

**GOVERNMENT ARTS AND SCIENCE COLLEGE, MANALMEDU**

**DEPARTMENT OF COMMERCE**

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**Cost Accounting – E-Learning Study Material**

**CONTRACT COSTING - PROBLEMS**

**Problem 1**

A contractor took a construction work for ₹ 12,00,000 in January 2019. He incurred the following expenses during the year 2019.

Material ₹ 3,80,000; Wages ₹ 2,75,000; Plant ₹ 50,000; Business charges ₹ 15,500.

Cash received on account to 31<sup>st</sup> December 2019 amounted to ₹ 6,00,000 being 80% of work certified; the value of materials in hand as on 31.12.2019 was ₹ 22,000. Work uncertified amounted to ₹ 20,000. Prepare Contract Account for the year 2019 showing the profit to be credited to the years' profit and loss account. Depreciation on plant is charged at the rate of 10% p.a.

## Solution

### Contract Account

To Material	3,80,000	By Plant at closing	50,000	
To Wages	2,75,000	Less: Depreciation(WN1)	5,000	45,000
To Plant	50,000	By Material in hand		22,000
To Business charges	15,500	By Work in progress a/c		
To Notional profit c/d	1,16,500	Work certified (WN1)	7,50,000	
		Work uncertified	20,000	7,70,000
	8,37,000			8,37,000
To Profit & Loss a/c (WN1)	62,133	By Notional profit b/d		1,16,500
To Work-in-progress a/c (Reserve)	54,367			
	1,16,500			1,16,500

### Working Notes: (Sol)

#### 1. Depreciation on machinery

$$= 50,000 \times \frac{10}{100} = 5,000$$

#### 2. Work certified

$$= 6,00,000 \times \frac{100}{80} = 7,50,000$$

#### 3. Notional profit to be transferred to Profit and Loss account

Here the work is completed more than a half (above 50%), hence  $\frac{2}{3}$ <sup>rd</sup> of notional profit may be transferred to Profit and Loss account as follows.

$$\begin{aligned} &= \text{Notional profit} \times \frac{2}{3} \times \frac{\text{Cash Received}}{\text{Work Certified}} \\ &= 1,16,500 \times \frac{2}{3} \times \frac{6,00,000}{7,50,000} = 62,133 \end{aligned}$$

## Problem 2

A company undertook a contract for construction of a building. The work was commenced on 1<sup>st</sup> April, 2019 and the following data are presented by the contractor for the year ended 31<sup>st</sup> March, 2020.

Contract price	60,00,000	Plant hire charges	2,50,000
Work certified	40,00,000	Indirect wages	50,000
Progress payments received	30,00,000	Site office costs	1,20,000
Materials issued to site	13,00,000	Head office expenses apportioned	1,05,000
Planning & estimating costs	1,00,000	Direct expenses incurred	1,80,000
Direct wages	10,00,000	Work not certified	60,000
Materials returned from site	20,000		

The contractor owns a plant which originally cost ₹ 10,00,000 has been continuously in use in this contract throughout the year. The residual value of the plant after 5 years of life is estimated to be ₹ 2,00,000. Straight line method of depreciation is used.

As on 31<sup>st</sup> March, 2020 the direct wages due and payable amounted to ₹ 50,000 and the materials at site were estimated at ₹ 1,40,000.

Prepare contract account for the year ended 31<sup>st</sup> March, 2020, show the calculations of profit to be taken to the profit and loss account and show relevant items in balance sheet.

**Solution (Sol2)**

**Contract Account**

To Material		13,00,000	By Materials returned		20,000
To Direct Wages	10,00,000		By Materials at hand		1,40,000
Add: Outstanding	50,000	10,50,000	By Work in progress		
To Planning & Estimating costs		1,00,000	Work certified	40,00,000	
To Plant hire charges		2,50,000	Work uncertified	60,000	40,60,000
To Indirect wages		50,000			
To Site office costs		1,20,000			
To HO expenses		1,05,000			
To Direct expenses		1,80,000			
To Depreciation on plant <a href="#">WN</a>		1,60,000			
To Notional Profit		9,05,000			
		42,20,000			42,20,000
To Profit & Loss a/c <a href="#">WN</a>		4,52,500	By Notional profit b/d		9,05,000
To Work-in-progress a/c (Reserve)		4,52,500			
		9,05,000			9,05,000

