,000		
To Estimated Profit		13,32,000		
		1,55,40,000		1,55,40,000

Question 9

PQR Construction Ltd. commenced a contract on April 1, 2013. The total contract was for ₹ 27,12,500. It was decided to estimate the total profit and to take to the credit of Costing P & L A/c the proportion of estimated profit on cash basis which work completed bear to the total contract. Actual expenditure in 2013-14 and estimated expenditure in 2014-15 are given below:

	2013-14	2014-15
	Actual (₹)	Estimated (₹)
Material issued	4,56,000	8,14,000
Labour : Paid	3,05,000	3,80,000
: Outstanding at end	24,000	37,500
Plant purchased	2,25,000	-
Expenses : Paid	1,00,000	1,75,000
: Outstanding at the end	-	25,000
: Prepaid at the end	22,500	-
Plant returned to stores (a historical stores)	75,000	1,50,000 (on Dec. 31 2014)
Material at site	30,000	75,000
Work-in progress certified	12,75,000	Full
Work-in-progress uncertified	40,000	----
Cash received	10,00,000	Full

7.20 Cost Accounting

The plant is subject to annual depreciation @ 20% of WDV cost. The contract is likely to be completed on December 31, 2014.

Required:

- Prepare the Contract A/c for the year 2013-14.
- Estimate the profit on the contract for the year 2013-14 on prudent basis which has to be credited to Costing P & L A/c.

Solution

PQR Construction Ltd.
Contract A/c
(April 1, 2013 to March 31, 2014)

Particulars	Amount (₹)	Particulars	Amount (₹)
To Materials Issued	4,56,000	By Plant returned to Stores (Working Note 1)	60,000
To Labour 3,05,000		By Materials at Site	30,000
Add: Outstanding <u>24,000</u>	3,29,000	By W.I.P.	
To Plant Purchased	2,25,000	Certified 12,75,000	
To Expenses 1,00,000		Uncertified <u>40,000</u>	13,15,000
Less: Prepaid <u>22,500</u>	77,500	By Plant at Site (Working Note 2)	1,20,000
To Notional Profit c/d	4,37,500		
	15,25,000		15,25,000
To Costing Profit & Loss A/c (Refer to Working Note 5)	1,59,263	By Notional Profit b/d	4,37,500
To Work-in-Progress A/c (Profit-in-reserve)	2,78,237		
	4,37,500		4,37,500

PQR Construction Ltd.
Contract A/c
(April 1, 2013 to December 31, 2014)
(For Computing estimated profit)

Particulars	Amount (₹)	Particulars	Amount (₹)
To Materials Issued (₹ 4,56,000+ ₹ 8,14,000)	12,70,000	By Material at Site	75,000
To Labour Cost (₹ 3,05,000 + ₹ 24,000 + ₹ 3,56,000* + ₹ 37,500)	7,22,500	By Plant returned to Stores on 31.3.2014.	60,000

To Plant purchased	2,25,000	By Plant returned to Stores on 31.12.2014 (Working Note 3)	1,02,000
To Expenses (₹ 77,500 + ₹ 1,97,500 + ₹25,000)	3,00,000	By Contractee A/c	27,12,500
To Estimated profit	4,32,000		
	29,49,500		29,49,500

* Labour paid in 2014-15: ₹ 3,80,000 – ₹ 24,000 = ₹ 3,56,000

Working Notes

	(₹)
1. Value of the Plant returned to Stores on 31.03.2014 Historical Cost of the Plant returned Less: Depreciation @ 20% of WDV for one year	75,000 <u>(15,000)</u> 60,000
2. Value of Plant at Site 31.03.2014 Historical Cost of Plant at Site (₹ 2,25,000 – ₹ 75,000) Less: Depreciation @ 20% on WDV for one year	1,50,000 <u>(30,000)</u> 1,20,000
3. Value of Plant returned to Stores on 31.12.2014 Value of Plant (WDV) on 31.3.2014 Less: Depreciation @ 20% of WDV for a period of 9 months	1,20,000 <u>(18,000)</u> 1,02,000
4. Expenses Paid for the year 2013-14 Total expenses paid Less: Pre-paid at the end	1,00,000 <u>(22,500)</u> 77,500
5. Profit to be credited to Costing Profit & Loss A/c on March 31,2014 for the Contract likely to be completed on December 31,2014. $\text{Estimated Profit} \times \frac{\text{Work Certified}}{\text{Total Contract Price}} \times \frac{\text{Cash received}}{\text{Work Certified}}$ $= ₹4,32,000 \times \frac{12,75,000}{27,12,500} \times \frac{10,00,000}{12,75,000}$	1,59,263

Question 10

A contractor commenced a contract on 01-07-2013. The costing records concerning the said contract reveal the following information as on 31-03-2014.

