

Contract Costing

Question 1

- (i) *Discuss the implications of cost-plus contracts from the view points of:*
 - (a) *the manufacturer*
 - (b) *the customer.*
- (ii) *What is the relevance of escalation clause provided in the contracts?*

Answer

- (i) (a) **'Cost Plus Contract' and Manufacturer:** 'Cost Plus Contract' is a contract in which the value of the contract is ascertained by adding a fixed margin of profit to the total cost of the contract. The favourable implications of cost-plus-contracts from the view point of the manufacturer are the following:

- (1) The manufacturer is assured of a certain percentage of profit in advance.
- (2) The manufacturer is protected against any fluctuations in the market prices of the various cost elements involved in the production.
- (3) It is of considerable benefit when the cost estimates are not firm or reliable for some reason or the other e.g., figures for the previous years may not be available.
- (4) The possibility of incurring any loss is completely eliminated.

In spite of these advantages there is a fundamental drawback. If the contractor effects any economy, it will lead to a lower profit to him. Thus he cannot make profit as much as he would have from a fixed price contract.

- (b) **'Cost Plus Contract' and the Customer:** The favourable implications of 'Cost Plus Contract' from the view point of customer are given below:

- (1) The customer feels satisfied because he believes that the contract price has not been fixed up arbitrarily.
- (2) The price paid by the customer depends upon the actual cost.
- (3) The customer is completely fortified in the situation of an uncertain market.

The main drawbacks from the customer's point of view are as follows:

- (1) The price which the customer has to pay under the contract depends upon the cost of the contract and the same cannot be ascertained until the work is

8.2 Cost Accounting

complete. He may feel that the price he has to pay would not be arbitrary, yet the amount he has to pay is bound to be uncertain.

- (2) Due to complete security about profit margin there may not be any incentive for the manufacturer to reduce costs; in fact he will tend to increase the costs.
- (ii) When a contract is likely to take long to complete or even to commence and the price is fixed, the contractor would like to protect his interest against a high rise in the prices of materials, wage rates etc. This he does through what is called an "escalation clause" which states the increase in the contract price for a given increase in the prices of inputs. For example, it may state that if the price of steel goes up by 10%, the contract price will increase by 1.5%. This implies that the base prices of inputs should be agreed upon and also that the date after which increase in prices will be taken into account will be fixed. The contractor is not compensated for price changes which could be avoided, for example, by completing the contract on time.

It is not necessary that the contractee must agree to the escalation clause; it is a matter of negotiation between the two parties.

Question 2

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

Answer

Under Contract Accounting it may be noticed that certain contracts are completed, while others are still in progress at the end of a financial year. These incomplete contracts may require a few more years for their completion. The figures of profit made (the excess of credit over the debit items in a contract) on completed contracts can be safely taken to the credit of Profit and Loss Account, but this practice is not being followed in the case of incomplete contracts.

In the case of incomplete contracts the entire profit is not being credited to Profit and Loss Account because some provision is to be made for meeting contingencies and unforeseen losses. There are no hard and fast rules regarding the calculation of figure of profit to be taken to the credit of profit and loss account. However, the following principles may be followed:—

- (i) Profit should be considered in respect of work certified and uncertified work should be valued at cost.
- (ii) If the amount of work certified is less than $\frac{1}{4}$ th of the contract price, no profit should be taken to Profit and Loss Account. The entire amount in such contracts should be kept as reserve for meeting out contingencies.
- (iii) If the amount of work certified is $\frac{1}{4}$ th or more but less than $\frac{1}{2}$ of the contract price, then $\frac{1}{3}$ rd of the profit disclosed as reduced by the percentage of cash received from the contractee should be taken to the Profit and Loss Account. The balance should be allowed to remain as a reserve.

- (iv) If the amount of work certified is $\frac{1}{2}$ or more of the contract price, then $\frac{2}{3}$ rd of the profit disclosed as reduced by the percentage of cash received from the contractee, should be taken to the Profit and Loss Account. The balance should be treated as reserve.
- (v) If the contract is near completion, the total cost of completing the contract may be estimated if possible. By deducting the total estimated cost from the contract price, the estimated total profit of the contract should be calculated. The proportion of total estimated profit on cash basis, which the work certified bears to the total contract price should be credited to profit and loss account.
- (vi) The entire loss, if any, should be transferred to the Profit and Loss Account.

Question 3

Write note on cost-plus-contracts.

(Nov., 2000, 2 marks)

Answer

These contracts provide for the payment by the contractee of the actual cost of manufacture 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.
5. 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 4

Write notes on Escalation Clause

(Nov. 2000, 2 marks, May 1994, 4 marks)

Answer

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'

8.4 Cost Accounting

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. In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency.

Question 5

Discuss briefly the principles to be followed while taking credit for profit on incomplete contracts
(May, 1999, 6 marks)

Answer

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

The portion of profit to be credited to, 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 between 25% and 50% complete
- (iii) Contracts between 50% and 90% complete
- (iv) Contracts nearing completion, say between 90% and 100% complete.

The transfer of profit to the 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 between 25% and 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 between 50% and 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) *Contract nearing completion:* 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 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 $\times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}}$
 or Estimated profit $\times \frac{\text{Work certified}}{\text{Contract price}}$
- (c) Estimated Profit $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}}$
- (d) Estimated profit $\times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$
- (e) Notional profit $\times \frac{\text{Work certified}}{\text{Contract price}}$

Question 6

Discuss the process of estimating profit/loss on incomplete contracts

(Nov., 2003, 4 marks)

Answer**Process of estimating profit / loss on incomplete contracts**

- (i) If completion of contract is less than 25% no profit should be taken to profit and loss account.
- (ii) If completion of contract is upto 25% or more but less than 50% then
- $$1/3 \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$
- may be taken to profit and loss account.
- (iii) If completion of contract is 50% or more but less than 90% then
- $$2/3 \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$
- may be taken to profit and loss account
- (iv) If completion of contract is greater than or equal to 90% then one of the following formulas may be used for taking the profit to profit and loss account.
1. Estimated Profit $\times \frac{\text{Work certified}}{\text{Contract price}}$

8.6 Cost Accounting

2. Estimated Profit $\times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}}$
3. Estimated Profit $\times \frac{\text{Cost of the work to date}}{\text{Estimated total cost}}$
4. Estimated Profit $\times \frac{\text{Cost of the work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$
5. Notional Profit $\times \frac{\text{Work certified}}{\text{Contract price}}$

Question 7

What are the main features of 'Cost-Plus-Contracts'

(Nov., 1996, 4 marks)

Answers

Main features of cost-plus-contracts:

1. This method is adopted in the case of those contracts where the probable cost of contract 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 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 contract contractee is allowed to check or scrutinise the concerned books, documents accounts.
4. Such a contract offers a fair price to the contractee and also a reasonable profit to contractor.
5. 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 8

The following particulars are obtained from the books of Vinak Construction Ltd. as on March 1983:

<i>Plant and Equipment at cost</i>	<i>Rs. 4,90,000</i>
<i>Vehicles at cost</i>	<i>Rs. 2,00,000</i>

Details of contract which remain uncompleted as on 31.03.1983:—

	<i>Contract Nos.</i>		
	<i>V.20</i>	<i>V.24</i>	<i>V.25</i>
	<i>(Rs. Lacs)</i>	<i>(Rs. Lacs)</i>	<i>(Rs. Lacs)</i>
<i>Estimated final sales value</i>	<i>7.00</i>	<i>5.60</i>	<i>16.00</i>

Estimated final cost	6.40	7.70	12.00
Wages	<u>2.40</u>	<u>2.00</u>	<u>1.20</u>
Materials	1.00	1.10	0.44
Overheads (excluding depreciation)	<u>1.44</u>	<u>1.46</u>	<u>0.58</u>
Total costs to date	<u>4.84</u>	<u>4.56</u>	<u>2.22</u>
Value certified by architects	7.20	4.20	2.40
Progress payments received	5.00	3.20	2.00

Depreciation of Plant and Equipment and Vehicle should be charged at 20% to the three contracts in proportion to work certified.