**Working Notes (WN) [Sol2](#)**

**1. Depreciation on Plant**

$$= \frac{10,00,000 - 2,00,000}{5 \text{ years}} = 1,60,000$$

**2. Notional profit to be transferred to Profit and Loss account**

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

$$= 9,05,000 \times \frac{2}{3} \times \frac{30,00,000}{40,00,000} = 4,52,500$$

**Balance Sheet (Extracts) as on 31<sup>st</sup> March, 2020**

<b>Liabilities</b>	`	<b>Assets</b>		`
Wages outstanding	50,000	Plant at site (10,00,000 –		
Profit & Loss account	4,52,500	1,60,000)		8,40,000
		Material in site		1,40,000
		Work in Progress	40,00,000	
		Work certified	60,000	
		Work uncertified		
			40,60,000	
		Less: Profit in reserve	4,52,500	
		Less Cash received from	36,07,500	
		contractee	30,00,000	6,07,500

**Problem 3**

A construction company with a paid up share capital of ` 50,00,000 undertook a contract to construct a building. The contract work commenced on 1.1.2018 and the contract price was ` 40,00,000. Cash received on account of contract on 31.12.2018 was ` 13,50,000 (90% of the work certified). Work completed but not certified was estimated at ` 90,000. As on 31.12.2018, material at site was estimated at ` 25,000 and machinery at site costing ` 1,50,000 was returned to stores. Plant and machinery at site is to be depreciated at 10% p.a. Wages outstanding on 31.12.2018 was ` 6,000.

The following were ledger balances (Dr.) as per Trial balance as on 31.12.2018.

Land and buildings	22,00,000	Site expenses	6,000
Plant & Machinery (60% site)	15,00,000	Postage and telegrams	4,000
Lorries and other vehicles	6,00,000	Office expenses	10,000
Furniture	50,000	Rates and taxes	18,000
Office equipments	20,000	Cash at bank	3,77,000
Materials sent to site	11,00,000	Wages	2,40,000
Fuel & Power	1,00,000		

Prepare the Contract account to ascertain the profit from the contract and prepare Balance Sheet.

**Solution (Sol3)**

**Contract Account**

To Material sent to site	11,00,000		By Work-in-progress	
Less: Material at site	25,000	10,75,000	Work certified <a href="#">WN3</a>	15,00,000
To Wages	2,40,000		Work uncertified	90,000
Add: Wages outstanding	6,000	2,46,000		
To Site expenses		6,000		
To Postage and telegrams		4,000		
To Office expenses		10,000		
To Rates and taxes		18,000		
To Fuel and power		1,00,000		
To Depreciation <a href="#">WN3</a>		90,000		
To Notional profit c/d		41,000		
		15,90,000		15,90,000
To Profit & Loss a/c <a href="#">WN3</a>		12,300		
To Work-in-Progress (Reserve)		28,700		
		41,000		41,000

### Working Notes (WN3)[sol3](#)

#### 1. Work certified

$$= 13,50,000 \times \frac{100}{90} = 15,00,000$$

#### 2. Depreciation on Plant and Machinery

60% of the plant and machinery are used for the present contract work. Depreciation is charged at 10% p.a., Hence depreciation is proportionately charged to this contract as follows.

$$= 15,00,000 \times \frac{10}{100} \times \frac{60}{100} = 90,000$$

#### 3. Notional profit to be transferred to Profit and Loss account

The work is completed less than half but above 1/4<sup>th</sup>. Hence 1/3<sup>rd</sup> of the notional profit is to be transferred to Profit and Loss account.

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

$$= 41,000 \times \frac{1}{3} \times \frac{90}{100} = 90,000$$

#### Balance Sheet (BS)

Liabilities		Assets	
Paid up share capital	50,00,000	Land and Buildings	22,00,000
Wages outstanding	6,000	Lorries and Vehicles	6,00,000
Profit and Loss account	12,300	Furniture	50,000
		Office equipments	20,000
		Plant & Machinery (at site) <a href="#">WN4</a>	7,50,000
		Less: Depreciation	75,000
		Plant & Machinery <a href="#">WN4</a>	7,35,000
		(6,00,000 + (15,0000-15,000))	
		Material at site	1,50,000
		Work-in-progress	
		Work certified	15,00,000
		Work uncertified	90,000
			15,90,000
		Less: Reserve	28,700
			15,61,300
		Less: Cash received	13,50,000
		Cash at bank	3,77,000
	50,18,300		50,18,300

**Working Note (WN4)BS**

**Plant and Machinery**

**At site**

Total Value	₹ 15,00,000	
Used in site	$15,00,000 \times 60\%$	= 9,00,000
Less: Sent back to store		<u>1,50,000</u>
At site		7,50,000
Less: Depreciation at 10%	$7,50,000 \times 10\%$	<u>75,000</u>
		<u>6,75,000</u>

**At company**

Total Value	₹ 15,00,000	
At company	$15,00,000 \times 40\%$	= 6,00,000
Returned from site		= 1,50,000
Less: Depreciation	$1,50,000 \times 10\%$	<u>15,000</u>
		<u>1,35,000</u>
Total (6,00,000 + 1,35,000)		= 7,35,000