7.22 Cost Accounting

	Amount (₹)
Material sent to site	7,74,300
Labour paid	10,79,000
Labour outstanding as on 31-03-2014	1,02,500
Salary to Engineer	20,500 per month
Cost of plant sent to site (01-07-2013)	7,71,000
Salary to Supervisor (3/4 time devoted to contract)	9,000 per month
Administration & other expenses	4,60,600
Prepaid Administration expenses	10,000
Material in hand at site as on 31-03-2014	75,800

Plant used for the contract has an estimated life of 7 years with residual value at the end of life ₹ 50,000. Some of material costing ₹ 13,500 was found unsuitable and sold for ₹ 10,000. Contract price was ₹ 45,00,000. On 31-03-2014 two third of the contract was completed. The architect issued certificate covering 50% of the contract price and contractor has been paid ₹ 20,00,000 on account. Depreciation on plant is charged on straight line basis.

Prepare Contract Account.

Solution:

Contract Account (For the period 01.07.13 to 31.03.14)

Particulars	Amount (₹)	Particulars	Amount (₹)
To Material Issued	7,74,300	By Material (Sold)	10,000
To Labour	10,79,000	By Costing P&L A/c (Loss) (₹ 13,500- ₹10,000)	3,500
Add: Outstanding	<u>1,02,500</u>	By Material in hand	75,800
To Salary to engineer (₹20,500 x 9 months)	1,84,500	By Cost of Contract c/d	26,39,600
To Salary to Supervisor (₹ 9,000 × $\frac{3}{4}$ × 9 months)	60,750		
To Administration & other expenses	4,60,600		
Less: Prepaid	<u>10,000</u>		
	4,50,600		

To Depreciation on Plant (Working Note 1)	77,250		
	27,28,900		27,28,900
To Cost of Contract b/d	26,39,600	By Work-in Progress:	
To Notional Profit c/d	2,70,300	-Work certified (50% of ₹45,00,000)	22,50,000
		-Work uncertified (Working Note 2)	6,59,900
	29,09,900		29,09,900
To Costing P&L A/c (Working Note 3)	1,60,178	By Notional Profit b/d	2,70,300
To Work-in-progress (transferred to Reserve)	1,10,122		
	2,70,300		2,70,300

Working Note

1. Calculation of depreciation on Plant

$$\frac{\text{Cost of the plant} - \text{Residual value}}{7 \text{ years}} \times \frac{9 \text{ months}}{12 \text{ months}}$$

$$\frac{\text{₹ } 7,71,000 - \text{₹ } 50,000}{7 \text{ years}} \times \frac{9 \text{ months}}{12 \text{ months}} = \text{₹ } 77,250$$

2. Cost of the Work uncertified = (Cost incurred to date) – (50% of the total cost of contract)

$$= \text{₹ } 26,39,600 - \left(\text{₹ } 26,39,600 \times \frac{3}{2} \times \frac{1}{2} \right) = \text{₹ } 6,59,900$$

3. Calculation of Profit to be transferred = $\frac{2}{3} \times \text{₹ } 2,70,300 \times \frac{\text{₹ } 20,00,000}{\text{₹ } 22,50,000} = \text{₹ } 1,60,178$

Question 11

From the following particulars compute a conservative estimate of profit by 4 methods on a contract which has 80 percent complete:

	(₹)
Total expenditure to date	8,50,000
Estimate further expenditure to complete the contract	1,70,000