You are required to prepare statements to show contractwise and total:

- (i) Profit/loss to be taken to the P&L A/c for the year ended 31st March 1983;
- (ii) Work-in-progress as would appear in the Balance Sheet as at 31st March 1983.

Answer (i)

Vinak Construction Co. Ltd.
Statement of Profit / Loss to be taken to Profit & Loss Account
(for the year ended 31st March, 1983)

	Contract Nos.			Total
	V.20 (Rs. Lacs)	V.24 (Rs. Lacs)	V.25 (Rs. Lacs)	
A. Percentage of completion				
Estimated sales value	8.00	5.60	16.00	—
Work certified	7.20	4.20	2.44	—
Percentage of completion	90	75	15	—
(See note 1)				
B. Estimated result on completion				
Estimated sale value	8.00	5.60	16.00	—
Estimated Costs	6.40	7.00	12.00	—
Estimated profit (loss)	1.60	(1.40)	4.00	—
C. Results to date				
Work certified	7.20	4.20	2.10	13.80
Cost to date (excluding depreciation)	4.84	4.56	2.22	11.62
Depreciation	0.72	0.42	0.24	1.38
(See note 2)				

8.8 Cost Accounting

Total cost	5.56	4.98	2.46	13.80
Notional profit (loss)	1.64	(0.78)	(0.06)	0.80
Profit (loss) to be taken to Profit & Loss account (See note 3)	1.00	1.40	0.06	0.46
Reserve for contingencies (See note 4)	0.64	0.62	—	1.26

(ii)

Vinak Construction Co. Ltd.
Statement of Work-in-Progress as would appear in
Balance Sheet on 31 March, 1983

	<i>Contract Nos.</i>			<i>Total</i> (Rs. Lacs)
	<i>V.20</i> (Rs. Lacs)	<i>V.24</i> (Rs. Lacs)	<i>V.25</i> (Rs. Lacs)	
Work certified	7.20	4.20	20.40	13.80
Less: Reserve for contingencies	0.64	0.62	—	1.26
Less: Payment received	5.00	3.20	2.00	10.20
Work in progress	1.56	0.38	0.40	2.34

Working Notes

$$1. \text{ Percentage of completion} = \frac{\text{Work Certified}}{\text{Estimated Sales value}} \times 100$$

$$\text{Percentage of completion for : V.20} = \frac{\text{Rs.7.20}}{\text{Rs.8.00}} \times 100 = 90$$

$$\text{Percentage of completion for : V.24} = \frac{\text{Rs.4.20}}{\text{Rs.5.60}} \times 100 = 75$$

$$\text{Percentage of completion for: V.25} = \frac{\text{Rs.2.40}}{\text{Rs.16.00}} \times 100 = 15$$

$$2. \text{ Total cost of plant, equipment and vehicle} = \text{Rs. 4,90,000} + \text{Rs. 2,00,000} \\ = \text{Rs. 6,90,000}$$

Total depreciation is 20% of the total cost of plant, equipment and vehicle.

$$\text{i.e. Rs. 6,90,000 or } \frac{20}{100} \times \text{Rs. 6,90,000} = \text{Rs. 1,38,000}$$

The total depreciation viz. Rs. 1,38,000 has been apportioned over three Contracts in the ratio of the work certified as below:

$$\text{Depreciation for Contract V.20} = \frac{\text{Rs.1.38}}{\text{Rs.13.8}} \times 7.2 = \text{Rs. 0.72 lacs.}$$

$$\text{Depreciation for Contract V.24} = \frac{\text{Rs.1.38}}{\text{Rs.13.8}} \times 4.2 = \text{Rs. 0.42 lacs}$$

$$\text{Depreciation of Contract V.25} = \frac{\text{Rs.1.38}}{\text{Rs.13.8}} \times 2.40 = \text{Rs. 0.24 lacs.}$$

3. Since the contract V.20 is almost complete therefore the profit to be taken to Profit and Loss account is calculated as follows:

$$\begin{aligned} \text{Profit} &= \text{Estimated profit (on completed contract)} \times \frac{\text{Cash Received}}{\text{Contract Price}} \\ &= \text{Rs 1.60 Lacs} \times \frac{5}{8} = \text{Rs. 1 Lac.} \end{aligned}$$

Other methods which could also be used to calculate the profit under Contract V.20 are:

- (a) $\text{Estimated profit} \times \frac{\text{Work certified}}{\text{Contract Price}}$
- (b) $\text{Estimated profit} \times \frac{\text{Cost of Work to date}}{\text{Estimated total cost}}$
- (c) $\text{Estimated profit} \times \frac{\text{Cost of work to date}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}}$
4. The total loss of Rs. 1.40 lacs as shown by Contract V.24, should be taken to profit and loss account. This amount includes loss of current year (Rs. 0.78 Lacs) and the loss which the contractor has to bear before the completion of the contract (Rs. 0.62 Lacs).

Question 9

Deluxe Limited undertook a contract for Rs.5,00,000 on 1st July, 1986. On 30th June, 1987 when the accounts were closed, the following details about the contract were gathered:

	Rs.
Materials Purchased	1,00,000
Wages Paid	45,000

8.10 Cost Accounting

General Expenses	10,000
Plant Purchased	50,000
Materials on Hand 30.06.87	25,000
Wages Accrued 30.06.87	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 escalator clause which read as follows:

"In the event of prices of materials and rates of wages increase by more than 5% the contract price would 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 prices 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.

Answer

Contract Account of Deluxe Limited (for the year ending 30th June, '87)

	Rs.		Rs.
To Materials	1,00,000	By Work-in Progress	
To Wages paid and accrued	50,000	By Work certified	2,00,000
To General expenses	10,000	By Work uncertified	15,000
To Plant depreciation	5,000	By Materials on hand	25,000
To Profit and Loss A/c	20,000	By Contract Escalation	5,000
(See note 2)		(See note 1)	
To Balance c/d	60,000		
	<u>2,45,000</u>		<u>2,45,000</u>
To Work in progress b/d			
To Work certified	2,00,000		
To Work uncertified	15,000		
To Materials on hand	25,000		
To Escalation	5,000		
	<u>2,45,000</u>		
Less: Balance c/d	60,000		
	<u>1,85,000</u>		

Working Note:**1. Calculation of Escalation:**

	<i>Total Increase Rs.</i>	<i>Upto 5% Rs.</i>	<i>Beyond 5% Rs.</i>
Materials: (Effect of increase in price)	15,000	3,000	12,000
$(Rs. 1,00,000 - Rs. 20,000) \times \frac{25}{125}$			
Wages (Effect of increase in wage rates)	10,000	2,000	8,000
$\left(Rs. 50,000 \times \frac{25}{125} \right)$			
Total Increase	25,000	5,000	20,000

Increase in Contract price = 25% of Increase in Material and wages beyond 5%
 = 25% of Rs. 20,000 = Rs. 5,000

2. Calculation of Profit to be transferred:

Since the contract is completed between 25% to 50%, one third of the notional profit as reduced by the proportion of cash received to work certified is transferred:

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

$$Rs. 80,000 \times \frac{1}{3} \times \frac{Rs. 1,50,000}{Rs. 2,00,000} = Rs. 20,000$$

Question 10

Rex Limited commenced a contract on 01.07.1988. The total contract price was Rs. 5,00,000 but Rex Limited accepted the same for Rs. 4,50,000. It was decided to estimate the total profit and to take to the credit of profit and loss account that proportion of estimated profit on cash basis which the work completed bore to the total contract. Actual Expenditure till 31.12.1988 and estimated expenditure in 1989 are given below:-

<i>Expenses</i>	<i>Actuals Till 31.12.88 Rs.</i>	<i>Estimate For 1989 Rs.</i>
Materials	75,000	1,30,000
Labour	55,000	60,000
Plant Purchased (original cost)	40,000	—

8.12 Cost Accounting

Misc. Expenses	20,000	35,500
Plant Returned to Stores on 31.12.88 at original cost	10,000	35,500
		As on 30.09.89
Materials at Site	5,000	Nil
Work Certified	2,00,000	Full
Work Uncertified	7,500	Nil
Cash Received	1,80,000	Full

The Plant is subject to annual depreciation @ 20% of original cost. The contract is likely to be completed on 30.09.1989.

