

CHAPTER 6

METHOD OF COSTING (I)

Question 1

AKP Builders Ltd. Commenced a contract on April 1, 2005. The total contract was for Rs. 5,00,000. Actual expenditure for the period April 1, 2005 to March 31, 2006 and estimated expenditure for April 1, 2006 to December 31, 2006 are given below:

	2005-06 (Actuals) Rs.	2006-07 (9 months) (Estimated) Rs.
Material Issued	90,000	85,750
Labour : Paid	75,000	87,325
Outstanding at the end	6,250	8,300
Plant	25,000	—
Sundry Expenses : Paid	7,250	6,875
Prepaid at the end	625	—
Establishment charges	14,625	—

A part of the material was unsuitable and was sold for Rs. 18,125 (Cost being Rs. 15,000) and a part of plant was scrapped and disposed of for Rs. 2,875. The value of plant at site on 31 March, 2006 was Rs. 7,750 and the value of material at site was Rs. 4,250. Cash received on account to date was Rs. 1,75,000, representing 80% of the work certified. The cost of work uncertified was valued at Rs. 27,375.

The contractor estimated further expenditure that would be incurred in completion of the contract:

- ◆ The contract would be completed by 31st December, 2006.
- ◆ A further sum of Rs. 31,250 would have to be spent on the plant and the residual value of the plant on the completion of the contract would be Rs. 3,750.
- ◆ Establishment charges would cost the same amount per month as in the previous year.
- ◆ Rs. 10,800 would be sufficient to provide for contingencies.

Required:

Prepare Contract account and calculate estimated total profit on this contract. Profit transmissible to Profit and Loss account is to be calculated by reducing estimated Profit in proportion of work certified and contract price.

(May 2007, 8 Marks)

Answer**(a)****AKP Builders Ltd.****Contract Account (2005–2006)**

<i>Particulars</i>	<i>Rs.</i>	<i>Particulars</i>	<i>Rs.</i>
To Material issued	90,000	By Material (sold)	18,125
To Labour	75,000	By Plant (sold)	2,875
Add: Outstanding	<u>6,250</u>	By Plant at site	7,750
To Plant	25,000	By Material at site	4,250
To Sundry Expenditure	7,250		
Less: Pre-paid	<u>625</u>		
To Establishment charges	14,625	By Balance c/d	1,87,625
To Profit and Loss A/c (Profit on sale of material)	<u>3,125</u>		
	<u>2,20,625</u>		<u>2,20,625</u>
To Balance b/d	1,87,625	By Work in progress	
To Balance c/d	58,500	Certified	2,18,750
		Uncertified	<u>27,375</u>
	<u>2,46,125</u>		<u>2,46,125</u>
To Profit and Loss A/c*	29,960.55	By Balance	58,500
To Work in progress	<u>28,539.45</u>		
	<u>58,500</u>		<u>58,500</u>

* Profit to Profit and Loss A/c = Estimated Profit $\times \frac{\text{Work certified}}{\text{Contract price}}$

$$68,481.25 \times \frac{2,18,750}{5,00,000} = \text{Rs. } 29,960.55$$

Memorandum Contract Account (9 months)

<i>Particulars</i>	<i>Rs.</i>	<i>Particulars</i>	<i>Rs.</i>
To Material		By Contractee's A/c	5,00,000
(90,000 + 3,125 – 18,125)	75,000		

	Add: New Addition	<u>85,750</u>	1,60,750	
To	Plant (25,000 – 2,875)	22,125		
	Add: New	(+) 31,250		
	Less: Closing	(–) <u>3,750</u>	49,625	
To	Establishment charges	14,625		
	Add: For nine months			
	$\frac{14,625}{12} \times 9 =$	<u>10,968.75</u>	25,593.75	
To	Sundry Expenditure	6,625		
	Add: New	(+) 6,875		
	Previous prepaid	(+) <u>625</u>	14,125.00	
To	Labour	81,250		
	Add: (87,325 – 6,250)	(+) 81,075		
	Outstanding	(+) <u>8,300</u>	1,70,625	
To	Reserve for contingencies		10,800	
To	Estimated Profit	<u>68,481.25</u>		
		<u>5,00,000</u>		<u>5,00,000</u>

Question 2

Calculate total passenger kilometres from the following information:

Number of buses 6, number of days operating in a month 25, trips made by each bus per day 8, distance covered 20 kilometres (one side), capacity of bus 40 passengers, normally 80% of capacity utilization.

(Nov 2007, 2 Marks)

Answer

Calculation of passenger kilometers:

$$6 \times 25 \times 8 \times 2 \times 20 \times 40 \times 80\% = 15,36,000 \text{ passenger kms.}$$

Question 3

Explain the importance of an Escalation Clause in contract cost.

(Nov 2007, 2 Marks)

Answer

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.