7.24 Cost Accounting

<i>Contract Price</i>	<i>15,30,000</i>
<i>Work Certified</i>	<i>10,00,000</i>
<i>Work not certified</i>	<i>85,000</i>
<i>Cash received</i>	<i>8,16,000</i>

Solution:

Working Notes:

(i) Calculation of Notional Profit

$$\begin{aligned} &= (\text{Work certified} + \text{work not certified}) - \text{Total expenditure to date} \\ &= (\text{₹ } 10,00,000 + \text{₹ } 85,000) - \text{₹ } 8,50,000 = \text{₹ } 2,35,000 \end{aligned}$$

(ii) Calculation of Estimated Profit

$$\begin{aligned} &\text{Contract Price} - (\text{Expenditure to date} + \text{Further expenditure to be incurred}) \\ &= \text{₹ } 15,30,000 - \text{₹ } (8,50,000 + 1,70,000) = \text{₹ } 5,10,000 \end{aligned}$$

Computation of Conservative Estimate of Profit by following methods:

$$\begin{aligned} 1. \quad &\text{Notional Profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{work certified}} \\ &= \text{₹ } 2,35,000 \times \frac{2}{3} \times \frac{\text{₹ } 8,16,000}{\text{₹ } 10,00,000} = \text{₹ } 1,27,840 \end{aligned}$$

$$\begin{aligned} 2. \quad &\text{Estimated Profit} \times \frac{\text{Cost of work done}}{\text{Estimated total Cost}} \times \frac{\text{Cash received}}{\text{work certified}} \\ &= \text{₹ } 5,10,000 \times \frac{8,50,000}{(8,50,000 + 1,70,000)} \times \frac{8,16,000}{10,00,000} = \text{₹ } 3,46,800 \end{aligned}$$

$$\begin{aligned} 3. \quad &\text{Estimated Profit} \times \frac{\text{Cash received}}{\text{Contract Price}} \\ &= \text{₹ } 5,10,000 \times \frac{8,16,000}{15,30,000} = \text{₹ } 2,72,000 \end{aligned}$$

$$\begin{aligned} 4. \quad &\text{Notional Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} \times \frac{\text{Cash Received}}{\text{Work Certified}} \\ &= \text{₹ } 2,35,000 \times \frac{10,00,000}{15,30,000} \times \frac{8,16,000}{10,00,000} = \text{₹ } 1,25,333 \end{aligned}$$

$$5. \quad \text{Estimated Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} = \text{₹ } 5,10,000 \times \frac{10,00,000}{15,30,000} = \text{₹ } 3,33,333$$

$$6. \quad \text{Estimated Profit} \times \frac{\text{Cost of work done}}{\text{Estimated total Cost}} = ₹ 5,10,000 \times \frac{8,50,000}{10,20,000} = ₹ 4,25,000$$

$$7. \quad \text{Notional Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} = ₹ 2,35,000 \times \frac{10,00,000}{15,30,000} = ₹ 1,53,595$$

Most conservative Profit is ₹ 1,25,333, therefore profit to be transferred to Profit and Loss a/c is ₹ 1,25,333.

Question 12

M/s ABID Constructions undertook a contract at a price of ₹ 171.00 lacs. The relevant data for the year ended 31st March, 2014 are as under:

	(₹000)
<i>Material issued at site</i>	7700
<i>Direct Wages paid</i>	3300
<i>Site office cost</i>	550
<i>Material return to store</i>	175
<i>Work certified</i>	12650
<i>Work uncertified</i>	225
<i>Progress Payment Received</i>	10120
<i>Prepaid site office cost as on 31-03-2014</i>	50
<i>Direct wages outstanding as on 31-03-2014</i>	100
<i>Material at site as on 31-03-2014</i>	110

Additional Information:

- (a) A plant was purchased for the contract at ₹ 8,00,000 on 01-12-2013.
- (b) Depreciation @ 15% per annum is to be charged.
- (c) Material which cost ₹ 1,30,000 was destroyed by fire.

Prepare:

- (i) Contract Account for the year ended 31st March, 2014 and compute the profit to be taken to the Profit & Loss Account.
- (ii) Account of Contractee.
- (iii) Profit & Loss Account showing the relevant items.
- (iv) Balance Sheet showing the relevant items.