You are required to prepare the contract account for the year ended 31.12.88. Workings should be clearly given.

It is the policy of the company to charge depreciation on time basis.

Answer

Rex Limited Contract Account (For the year ending 31.12.88)

	Rs.		Rs.
To Materials	75,000	By Plant returned to Stores (Cost – Depreciation) (See Note-3)	9,000
To Labour	55,000	By Plant at site (See Note – 3)	27,000
To Plant	40,000	By Material at site	5,000
To Misc. Expenses	20,000	By WIP	
To P/L A/c (See Note – 2)	26,400	Work Certified	2,00,000
To Balance c/d (Profit in reserve)	32,100	Work Uncertified	<u>7,500</u>
	<u>2,48,500</u>		<u>2,48,500</u>
	Rs.		Rs.
To WIP			
Work Certified	2,00,000		
Work Uncertified	7,500		
To Plant at Site	27,000		
To Material at site	<u>5,000</u>		
	2,39,000		
Less: Reserve	<u>32,100</u>		<u>2,07,400</u>

Working Notes

(1)	Memorandum Contract Account (01.07.88 to 30.09.1989)			
		<i>Rs.</i>		<i>Rs.</i>
To Material	2,05,000	By Plant returned to stores		27,750
To Labour	1,15,000	(Cost – Depreciation)		
To Plant	40,000	(See Note 3(i) & (ii)		
To Misc. Expenses	55,500	By Plant at Site		3,750
To Estimated Profit	66,000	(See Note 3(iv)		
		By Contractee's A/c		<u>4,50,000</u>
	<u>4,81,500</u>			<u>4,81,500</u>

(2) Profit to be transferred to P/L A/c of the Contract ending on 31.12.88

$$\begin{aligned}
 & \text{Estimated Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}} \times \frac{\text{Work Certified}}{\text{Total Contract Price}} \\
 &= \text{Rs. } 66,000 \times \frac{\text{Rs. } 1,80,000}{\text{Rs. } 2,00,000} \times \frac{\text{Rs. } 2,00,000}{\text{Rs. } 4,50,000} \\
 &= \text{Rs. } 26,400
 \end{aligned}$$

Assumption: Work Certified is considered equal to work completed. On cash basis has been interpreted as cash received to work certified.

(3) (i)	Calculation of Plant returned to stores on 31-12-88	<i>Rs.</i>
	Original Cost	10,000
	Less: Depreciation @ 20% for 6 months	<u>1,000</u>
		<u>9,000</u>
(ii)	Plant at site on 30-12-88	
	= (Original Cost of Plant – Plant returned – Depreciation)	
	= Rs. 40,000 – Rs. 10,000 – Rs. 3,000	
	= Rs. 27,000/-	
(iii)	Plant returned to stores on 30-09-89	<i>Rs.</i>
	Original Cost	25,000
	Less: Depreciation	<u>6,250</u>
		<u>18,750</u>

8.14 Cost Accounting

(iv) Plant at site on 30-9-89	Rs.
Original Cost	5,000
Less: Depreciation	1,250
$\left(\text{Rs.} 5,000 \times \frac{20}{100} \times \frac{15}{12} \right)$	<u>3,750</u>

Question 11

A contractor, who prepares his account on 31st December each year, commenced a contract on 1st April 1990. The costing records concerning the said contract reveal the following information on 31st December, 1990;

	Rs.
Materials charged to site	2,58,100
Labour engaged	5,60,500
Foremen's salary	79,300

Plants costing Rs. 2,60,000 had been on site for 146 days. Their working life is estimated at 7 years and their final scrap value at Rs. 15,000. A supervisor, who is paid Rs. 4,000 p.m. has devoted approximately three-fourths of his time to this contract. The administrative and other expenses amount to Rs. 1,40,000. Materials in hand at site on 31st December, 1990 cost Rs. 25,400. Some of the material costing Rs. 4,500 was found unsuitable and was sold for Rs. 4,000 and a part of the plant costing Rs. 5,500 (on 31.12.90) unsuited to the contract was sold at a profit of Rs. 1,000.

The contract price was Rs. 22,00,000 but it was accepted by the contractor for Rs. 20,00,000. On 31st December, 1990, two thirds of the contract was completed. Architect's certificate had been issued covering 50% of the contract price and Rs. 7,50,000 had so far been paid on account. Prepare contract account and state how much profit or loss should be included in the financial accounts to 31st December, 1990. Workings should be clearly given. Depreciation is charged on time basis.

Also prepare the Contractee's account and show how these accounts should appear in the Balance Sheet as on 31st December, 1990.

Answer

Contract Account (for the period: between 1st April and 31st Dec. 1990)

	Rs.		Rs.
To Materials	2,58,100	By Materials at site	25,400
To Labour engaged	5,60,500	By Materials sold	4,000
To Foremen's salary	79,300	By Profit & Loss A/c (Loss on material sale)	500
To Supervisor's salary	27,000	By Cost of work done c/d	10,49,000

<i>(See working note 1)</i>			
To Depreciation of plant	14,000		
<i>(See working note 2)</i>			
To Administrative and other expenses	1,40,000		
	<u>10,78,900</u>		<u>10,78,900</u>
To Cost of work done b/d	10,49,000	By Work-in-Progress	
To Notional Profit c/d	2,13,250	Work certified	10,00,000
		Work uncertified	2,62,250
		<i>(See Working Note 3)</i>	
	<u>12,62,250</u>		<u>12,62,250</u>
To Profit & Loss A/c	1,06,625	By Notional Profit b/d	2,13,250
<i>(See Working Note 4)</i>			
To Profit Reserve	<u>1,06,625</u>		
	<u>2,13,250</u>		<u>2,13,250</u>

Contractee's Account

<i>Dr.</i>			<i>Cr.</i>
	<i>Rs.</i>		<i>Rs.</i>
To Balance c/d	<u>7,50,000</u>	By Cash	<u>7,50,000</u>

**Balance Sheet
(as on 31st December, 1990)**

	<i>Rs.</i>		<i>Rs.</i>	<i>Rs.</i>
Profit & Loss A/c	1,07,125	Work-in-Progress		
<i>(See Working Note 4)</i>		Work Certified	10,00,000	
		Work Uncertified	<u>2,62,250</u>	
			12,62,250	
		Less: Reserve	<u>1,06,625</u>	
			11,55,625	
		Less: Cash Received	<u>7,50,000</u>	4,05,625
		Material at site		25,400
		Plant at site		<u>2,40,000</u>
		<i>(See Working Note 5)</i>		

8.16 Cost Accounting

Working Notes

1. *Supervisor's Salary* = $\frac{3}{4}$ (9 months × Rs. 4,000) = Rs. 27,000
2. *Depreciation of Plant* = $\frac{\text{Rs. } 2,60,000 - \text{Rs. } 15,000}{7 \text{ years}} \times \frac{146}{365} = \text{Rs. } 14,000$
3. *Cost of Work Uncertified*

Cost of 2/3rd of the Contract is Rs. 10,49,000

Hence the Cost of the Contract is Rs. 10,49,000 × $\frac{3}{2}$ = Rs. 15,73,500.

The cost of 50% of the Contract, which has been completed and certified by the Architect is Rs. 7,86,750 (Rs. 15,73,500 ÷ 2).

The Cost of 1/6th of the contract, which has been completed but not certified by the Architect is Rs. 2,62,250 (Rs. 10,49,000 – Rs. 7,86,750).