Question 4

What are the main advantages of cost plus contract?

(May 2008, 2 Marks)

Answer

Costs plus contracts have the following advantages:

1. The contractor is assured of a fixed percentage of profit. There is no risk of incurring any loss on the contract.
2. It is useful especially when the work to be done is not definitely fixed at the time of making the estimate.
3. Contractee can ensure himself about "the cost of the contract", as he is empowered to examine the books and document of the contractor to ascertain the veracity of the cost of the contract.

Question 5

State the method of costing that would be most suitable for

- (a) *Oil refinery*
- (b) *Bicycle manufacturing*
- (c) *Interior decoration*
- (d) *Airlines company*

(Nov 2008, 2 Marks)

Answer

Industry	Method of Costing
(a) Oil Refinery	– Process costing
(b) Bicycle manufacturing	– Multiple costing
(c) Interior decoration	– Job costing
(d) Airlines	– Operating costing

Question 6

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

End of Year	Value of work certified (Rs.)	Cost of work to date (Rs.)	Cost of work not yet certified (Rs.)	Cash received (Rs.)
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 Rs. 10,00,000 and the estimated profit is 20%.

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.

(Nov 2008, 3 Marks)

Answer

End of year	Value of work certified (Rs.)	Cost of work certified* (Rs.)	Notional profit** (Rs.)	Amount that should have been credited to Profit and Loss A/c by the end of year (Rs.)
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 lorry starts with a load of 24 tonnes of goods from station A. It unloads 10 tonnes at station B and rest of goods at station C. It reaches back directly to station A after getting reloaded with 18 tonnes of goods at station C. The distance between A to B, B to C and then from C to A are 270 kms, 150 kms and 325 kms respectively. Compute 'Absolute tonnes kms' and 'Commercial tones-kms'.

(May 2009, 2 Marks)

Answer

Absolute tonnes kms

= tonnes (unit of weight) × Km (Unit of distance)

= 24 tonnes × 270 kms

+ 14 tonnes × 150 kms

+ 18 tonnes × 325 kms

= 6480 + 2100 + 5850

= 14430 tonnes kms

Commercial Tonnes kms

= Average load × total kms travelled

= $\left(\frac{24 + 14 + 18}{3} \right)$ tonnes × 745 kms

= 13906.67 Tonnes km

Question 8

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:

	Rs.
Cost of work-in-progress uncertified	8,000
Profit transferred to Profit & Loss A/c at the end of year I on incomplete contract	60,000
Cost of work to date	88,000

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

(May 2009, 3 Marks)

Answer

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.

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

$$\text{or, 60,000} = \frac{2}{3} \times \text{Notional Profit} \times \frac{75}{100}$$

$$\begin{aligned} \text{or, Notional Profit} &= \frac{60,000 \times 3 \times 100}{2 \times 75} \\ &= \text{Rs.1,20,000} \end{aligned}$$

Computation of Value of Work Certified

$$\text{Cost of work to date} = \text{Rs. 88,000}$$

$$\begin{aligned} \text{Add: Notional Profit} &= \underline{\text{Rs.1,20,000}} \\ &\text{Rs.2,08,000} \end{aligned}$$

$$\text{Less: Cost of Work Uncertified} = \underline{\text{8,000}}$$

$$\text{Value of Work Certified} = \underline{\text{Rs.2,00,000}}$$

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

$$\begin{aligned} \text{Contract Price} &= \frac{\text{Value of Work Certified}}{80\%} \\ &= \frac{\text{Rs.2,00,000}}{80\%} \\ &= \text{Rs.2,50,000} \end{aligned}$$

Question 9

Mention the main advantage of cost plus contracts.

(November 2009, 2 Marks)

Answer

Main advantages of cost plus contracts are:

- Contractor is protected from risk of fluctuation in market price of material, labour and services.

- Contractee can insure a fair price of the market.
- It is useful specially when the work to be done is not definitely fixed at the time of making the estimate.
- Contractee can ensure himself about 'the cost of the contract' as he is empowered to examine the books and documents of the contractor to ascertain the veracity of the cost of the contract.

Question 10

Explain briefly, what do you understand by Operating Costing. How are composite units computed?

(November 2009, 3 Marks)

Answer

Operating Costing: It is method of ascertaining costs of providing or operating a service. This method of costing is applied by those undertakings which provide services rather than production of commodities. This method of costing is used by transport companies, gas and water works departments, electricity supply companies, canteens, hospitals, theatres, schools etc.

Composite units may be computed in two ways:

- (a) Absolute (weighted average) tones kms, quintal kms etc.
- (b) Commercial (simple average) tones kms, quintal kms etc.

Absolute tonnes-kms are the sum total of tonnes kms arrived at by multiplying various distances by respective load quantities carried.

Commercial tonnes-kms, are arrived at by multiplying total distance kms, by average load quantity.