7.26 Cost Accounting

Solution:

(i) Contract Account

Particulars		Amount (₹ in '000)	Particulars		Amount (₹ in '000)
To Material issued		7,700	By Material returned		175
To Direct wages	3,300		By Profit & Loss A/c (Material Destroyed by fire)		130
Add: Outstanding	100	3,400	By W-I-P:		
To Site Office Cost	550		- Work uncertified	225	
Less: Prepaid	50	500	- Work certified	12,650	12,875
To Depreciation*		40	By Material at site		110
To Notional Profit		1,650			
		13,290			13,290
To Profit & Loss A/c (Working Note -2)		880	By Notional Profit		1,650
To W-I-P (Reserve)		770			
		1,650			1,650

$$* \text{ Depreciation on plant} = ₹ 8,00,000 \times 15\% \times \frac{4 \text{ months}}{12 \text{ months}} = ₹ 40,000$$

(ii) Contractee's Account

Particulars	Amount (₹ in '000)	Particulars	Amount (₹ in '000)
To Balance c/d	10,120	By Bank A/c	10,120
	10,120		10,120

(iii) Relevant items of Profit & Loss Account

Particulars	Amount (₹ in '000)	Particulars	Amount (₹ in '000)
To Contract A/c (loss of material due to fire)	130	By Contract A/c (Profit on contract)	880
To Net Profit	750		
	880		880

(iv) Balance Sheet (Extracts) as on 31st March, 2014 (Amount in '000)

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
			Plant at cost	800	
Add: Profit	750		Less: Dep.	40	760
			Contract W-I-P:		
Outstanding Wages		100	-Uncertified	225	
			-Certified	12,650	
			-Reserve	(770)	
			Less: Advances	(10,120)	1,985
			Materials at site		110
			Prepaid exp.		50

Working Notes:

$$1. \text{ Percentage of Completion} = \frac{\text{Work Certified}}{\text{Value of ontract}} \times 100$$

$$= \frac{₹1,26,50,000}{₹1,71,00,000} \times 100 = 73.98\%$$

$$2. \text{ Profit from the incomplete contract}$$

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

$$= ₹ 16,50,000 \times \frac{2}{3} \times \frac{₹1,01,20,000}{₹1,26,50,000}$$

$$= ₹ 8,80,000$$

Question 13

Z Limited obtained a contract No. 999 for ₹ 50 lacs. The following details are available in respect of this contract for the year ended March 31, 2014:

	(₹)
Materials purchased	1,60,000
Materials issued from stores	5,00,000
Wages and salaries paid	7,00,000
Drawing and maps	60,000
Sundry expenses	15,000

7.28 Cost Accounting

<i>Electricity charges</i>	25,000
<i>Plant hire expenses</i>	60,000
<i>Sub-contract cost</i>	20,000
<i>Materials returned to stores</i>	30,000
<i>Materials returned to suppliers</i>	20,000

The following balances relating to the contract No. 999 for the year ended on March 31, 2013 and March 31, 2014 are available:

	<i>as on 31st March, 2013</i>	<i>as on 31st March, 2014</i>
<i>Work certified</i>	12,00,000	35,00,000
<i>Work uncertified</i>	20,000	40,000
<i>Materials at site</i>	15,000	30,000
<i>Wages outstanding</i>	10,000	20,000

The contractor receives 75% of work certified in cash.

Prepare Contract Account and Contractee's Account.

Solution:

Contract No. 999 Account for the year ended 31st March, 2014

Dr.		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To Work in progress b/d:		By Material returned to store	30,000
- Work certified	12,00,000	By Material returned to suppliers	20,000
- Work uncertified	20,000	By Stock (Material) c/d	30,000
To Stock (Materials) b/d	15,000	By Work in progress c/d:	
To Material purchased	1,60,000	- Work certified	35,00,000
To Material issued	5,00,000	- Work uncertified	40,000
To Wages paid	7,00,000		
Less: Opening O/s	(10,000)		
Add: Closing O/s	<u>20,000</u>		
To Drawing and maps*	60,000		
To Sundry expenses	15,000		
To Electricity charges	25,000		
To Plant hire expenses	60,000		

To Sub- contract cost	20,000		
To Notional profit c/d (balancing figure)	8,35,000		
	36,20,000		36,20,000
To Costing P& L A/c (W.N.-1)	4,17,500	By Notional profit b/d	8,35,000
To WIP Reserve (balancing figure)	4,17,500		
	8,35,000		8,35,000

*Assumed that expenses incurred for drawing and maps are used exclusively for this contract only.