Profit & Loss A/c

	Rs.		Rs.
To Contract A/c	500	By Contract A/c	1,06,625*
(Loss on the sale of material)		(Profit transferred)	
		By Profit on the Sale of Plant.	1,000
To Balance c/d	1,07,125		
	<u>1,07,625</u>		<u>1,07,625</u>

$$\begin{aligned}
 * \text{ Profit transferred to P \& L A.c} &= \frac{2}{3} \times \text{Rs. } 2,13,250 \times \text{Cash received / Work Certified} \\
 &= \frac{2}{3} \times \text{Rs. } 2,13,250 \times \text{Rs. } 7,50,000 / \text{Rs. } 10,00,000 \\
 &= \text{Rs. } 1,06,625
 \end{aligned}$$

Plant A/c

	Rs.		Rs.
To Balance b/d	2,60,000	By Current A/c (Depreciation)	14,000
To P & L A/c	1,000	By Cash Sale	6,500
(Profit on Sale of Plant)		By Balance c/d	2,40,500
	<u>2,61,000</u>		<u>2,61,000</u>

Note: Plant A/c can also form part of Contract A/c

Question 12

Brock Construction Ltd. commenced a contract on November 1, 2003. The total contract was for Rs. 39,37,500. It was decided to estimate the total profit on the contract and to take to the credit of P/L 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, 2003 to October 31, 2004 and estimated expenditure for November 1, 2004 to March 31, 2005 are given below:

	November 1, 2003 to October 31, 2004 (Actuals) Rs.	November 1, 2004 to March 31, 2005 (Estimated) Rs.
Material issued	6,75,000	12,37,500
Labour Paid	4,50,000	5,62,500
Prepaid	25,000	
Outstanding		2,500
Plant purchased	3,75,000	
Expenses Paid	2,00,000	3,50,000
Outstanding	50,000	25,000
Plant return to store	75,000	3,00,000
(Historical cost)	(on March 31, 2004)	(on March 31, 2005)
Work certified	20,00,000	Full
Work uncertified	75,000	
Cash received	17,50,000	
Material at site	75,000	37,500

The plant is subject to annual depreciation @ 33% on written down value method. The contract is likely to be completed on March 31, 2005.

Required

Prepare the contract A/c Determine the profit on the contract for the year November, 2003 to October, 2004 on prudent basis, which has to be credited to P/L A/C

(Nov., 2004, 8 marks)

Answer

**Brock Construction Ltd. Contract A/c
(November 1, 2003 to Oct. 31, 2004)**

Dr.		Dr.
Particulars	Amount (Rs.)	Amount (Rs.)
To Materials issued	6,75,000	By Plant returned to
To Labour paid 4,50,000		store on 31/03/04

8.18 Cost Accounting

Prepaid	<u>25,000</u>	4,25,000	at cost	75,000	
To Plant Purchased		3,75,000	Less: Dep (1/3)	<u>10,417</u>	64,583
To Expenses paid	2,00,000		By WIP		
To Outstanding	<u>50,000</u>	2,50,000	Certified	20,00,000	
To Notional profit		6,89,583	Uncertified	<u>75,000</u>	20,75,000
c/d		<u>24,14,583</u>	By Plant at site		
To P/L A/c		1,04,136	31/10/04 at		
2,34,305 ×			Cost	3,00,000	
(17,50,000 /			Less: Dep (1/3)	<u>1,00,000</u>	2,00,000
20,00,000)			By Materials at site		<u>75,000</u>
× (20,00,000 /					<u>24,14,583</u>
39,37,500)			By Notional Profit		
To Work-in-progress		<u>5,85,447</u>	b/d		<u>6,89,583</u>
(Profit in reserve)		<u>6,89,583</u>			<u>6,89,583</u>

Brock Construction Ltd. Contract A/c (1 November, 2003 to March 31, 2005) (For computing estimated profit)

Dr.			Cr.
Particulars	Amount (Rs.)		Amount (Rs.)
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 31/3/04	64,583
To Plant purchased	3,75,000	By Plant returned to stores on 31/3/05	1,72,222
		Cost	3,00,000
		Less: Dep.	1,00,000
		Less: 5 month Dep.	27,778
To Expenses (2,50,000 + 3,25,000)	5,75,000	By Contractee A/c	39,37,500
To Estimated profit	<u>2,34,305</u>		
	<u>42,11,805</u>		<u>42,11,805</u>

Question 13

A lorry starts with a load of 20 tonnes of goods from station A. It unloads 8 tonnes at station B and rest of goods at station C. It reaches back directly to station A after getting reloaded with 16 tonnes of goods at station C. The distance between A to B, B to C and then

from C to A are 80 kms. 120, and 160 kms respectively. Compute 'Absolute tones – kms' and 'Commercial tones – kms'.
(Nov., 1999, 4 marks)

Answer

'Absolute tones – kms': It is the sum total of tones – kms. arrived at by multiplying various distances by respective load quantities carried. Mathematically it is:

$$= 20 \text{ tonnes} \times 80 \text{ kms} + 12 \text{ tonnes} \times 120 \text{ kms} + 16 \text{ tonnes} \times 160 \text{ kms.}$$

$$= 5,600 \text{ tonnes – kms.}$$

'Commercial tones – kms' = Average load × Total kms. travelled.

$$= \left(\frac{20 + 12 + 16}{3} \right) \text{ tones} \times 350 \text{ kms.}$$

$$= 5,760 \text{ tonnes – kms.}$$

Question 14

Paramount Engineers are engaged in construction and erection of a bridge under a long-term contract. The cost incurred upto 31.03.2001 was as under:

<i>Fabrication</i>	<i>Rs. In Lakhs</i>
<i>Direct Material</i>	280
<i>Direct Labour</i>	100
<i>Overheads</i>	<u>60</u>
	440
<i>Erection costs to date</i>	<u>110</u>
	<u>550</u>

The contract price is Rs. 11 crores and the cash received on account till 31.03.2001 was Rs.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 Profit and Loss Account against this partly completed contract as at 31.03.2001.
(May, 2001, 10 marks)

Answer

Estimation of Profit to be taken to Profit and Loss Account against partly completed contract as at 31.03.2001.

8.20 Cost Accounting

$$\text{Profit to be taken to P/L Account} = \frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

(Refer to working notes 1,2,3 & 4)

$$= \frac{2}{3} \times \text{Rs. 92.48 lakhs} \times \frac{\text{Rs.600 lakhs}}{\text{Rs.642.48 lakhs}}$$

$$= \text{Rs.57.576 lakhs}$$

Working Notes

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

Particulars	Cost to date		Further Costs		Total Cost Rs. (a) + (b)
	%	Amount	%	Amount	
	Completion to date	Rs. (a)	comple- tion to be done	Rs. (b)	
Fabrication costs:					
Direct material	70	280.00	30	120.00	400.00
Direct labour	60	100.00	40	66.67	166.67
Overheads	60	<u>60.00</u>	40	<u>40.00</u>	<u>100.00</u>
Total Fabrication cost (A)		<u>440.00</u>		<u>226.67</u>	<u>666.67</u>
Erection cost: (B)	40	110.00	60	165.00	275.00
Total estimated costs: (A+B)		550.00		391.67	491.67
Profit		92.48		65.85	158.33
(Refer to working note 2)					
		<u>642.48</u>		<u>457.52</u>	<u>1,100.00</u>

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

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

$$= \frac{\text{Rs.158.33} \times \text{Rs.550}}{\text{Rs.941.67}}$$

$$= \text{Rs. 92.48 (lakhs)}$$

$$\text{Future Profit} = \text{Rs. 158.33} - \text{Rs. 92.48}$$

$$= \text{Rs. 65.85}$$

3. Work certified:

$$= \text{Cost of the contract to date} + \text{Profit to date}$$

$$= \text{Rs. 550} + \text{Rs. 92.49} = \text{Rs. 642.48 lakhs}$$

4. Degree of Completion of Contract to date:

$$\begin{aligned}
 &= \frac{\text{Cost of the Contract to date}}{\text{Contract Price}} \times 100 \\
 &= \frac{\text{Rs. 642.48 lakhs}}{\text{Rs. 1,100 lakhs}} \times 100 \\
 &= 58.40\%
 \end{aligned}$$

Question 15

One of the building contracts currently engaged in by a construction company commenced 15 months ago and remain unfinished. The following information relating to the work on the contract has been prepared for the year just ended:

	Rs.'000
Contract Price	2,500
Value of work certified at the end of year	2,200
Cost of work not yet certified at the end of year	40
Costs incurred:	
Opening balances:	
Case of work completed	300
Materials on site (physical stock)	10
During the year:	
Materials delivered to site	610
Wages	580
Hire of plant	110
Other expenses	90
Closing balance	
Materials on site (physical stock)	20

As soon as materials are delivered to the site, they are charged to the contract account. A record is also kept of materials as they are actually used on the contract. Periodically a stock check is maintained and any discrepancy between book stock and physical stock is transferred to a general contract material discrepancy account. This is absorbed back to each contract, currently at the rate of 0.5 of materials booked. The stock check at the year end revealed a stock shortage of Rs. 5,000.