Dr. **Contractee's Account** Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance c/d (₹ 35,00,000 × 75%)	26,25,000	By Balance b/d (75% of ₹ 12,00,000)	9,00,000
		By Bank A/c	17,25,000
	26,25,000		26,25,000

Working Note:

1. Profit to be Transferred to Costing Profit & Loss account:

$$\begin{aligned} \text{(a) Percentage of completion} &= \frac{\text{Work certified}}{\text{Value of contract}} \times 100 \\ &= \frac{\text{₹ } 35,00,000}{\text{₹ } 50,00,000} \times 100 = 70\% \end{aligned}$$

(b) Profit to be transferred to Costing Profit & Loss Account

$$\begin{aligned} &= \frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}} \\ &= \frac{2}{3} \times \text{₹ } 8,35,000 \times \frac{75}{100} = \text{₹ } 4,17,500 \end{aligned}$$

Question 14

Dream house (P) Ltd. is engaged in building two residential housing projects in the city. Particulars related to two housing projects are as below:

	HP-1 (₹)	HP-2 (₹)
Work in Progress on 1 st April 2013	7,80,000	2,80,000

7.30 Cost Accounting

<i>Materials Purchased</i>	<i>6,20,000</i>	<i>8,10,000</i>
<i>Land purchased near to the site to open an office</i>	<i>-</i>	<i>12,00,000</i>
<i>Brokerage and registration fee paid on the above purchase</i>	<i>-</i>	<i>60,000</i>
<i>Wages paid</i>	<i>85,000</i>	<i>62,000</i>
<i>Wages outstanding as on 31st March, 2014</i>	<i>12,000</i>	<i>8,400</i>
<i>Donation paid to local clubs</i>	<i>5,000</i>	<i>2,500</i>
<i>Plant hire charges paid for three years effecting from 1st April 2013</i>	<i>72,000</i>	<i>57,000</i>
<i>Value of materials at site as on 31st March, 2014</i>	<i>47,000</i>	<i>52,000</i>
<i>Contract price of the projects</i>	<i>48,00,000</i>	<i>36,00,000</i>
<i>Value of work certified</i>	<i>20,50,000</i>	<i>16,10,000</i>
<i>Work not certified</i>	<i>1,90,000</i>	<i>1,40,000</i>

A concrete mixture machine was bought on 1st April 2013 for ₹ 8,20,000 and used for 180 days in HP-1 and for 100 days in HP-2. Depreciation is provided @ 15% p.a. (this machine can be used for any other projects)

As per the contract agreement contractee shall retain 20% of work certified as retention money.

Prepare contract account for the two housing projects showing the profit or loss on each project for the year ended 31st March, 2014.

Solution:

Dr. **Contract Account for the year ended 31st March, 2014** Cr.

Particulars	HP-1 (₹)	HP-2 (₹)	Particulars	HP-1 (₹)	HP-2 (₹)
To Balance b/d: W-I-P	7,80,000	2,80,000	By Closing material at site	47,000	52,000
To Material purchased	6,20,000	8,10,000	By W-I-P:		
To Wages: (₹85,000+₹12,000) (₹62,000+₹8,400)	97,000	70,400	Value of work certified	20,50,000	16,10,000
			Cost of work not certified	1,90,000	1,40,000
To Donation to local club*	5,000	2,500			
To Plant hire charges: (₹72,000x1/3) (₹57,000x1/3)	24,000	19,000			
To Depreciation on concrete mixture**:					

(8,20,000x15%x180/365)	60,658				
(8,20,000x15%x100/365)		33,699			
To Notional profit (balance c/d)	7,00,342	5,86,401			
	22,87,000	18,02,000		22,87,000	18,02,000
To Costing P & L A/c (WN-2)	1,86,758	1,56,374	By Notional profit (balance b/d)	7,00,342	5,86,401
To Costing P& L Reserve A/c.	5,13,584	4,30,027			
	7,00,342	5,86,401		7,00,342	5,86,401

* Assuming donation paid to local club was exclusively for the above projects, hence included in the contract account.