8.22 Cost Accounting

In addition to the direct charges listed above, general overheads are charged to contract at 5% of the value of work certified. General overheads of Rs. 15,000 had been absorbed into the cost of work completed at the beginning of the year.

It has been estimated that further costs to complete the contract will be Rs. 2,20,000. this estimate includes the cost of materials on site at the end of the year finished and also a provision for rectification.

Required:

- (a) Explain briefly the distinguishing features of contract costing. (Nov., 1995, 4 marks)*
- (b) Determine the profitability of the above contract and recommend how much profit to nearest Rs. '000) should be taken for the year just ended. (Provide a detailed schedule of costs) (Nov., 1995, 9 marks)*
- (c) State how your recommendation in (b) would be affected if the contract price Rs. 40,00,000 (rather than rs. 25,00,000) and if no estimate has been made of costs to completion. (If required, suitable assumption should be made by the candidate). (Nov. , 1995, 3 marks)*

Answer

(a) Distinguishing features of contract costing

- (i) Higher proportion of direct costs:* Many costs which are normally classified as indirect can be traced specifically with a contract because of the self contained nature of most site operations thus they can be charged directly e.g. telephone installed at site, site power usage, site vehicles, transportation, wage bill (of site labour), supervisory staff salary, cost of the plant (exclusively purchased for a particular contract).
- (ii) Low indirect costs:* For most contracts the main item of indirect cost would be a charge for Head Office expenses. Other indirect costs include wages of workers which cannot be identified with a particular contract, or salary of supervisory staff looking two or more contracts.
- (iii) Difficulties of cost control:* Because of the scale of some contracts and the size of the site there are frequently major problems of cost control concerning: material usage and losses, pilferage, labour supervision and utilization, damage to and loss of plant and tools.
- (iv) Surplus materials:* All materials bought for a contract would be charged directly to the contract. At the end of the contract, the contract account would be credited with the cost of materials not used, and if they were transferred directly to another contract, the new contract account would be debited. If they were not required immediately, the materials would be stored and the cost debited to a stock account.

(b) Detailed schedule of Costs and Profitability

	<i>Rs.'000</i>
Cost of work completed	300
<i>(Opening balance)</i>	
Materials	595
<i>(Refer to Working note 1)</i>	
Wages	580
Hire of plant	110
Other expenses	90
Stock discrepancy (0.5% of Rs. 595)	3
General overhead (5% × Rs. 2,200 – Rs. 15)	<u>95</u>
Cost of contract to date	1,773
Add: Further costs to complete the contract	<u>220</u>
Estimated total cost: (A)	1,993
Contract price (B)	2,500
Estimated Profit (B-A)	507
Profit to be taken to Costing P/L A/c	
= $\frac{\text{Estimated profit} \times \text{cost of work to date}}{\text{Estimated total cost}}$	
= $\frac{\text{Rs.5,07,000} \times \text{Rs.17,73,000}}{\text{Rs.19,93,000}}$	
= Rs. 4,51,034	

Note: For calculating the profit to be taken to Costing P/L Account, other methods can also be used.

Working note:

Cost of material booked/utilised (at site)	<i>Rs.</i>
Material delivered to site	6,10,000
Add: Opening balance of material at site	<u>10,000</u>
	6,20,000

8.24 Cost Accounting

Less: Closing balance of material at site	20,000
	<u>6,00,000</u>
Less: Stock shortage	5,000
Material booked (at site)	<u>5,95,000</u>

- (c) When the value of contract becomes Rs. 40,00,000 and the value of work certified is Rs. 22,00,000 then contract's completion percentage comes out to be more than 50%. Hence the amount of profit to be taken to Costing Profit and Loss Account comes to: (if the ratio of cash received/work certified is 80%).

$$\begin{aligned}
 &= \frac{2}{3} \text{ Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= \frac{2}{3} \times \text{Rs. } 4,67,000^* \times \frac{80}{100} \\
 &= \text{Rs. } 2,49,067 \text{ (rounded to Rs. } 2,49,000)
 \end{aligned}$$

*Notional Profit

$$\begin{aligned}
 &= \{\text{Value of work certified} + \text{Cost of work not certified} - \text{Cost of contract to date}\} \\
 &= \{\text{Rs. } 22,00,000 + \text{Rs. } 40,000 - \text{Rs. } 17,73,000\} \\
 &= \text{Rs. } 4,67,000
 \end{aligned}$$

Question 16

A contractor commenced a building contract on October 1, 1997. The contract price is Rs. 4,40,000. The following data pertaining to the contract for the year 1998-99 has been compiled from his books and is as under:

		Rs.
April, 1998	Work-in-progress not certified	55,000
	Materials at site	2,000
1998 – 99	Expenses incurred:	
	Materials issued	1,12,000
	Wages paid	1,08,000
	Hire of plant	20,000
	Other expenses	34,000
March 31, 1999	Materials at site	4,000
	Work-in-progress: Not certified	8,000
	Work-in-progress: Certified	4,05,000

The cash received represents 80% of work certified. It has been estimated that further costs to complete the contract will be Rs.23,000 including the materials at site as on March 31, 1999.

Required

Determine the profit on the contract for the year 1998-99 on prudent basis, which has to be credited to P/L A/c.

Answers

Contract Account For the year 1998-99			
Dr.			Cr.
Particulars	Rs.	Particulars	Rs.
01.04.98			
To Work in-progress (not certified)	55,000	By Materials at site	4,000
To Materials at site	2,000		
1998-99			
To Materials issued	1,12,000	By Cost of contract	3,27,000
To Wages paid	1,08,000	c/d (to date)	
To Hire of plant	20,000		
To Other expenses	<u>24,000</u>		
	<u>3,31,000</u>		<u>3,31,000</u>
31.03.99			
To Cost of contract b/d (to date)	3,27,000	By Work-certified	4,05,000
To Profit & Loss A/c	66,273	By Work-not certified	8,000
To Profit in reserve	<u>19,727</u>		
	<u>4,13,000</u>		<u>4,13,000</u>

Profit for the year 1998-99

$$= \text{Rs. } 4,13,000 - \text{Rs. } 3,27,000 = \text{Rs. } 86,000$$

8.26 Cost Accounting

Estimated profit (on the completion of the contract)

	Rs.
Cost of the contract (to date)	3,27,000
Further cost of completing the contract	<u>23,000</u>
Total cost : (A)	3,50,000
Contract price: (B)	4,40,000
Estimated profit on the Completion of contract: [(A)–(B)]	90,000
Since $\left(\frac{\text{Work certified}}{\text{Contract price}} \right) \times 100 = \frac{\text{Rs.4,05,000}}{\text{Rs.4,40,000}} \times 100 = 92.05\%$	

This implies that contract is nearing completing. Hence the profit to be taken to Profit and Loss Account on prudent basis will be given by the formula:

$$\begin{aligned} &= \text{Estimated profit} \times \frac{\text{Work certified}}{\text{Contract price}} \times \frac{\text{Cash received}}{\text{Work certified}} \\ &= \text{Rs. } 90,000 \times \frac{\text{Rs.4,05,000}}{\text{Rs.4,40,000}} \times \frac{\text{Rs.3,24,000}}{\text{Rs.4,05,000}} \\ &= \text{Rs. } 66,273 \end{aligned}$$

Question 17

A construction company undertook a contract at an estimated price of Rs.108 lacs, which includes a budgeted profit of Rs. 18 lacs. The relevant data for the year ended 31.03.2002 are as under:

	(Rs. '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 Rs. 8,00,000 and after use on this contract till the end of 31.02.2002, it was valued at Rs.5,00,000. This cost of materials at site at the end of the year was estimated at Rs. 18,00,000. Direct wages accrued as on 31.03.2002 was Rs. 1,10,000.

Required

Prepare the Contract Account for the year ended 31st March, 2002 and compute the profit to be taken to the Profit and Loss account.
(Nov. 2002, 6 marks)

Answer

Contract Account for the year ended 31st March, 2002

<i>Dr.</i>	<i>Rs. '000</i>	<i>Cr.</i>	<i>Rs. '000</i>
To Materials issued to site	5,000	By Materials at site	1,800
To Direct wages	3,800	By Materials returned	100
To Wages accrued	110	By Cost of contract	8,780
To Plant hire	700		
To Site Office Costs	270		
To Direct expenses	500		
To Depreciation of special plant	<u>300</u>		
	<u>10,680</u>		<u>10,680</u>
To Cost of contract	8,780	By Work certified	10,000
To Profit & Loss A/c	1,200		
(Refer to working note 2)			
To Work-in-progress c/d	<u>20</u>		
(Profit in reserve)	<u>10,000</u>		<u>10,000</u>

Working notes

- Percentage of contract completion** = $\frac{\text{Cost of work certified}}{\text{Value of the contract}} \times 100$
 $= \frac{100 \text{ lacs}}{108 \text{ lacs}} \times 100 = 92.59\%$
- 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.**

$$\text{Profit to be taken to P \& L A/c} = \text{Budgeted/Estimated Profit} \times \frac{\text{Cash received}}{\text{Work certified}} \times \frac{\text{Work certified}}{\text{Contract price}}$$

$$= 1,800 \times \frac{7,200}{10,000} \times \frac{10,000}{10,800}$$

8.28 Cost Accounting

$$= 1,800 \times \frac{7,200}{10,800}$$

$$= \text{Rs. } 1,200$$

Question 18

MNP Construction Ltd. commenced a contract on April 1, 1999. The total contract was for Rs. 17,50,000. It was decided to estimate the total profit and to take to the credit of P/L A/c the proportion of estimated profit on cash basis, which work completed bore to the total contract. Actual expenditure in 1999-2000 and estimated expenditure in 2000-2001 are given below:

	1999-2000 (Actuals) Rs.	2000-2001 (Estimated) Rs.
Materials issued	3,00,000	5,50,000
Labour : Paid	2,00,000	2,50,000
: Outstanding at end	20,000	30,000
Plant purchased	1,50,000	—
Expenses : Paid	75,000	1,50,000
: Prepaid at end	15,000	—
Plant returned to store (historical cost)	50,000	1,00,000
		(On Dec. 31, 2000)
Material at site	20,000	50,000
Work certified	8,00,000	Full
Work uncertified	25,000	—
Cash received	6,00,000	Full

The plant is subject to annual depreciation @ 25% of WDV Cost. The contract is likely to be completed on Dec. 31, 2000. Prepare the Contract A/c Determine the profit on the contract for the year 1999-2000 on prudent basis, which has to be credited to P/L A/c.

Answer

MNP Construction Ltd. Contract Account (1st April, 1999 to 31st March, 2000)

Dr.			Cr.	
Particulars		Amount	Particulars	Amount
	(Rs.)	(Rs.)		(Rs.)
To Materials issued		3,00,000	By Plant returned to store	37,500
To Labour : Paid	2,00,000		(Refer to working note 1)	
Outstanding	<u>20,000</u>	2,20,000	By Materials at site	20,000
To Plant purchased		1,50,000	By Work certified	8,00,000
(Refer to working note 4)			By Work uncertified	25,000
To Expenses		60,000	By Plant at site	75,000

To Notional profit c/d	<u>2,27,500</u>	(Refer to working note 2)	<u>9,57,500</u>
	<u>9,57,500</u>		<u>9,57,500</u>
To Profit and Loss A/c (Refer to working note 5)	66,321.43	By Notional profit b/d	2,27,500
To Work in Progress A/c (Profit in reserve)	1,61,178.57		
	<u>2,27,500.00</u>		<u>2,27,500.00</u>

MNP Construction Ltd.
Contract Account (1st April, 1999 to 31st December, 2000)
(For computing estimated profit)

<i>Dr.</i>		<i>Cr.</i>	
<i>Particulars</i>	<i>Amount Rs.</i>	<i>Particulars</i>	<i>Amount Rs.</i>
To Material issued (Rs. 3,00,000 + Rs. 5,50,000)	8,50,000	By materials at site	50,000
To Labour (Paid and outstanding) (Rs. 2,20,000 + Rs. 2,30,000 + Rs. 30,000)	4,80,000	By Plant returned to store on 31 st March 2000 (Refer to working note 1)	37,500
To Plant purchased	1,50,000	By Plant returned to store on 31 st December, 2000 (Refer to working note 3)	60,937.50
To Expenses (Rs. 60,000 + Rs. 1,65,000)	2,25,000		
To Estimated profit	<u>1,93,437.50</u>	By Contractee's A/c	<u>17,50,000</u>
	<u>18,98,437.50</u>		<u>18,98,437.50</u>

Working notes:

1. Value of the plant returned to store on 31 st March, 2000	Rs.
Historical cost of the plant returned	50,000
Less: Depreciation @ 25% of WDV cost for 1 year	<u>12,500</u>
Value of the plant returned to store on 31 st March, 2000	<u>37,500</u>
2. Value of plant at site	Rs.
Historical cost of the plant at site	1,00,000
Less: Depreciation @ 25% of WDV cost for 1 year	<u>25,000</u>
Value of the plant returned at site on 31 st March, 2000	<u>75,000</u>
3. Value of the plant returned to store on 31 st December, 2000	Rs.
Value of the plant on 31 st March, 2000	75,000
Less: Depreciation @ 25% of WDV for a period of 9 months	<u>14,062.50</u>
Value of the plant on 31-12-2000	<u>60,937.50</u>

8.30 Cost Accounting

4. Expenses paid

Total expenses paid	75,000
Less: Prepaid expenses at end	<u>15,000</u>
Expenses paid for the year 1999-2000	<u>60,000</u>

5. Profit to be credited to P/L A/c on 31st March, 2000 for the contract likely to be completed on 31st December 2000

$$\begin{aligned} & \text{Estimated profit} \times \frac{\text{Cash received}}{\text{Work certified}} \times \frac{\text{Work certified}}{\text{Total contract price}} \\ &= \text{Rs. } 1,93,437.50 \times \frac{\text{Rs. } 6,00,000}{\text{Rs. } 8,00,000} \times \frac{\text{Rs. } 8,00,000}{\text{Rs. } 17,50,000} \\ &= \text{Rs. } 66,321.43 \end{aligned}$$

Question 19

A construction company under-taking a number of contracts, furnished the following data relating to its uncompleted contracts as on 31st March, 1996.

	(Rs. In Lacs)			
	Contract Numbers			
	723	726	729	731
Total Contract Price	23.20	14.40	10.08	28.80
Estimated Costs on completion of Contract	20.50	11.52	12.60	21.60
Expenses for the year ended 31.03.96				
Direct Materials	5.22	1.80	1.98	0.80
Direct wages	2.32	4.32	3.90	2.16
Overheads (Excluding Depreciation)	1.06	2.60	2.62	1.05
Profit Reserve as on 01.04.95	1.50	—	—	—
Plant issued at Cost	5.00	3.50	2.75	3.00
Material at Site on 01.04.95	0.75	—	—	—
Materials at Site on 31.03.96	0.45	0.20	0.08	0.05
Work Certified till 31.3.95	4.65	—	—	—
Work Certified during the year 1995-96	12.76	13.26	7.56	4.32
Work Uncertified as on 31.03.96	0.84	0.24	0.14	0.18
Progress payment received during the year	9.57	9.00	5.75	3.60

Depreciation @ 20% per annum is to be charged on plant issued. While the Contract No. 723 was carried over from last year, the remaining contracts were started in the 1st week of April, 1995, required.