** Depreciation on concrete mixture machine is charged on the basis of number of days used for the projects, as it is clearly mentioned in the question that this machine can be used for other projects also.

Working Notes:

- 1 Computation of Stage of completion of the projects:

$$\frac{\text{Value of work certified}}{\text{Value of contract}} \times 100$$

$$\text{HP - 1} = \frac{\text{₹ } 20,50,000}{\text{₹ } 48,00,000} \times 100 = 42.71\%$$

$$\text{HP - 2} = \frac{\text{₹ } 16,10,000}{\text{₹ } 36,00,000} \times 100 = 44.72\%$$

- 2 Computation of profit to be recognized in the Costing profit & loss A/c.

$$\frac{1}{3} \times \text{Notional profit} \times \frac{\text{Cash Received}}{\text{Value of work certified}}$$

$$\text{HP - 1} = \frac{1}{3} \times \text{₹ } 7,00,342 \times 80\% = \text{₹ } 1,86,758$$

$$\text{HP - 2} = \frac{1}{3} \times \text{₹ } 5,86,401 \times 80\% = \text{₹ } 1,56,374$$

(Land purchased and brokerage and registration fee paid for this purpose cannot be charged to contract account, hence not included in the contract account)

7.32 Cost Accounting

Question 15

PVK Constructions commenced a contract on 1st April, 2014. Total contract value was ₹ 100 lakhs. The contract is expected to be completed by 31st December, 2016. Actual expenditure during the period 1st April, 2014 to 31st March, 2015 and estimated expenditure for the period 1st April, 2015 to 31st December, 2016 are as follows:

	Actual (₹)	Estimated (₹)
	1st April, 2014 to 31st March, 2015	1st April, 2015 to 31st Dec. 2016
Material issued	15,30,000	21,00,000
Direct Wages paid	10,12,500	12,25,000
Direct Wages outstanding	80,000	1,15,000
Plant purchased	7,50,000	-
Expenses paid	3,25,000	5,40,000
Prepaid Expenses	68,000	-
Site office expenses	3,00,000	-

Part of the material procured for the contract was unsuitable and was sold for ₹ 2,40,000 (cost being ₹ 2,55,000) and a part of plant was scrapped and disposed of for ₹ 80,000. The value of plant at site on 31st March, 2015 was ₹ 2,50,000 and the value of material at site was ₹ 73,000. Cash received on account to date was ₹ 36,00,000, representing 80% of the work certified. The cost of work uncertified was valued at ₹ 5,40,000.

Estimated further expenditure for completion of contract is as follows:

- An additional amount of ₹ 4,62,500 would have to be spent on the plant and the residual value of the plant on the completion of the contract would be ₹ 67,500.
- Site office expenses would be the same amount per month as charged in the previous year.
- An amount of ₹ 1,57,500 would have to be incurred towards consultancy charges.

Required:

Prepare Contract Account and calculate estimated total profit on this contract.

Solution:

PVK Constructions Contract Account for the year 2014-15

Particulars	(₹)	Particulars	(₹)
To Materials issued	15,30,000	By Material sold	2,40,000

To Direct wages	10,12,500		By Costing P & L Account (loss on sale of material)	15,000
<i>Add:</i> Outstanding	<u>80,000</u>	10,92,500	By Plant sold	80,000
To Plant purchased		7,50,000	By Plant at site	2,50,000
To Expenses	3,25,000		By Material at site	73,000
<i>Less:</i> Prepaid	<u>(68,000)</u>	2,57,000	By Work-in-progress:	
To Site office expenses		3,00,000	-Work certified	45,00,000
To Notional profit c/d		17,68,500	- Work uncertified	<u>5,40,000</u>
		56,98,000		56,98,000
To Costing P&L A/c (transfer) (Refer Working note)		4,11,967*	By Notional profit b/d	17,68,500
To Work-in-progress (reserve)		13,56,533#		
		17,68,500		17,68,500