- (i) Determine the profit/loss in respect of each contract for the year ended 31st March, 1996.
(ii) State the profit/loss to be carried to Profit & Loss A/c for the year ended 31st March, 1996
(Nov., 1996, 12 marks)

Answer

- (i) **Statement of Profit / Loss in respect of following contract numbers
for the year ended 31st March, 1996**

		(Rs. In Lacs)			
		Contract Numbers			
		723	726	729	731
A.	Contract completion percentage:				
	Work Certified (a)	17.41	13.26	7.56	4.32
	Contract price (b)	23.20	14.40	10.08	28.80
	Percentage of completion [(a)-(b)]	75.04	92.08	75.00	15.00
B.	Estimated profit on completion:				
	Contract Price (c)	23.20	14.4	10.08	28.80
	Estimated costs on completion : (d)	20.50	11.52	12.60	21.60
	Estimated profit (Loss) on Completion [(c)-(d)]	2.70	2.88	(2.52)	7.20
C.	Profit of the year				
	Op. stock of materials	0.75	—	—	—
	Materials issued	5.22	1.80	1.98	0.80
	Direct wages	2.32	4.32	3.90	2.16
	Overheads	1.06	2.60	2.62	1.05
	Depreciation	1.00	0.70	0.55	0.60
	Total : (P)	<u>10.35</u>	<u>9.42</u>	<u>9.05</u>	<u>4.61</u>
	Profit in reserve	1.50	—	—	—
	Material at site on 31.03.96	<u>0.45</u>	<u>0.20</u>	<u>0.08</u>	<u>0.05</u>
	Total (Q)	<u>1.95</u>	<u>0.20</u>	<u>0.08</u>	<u>0.05</u>
	Cost of contract (R) = [(P) – (Q)]	8.40	9.22	8.97	4.56
	Work certified	12.76	13.26	7.56	4.32
	Work not certified	<u>0.84</u>	<u>0.24</u>	<u>0.14</u>	<u>0.18</u>
	Total : (S)	<u>13.60</u>	<u>13.50</u>	<u>7.70</u>	<u>4.50</u>
	Profit (loss for the year [(R) – (S)]	<u>5.20</u>	<u>4.28</u>	<u>(1.27)</u>	<u>(0.06)</u>

8.32 Cost Accounting

(ii) **Profit to be taken to Profit & Loss Account of the year
in respect of respective contract**

$$\begin{aligned}
 \text{Contract 723} &= \frac{2}{3} \times \text{Notional profit} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= \frac{2}{3} \times 5.20 \times \frac{9.57}{12.76} = \text{Rs. 2.60 lacs.} \\
 &= \text{Balance Rs. 2.60 lacs to reserve} \\
 \text{Contract 726} &= \frac{\text{Estimated total profits on completion}}{\text{Contract price}} \times \frac{\text{Work certified}}{\text{Work certified}} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= 2.88 \times \frac{13.26}{14.40} \times \frac{9.00}{13.26} = \text{Rs. 1.80 lacs.} \\
 &= \text{Balance to reserve.} \\
 &= \text{Rs. 2.48 lacs.} \\
 \text{Contract 729} &= \text{Provide for current loss of Rs. 1.27 lacs.} \\
 &= \text{Provide for expected loss of Rs. 1.25 lacs.} \\
 \text{Contract 731} &= \text{Provide for current loss of Rs. 0.06 lacs}
 \end{aligned}$$

Question 20

A company undertook a contract for construction of a large building complex. The construction work commenced on 1st April 1993 and the following data are available for the year ended 31st March 1994.

	Rs. '000
Contract Price	35,000
Work certified	20,000
Progress Payments Received	15,000
Materials Issued to Site	7,500
Planning & Estimating costs	1,000
Direct Wages Paid	4,000
Materials Returned From Site	250
Plant Hire Charges	1,750
Wage Related Costs	500
Site Office Costs	678
Head Office Expenses Apportioned	375
Direct Expenses Incurred	902
Work Not Certified	149

The contractors own a plant which originally cost Rs.20 lacs has been continuously in use in this contract throughout the year. The residual value of the plant after 5 years of life is expected to be Rs. 5 lacs. Straight line method of depreciation is in use.

As on 31st March, 1994 the direct wages due and payable amounted to Rs. 2,70,000 and the materials at site were estimated at Rs. 2,00,000.

Required:

- (i) Prepare the contract account for the year ended 31st March, 1994.
- (ii) Show the calculation of profit to be taken to the profit and loss account of the year.
- (iii) Show the relevant balance sheet entries (Nov., 1994, 16 marks)

Answer

(i) Contract Account for the year ended 31st March, 1994			
Dr.			Cr.
	Rs.'000		Rs.'000
To Materials issued	7,500	By Materials returned	250
To Direct wages paid	4,000	By Materials at site	200
To Direct wages accrued	270	By Work-in-progress c/d	
To Wage related costs	500	Work certified	20,000
To Direct expenses incurred	902	Work uncertified	149
To Plant hire charges	1,750		
To Planning and estimating cost	1,000		
To Site Office costs	678		
To Head Office expenses apportioned	375		
To Plant depreciation (Refer to Working Note1)	300		
To Notional Profit	<u>3,324</u>		
	<u>20,599</u>		<u>20,599</u>
To Profit and Loss A/c [See Ans (ii) below]	1,662	By Notional profit b/d	3,324
To Work-in-progress c/d (Profit in reserve)	1,662		
	<u>3,324</u>		<u>3,324</u>

8.34 Cost Accounting

01.04.94

To Work in-progress b/d		By Work in-progress b/d	1,662
Work certified	20,000	(Profit in reserve)	
Work uncertified	149		
To Materials at site	200		

(ii) Profit to be transferred to Profit and Loss Account (Fig. In Rs.'000)

Since the Contract is between 50% and 90% completion, therefore, two-third of the notional profit, reduced by the proportion of cash received to work certified is to be transferred to profit and loss account as shown below:

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

$$= \frac{2}{3} \text{ Rs. } 3,324 \times \frac{\text{Rs. } 15,000}{\text{Rs. } 20,000} = \text{Rs. } 1,662$$

(iii) Balance Sheet (extract) as on 31st March, 1994

Liabilities	Rs.'000	Assets	Rs.'000
Profit and Loss A/c	1,662	Plant at site	1,700
		(Rs. 2,000 – Rs. 300)	
Wages accrued	270	Materials at site	200
		Work-in-progress	3,487
		(Refer to Working Note 2)	

Working notes

Rs. '000

1. Plant depreciation	
Original cost of Plant	2,000
Less: Residual value	<u>500</u>
Cost of plant used	1,500
Life of plant : 5 years	
Annual Depreciation	300
(Rs. 1,500/5)	
2. Work in-Progress	20,149
Less: Profit in reserve	<u>1,662</u>
Difference	<u>18,487</u>
Less: Cash received	<u>15,000</u>
Net WIP	3,487

Question 21

Compute a conservative estimate of profit on a contract (which has been 80% complete) from the following particulars. Illustrate four methods of computing the profit:

	Rs.
Total expenditure to date	1,70,000
Estimated further expenditure to complete the contract (including contingencies)	34,000
Contract Price	3,06,000
Work Certified	2,00,000
Work not certified	17,000
Cash Received	1,63,200
	(May, 1998, 8 marks)

Answer**Working Notes**

1. Computation of estimated profit	Rs.	Rs.
Contract price		3,06,000
Less: Total expenditure to date	1,70,000	
Less: Estimated further expenditure to complete the contract (including contingencies)	34,000	2,04,000
Estimated profit		<u>1,02,000</u>
2. Computation of Notional Profit		
Value of work certified		2,00,000
Less: Cost of work certified: (Total expenditure to date – work not certified) (Rs. 1,70,000 – Rs. 17,000)		1,53,000
Notional Profit		<u>47,000</u>

Four methods of computing the conservative estimates of profits (when 89% of the contract is complete)

(i) Estimated profit $\times \frac{\text{Work Certified}}{\text{Contract price}}$ (Refer to working note 1)

$$= \text{Rs. } 1,02,000 \times \frac{\text{Rs. } 2,00,000}{\text{Rs. } 3,06,000} = \text{Rs. } 66,666.66$$

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

$$= \text{Rs. } 1,02,000 \times \frac{\text{Rs. } 2,00,000}{\text{Rs. } 3,06,000} \times \frac{\text{Rs. } 1,63,200}{\text{Rs. } 2,00,000}$$

8.36 Cost Accounting

$$= \text{Rs. } 54,400$$

$$(iii) \text{ Notional profit} \times \frac{\text{Work certified}}{\text{Contract price}} \text{ (Refer to working note 2)}$$

$$= \text{Rs. } 47,000 \times \frac{\text{Rs. } 2,00,000}{\text{Rs. } 3,06,000} = \text{Rs. } 30,718.95$$

$$(iv) \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$= \frac{2}{3} \times \text{Rs. } 47,000 \times \frac{\text{Rs. } 1,63,200}{\text{Rs. } 2,00,000}$$

$$= \text{Rs. } 25.568$$

Question 22

Explain escalation Clause.

Answer

Escalation clause

It is a clause which is always provided in a contract to safeguard the interests of the contractor against any rise in price of materials and rates of labour and their increased utilization. If the prices of materials and rates of labour increases during the period of the contract beyond a certain defined level, the contractor will be compensated to the extent of a portion thereof. The contractor has to satisfy the contractee about his claim for compensation in respect of prices and utilisation of material and labour.

Question 23

RST Construction Limited commenced a contract on April 1, 2005. The total contract was for Rs. 49,21,875. It was decided to estimate the total Profit on the contract and to take to the Credit of Profit and Loss Account that proportion of estimated profit on cash basis, which work completed bore to total Contract. Actual expenditure for the period April 1, 2005 to March 31, 2006 and estimated expenditure for April 1, 2006 to September 30, 2006 are given below:

	<i>April 1, 2005 to March 31, 2006 (Actuals)</i>	<i>April 1, 2006 to September 30, 2006 (Estimated)</i>
	<i>Rs.</i>	<i>Rs.</i>
<i>Materials Issued</i>	<i>7,76,250</i>	<i>12,99,375</i>
<i>Labour: Paid</i>	<i>5,17,500</i>	<i>6,18,750</i>

Contract Costing 8.37

: Prepaid	37,500	—
: Outstanding	12,500	5,750
Plant Purchased	4,00,000	—
Expenses: Paid	2,25,000	3,75,000
: Outstanding	25,000	10,000
: Prepaid	15,000	—
Plant returns to Store (historical cost)	1,00,000	3,00,000
	(On September 30, 2005)	(On September 30, 2006)
Work certified	22,50,000	Full
Work uncertified	25,000	—
Cash received	18,75,000	—
Materials at site	82,500	42,500

The plant is subject to annual depreciation @ 25% on written down value method. The contract is likely to be completed on September 30, 2006.

Required:

Prepare the contract A/c. Determine the profit on the contract for the year 2005-06 on prudent basis, which has to be credited to Profit and Loss Account.. (10 Marks)

Answer

Contract Account for the year ending March 31, 2006

		Rs.				Rs.
To	Materials issued	7,76,250	By	Work-in-progress		
To	Labour	5,17,500		Certified	22,50,000	
	Add: Outstanding	12,500		Uncertified	25,000	22,75,000
	Less: Prepaid	37,500	By	Plant returned to store		
To	Plant	4,00,000		on 30.09.2005		
To	Expenses	2,25,000		(1,00,000 – 25% × ½)		87,500
	Add: Outstanding	25,000	By	Plant at site		
	Less: Prepaid	15,000		(3,00,000 – 25%)		2,25,000
		2,35,000	By	Materials at site		82,500
To	Notional Profit c/d	7,66,250				
		26,70,000				26,70,000
To	Profit and Loss A/c		By	Notional Profit b/d	7,66,250	
	$10,21,125 \times \frac{22,50,000}{49,21,875} \times \frac{18,75,000}{22,50,000}$	3,89,000				
To	WIP (Reserve)	3,77,250				
		7,66,250				7,66,250

8.38 Cost Accounting

Contract Account (for entire life period April 1, 2005 to September 30, 2006)

	Rs.			Rs.
To Materials issued		By Contractee A/c		49,21,875
(7,76,250 + 12,99,375)	20,75,625	By Materials at site		42,500
To Labour (5,17,500 – 37,500 + 12,500 + 6,18,750 + 37,500 – 12,500 + 5,750)	11,42,000	By Plant returned on September 30, 2005 (1,00,000 – 12,500)		87,500
To Plant	4,00,000	By Plant returned on September 30, 2006	3,00,000	
To Expenses (2,25,000 + 25,000 – 15,000 + 3,75,000 – 25,000 + 15,000 + 10,000)	6,10,000	Depreciation for 2005-2006 @ 25%	<u>75,000</u>	
To Estimated profit on contract	10,21,125	Depreciation 2006-2007(1/2)	28,125	1,96,875
	52,48,750			52,48,750

Question 24

Explain the following:

- Notional profit in Contract costing
 - Retention money in Contract costing
- (May 2007, 2, 2 Marks)

Answer

(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.

Question 25

Modern Construction Ltd. obtained a contract No. B-37 for Rs. 40 lakhs. The following balances and information relate to the contract for the year ended 31st March, 2008:

	1.4.2007	31.3.2008
	Rs.	Rs.
• Work-in-progress:		
• Work certified	9,40,000	30,00,000

Contract Costing 8.39

• Work uncertified	11,200	32,000
• Materials at site	8,000	20,000
• Accrued wages	5,000	3,000

Additional information relating to the year 2007-2008 are:

	Rs.
• 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

. (May 2007, 4 Marks)

Answer**Books of Modern Constructions Ltd.****Contract No. B-37 Account for the year ended 31st March, 2008**

	Rs.		Rs.
To WIP b/d (9,40,000 + 11,200)	9,51,200	By Wages Accrued b/d	5,000
To Stock (materials) b/d	8,000	By Materials returned to Store	25,000
To Materials issued	4,00,000	By Materials returned to suppliers	15,000
To Materials purchased	1,50,000	By WIP c/d -	
To Wages paid	6,00,000	Work	

8.40 Cost Accounting

			Certified	30,00,000	
To	Wages Accrued c/d	3,000	Uncertified work	<u>32,000</u>	30,32,000
To	Architect's fees	51,000	By	Materials stock c/d	20,000
To	Plant Hire charges	50,000			
To	Indirect expenses	10,000			
To	General overheads	18,000			
To	Notional profit c/d	<u>8,55,800</u>			
		<u>30,97,000</u>			<u>30,97,000</u>
To	Profit and Loss A/c		By	Notional Profit b/f	8,55,800
	$\left(\frac{2}{3} \times 8,55,800 \times \frac{80}{100}\right)$	4,56,427			
To	WIP Reserve c/d	<u>3,99,373</u>			
		<u>8,55,800</u>			<u>8,55,800</u>

Note:

Fines and penalties are not shown in contract accounts.

Contractee's Account

		Rs.			Rs.
To	Balance c/d	24,00,000	By	Balance b/d (80% of 9,40,000)	7,52,000
		<u> </u>	By	Bank	<u>16,48,000</u>
		24,00,000			24,00,000

Balance Sheet (Extract) as on 31.3.2008

	Rs.			Rs.
Profit and Loss A/c	4,56,427		Materials stock at site	20,000
Less: Fines	<u>12,000</u>	4,44,427	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>
				<u>2,32,627</u>

Question 26

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

	Rs.
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

(Nov, 2007, 6 marks)

Answer

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

Credit to Profit and Loss Account = Estimated profit on completed contract

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

$$\begin{aligned} \text{Estimated profit on completed contract basis} &= \text{Contract Price} - (\text{Total expenditure to date} + \\ &\quad \text{Estimated further expenditure to completed contract}) \\ &= 32,50,000 - (22,50,000 + 2,50,000) \\ &= \text{Rs. } 7,50,000. \end{aligned}$$

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

Question 27

What is cost plus contract? State its advantages.

(November 2008, 3 Marks)

Answer

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:

8.42 Cost Accounting

- (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.