Calculation of Estimated Profit (April 2014 to December 2016)

Particulars	Amount (₹)	Amount (₹)	Amount (₹)
Total Value of the Contract (A)			1,00,00,000
(i) Materials Costs:			
Materials Consumed in 2014-2015:			
- Materials issued in 2014-15	15,30,000		
- <i>Less:</i> Closing Materials at site	(73,000)		
- <i>Less:</i> Unsuitable Materials sold	(2,55,000)	12,02,000	
<i>Add:</i> Materials to be Consumed			
- Materials to be issued	21,00,000		
- <i>Add:</i> Opening materials at site	73,000	21,73,000	33,75,000
(ii) Direct Wages Cost:			
Direct wages for 2014-15:			
- Wages paid	10,12,500		
- <i>Add:</i> Outstanding at closing	80,000	10,92,500	
Direct wages to be incurred:			
- Wages to be paid	12,25,000		
- <i>Less:</i> Outstanding at opening	(80,000)		
- <i>Add:</i> Outstanding at closing	1,15,000	12,60,000	23,52,500

7.34 Cost Accounting

(iii) Plant Cost			
Plant used during 2014-15:			
- Plant purchased	7,50,000		
- Less: Plant disposed off	(80,000)		
- Less: Closing plant at site	(2,50,000)	4,20,000	
Plant to be used			
- Additional amount to be spent	4,62,500		
- Add: Opening plant at site	2,50,000		
- Less: Residual value of plant	(67,500)	6,45,000	10,65,000
(iv) Expenses			
Expenses incurred during 2014-15:			
- Expenses paid	3,25,000		
- Less: Prepaid at closing	(68,000)	2,57,000	
Expenses to be incurred			
- Expenses to be paid	5,40,000		
- Add: Prepaid at opening	68,000	6,08,000	8,65,000
(v) Site office expenses paid in 2014-15		3,00,000	
- Add: To be paid $\{(3,00,000 \div 12) \times 21 \text{ months}\}$		5,25,000	8,25,000
(vi) Consultancy charges to be paid			1,57,500
Total Estimated Cost of the Contract			86,40,000
Estimated Profit (A – B)			13,60,000

* The profit to be transferred can be calculated using various formulae given in the working note, however, in this solution following the conservative approach, the lowest amount has been taken.

Profit transferred to the reserve will vary depending upon the formula of profit calculation adopted.

Workings:

Profit to be transferred to Costing Profit and Loss Account

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

$$= ₹ 13,60,000 \times \frac{₹ 45,00,000}{₹ 1,00,00,000} \times \frac{₹ 36,00,000}{₹ 45,00,000} = ₹ 4,89,600$$

Or

$$= \text{Estimated Profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= ₹13,60,000 \times \frac{₹32,71,500^*}{₹86,40,000} \times \frac{₹36,00,000}{₹45,00,000} = ₹4,11,967$$

Or

$$= \text{Estimated Profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} = ₹13,60,000 \times \frac{₹32,71,500^*}{₹86,40,000} = ₹5,14,958.33$$

Or

$$= \text{Estimated Profit} \times \frac{\text{Value of Work Certified}}{\text{Value of Contract}} = ₹13,60,000 \times \frac{₹45,00,000}{₹1,00,00,000} = ₹6,12,000$$

*[Material Consumed + Direct Wages + Plant used + Expenses + Site office expenses]

[₹ 12,02,000 + ₹ 10,92,500 + ₹ 4,20,000 + ₹2,57,000 + ₹ 3,00,000 = ₹ 32,71,500]

Since, in the question estimated cost information is given, hence, the profit to be transferred in the Costing Profit & Loss account for the year 2014-15, will be on the basis of estimated profit calculated as above.

Profit to be transferred in Costing Profit & Loss account for the year 2014-15 on percentage of completion method as below:

$$\text{Notional Profit} \times \frac{1}{3} \times \frac{\text{Cash Received}}{\text{Value of Work Certified}} = ₹17,68,500 \times \frac{1}{3} \times \frac{₹36,00,000}{₹45,00,000} = ₹4,71,600$$

The detailed calculations have been shown for better understanding of the students.