Solutions

Q. 2.	Annual Demand = 1,000 units Ordering Cost = ₹800 per order Inventory Carrying Cost = 40% of ₹60 = ₹24					
	$EOQ = \sqrt{\frac{2AO}{I}}$					
	$= \sqrt{\frac{2 \times 1,000 \times 800}{24}} = \sqrt{66666.66} = 259 \text{ units}$					
	Thus, Number of orders as per EOQ = $\frac{1,000 \text{ units}}{259 \text{ units}}$ = 3.86					
	= 4 orders (approx).					
	Total Inventory Cost at EOQ Level:	₹				
	Purchase Price (₹60 × 1,000 units)	60,000				
	Ordering Cost (4 orders × ₹800)					
	Carrying Cost $\left[\frac{\text{EOQ}}{2} \times I\right] = \left[\frac{259}{2} \times ₹24\right]$	3,108				
	Total Inventory Cost	66,308				
	Total Inventory Cost at Discount Offer of 10%:	₹				
	Purchase Price (₹54 × 1,000)	54,000				
	Ordering Cost $\left(\frac{1,000}{350} \times ₹800\right)$	2,286				
	Carrying Cost $\left[\frac{350}{2} \times \gtrless 21.60\right]$	3,780				
	Total Inventory Cost	60,066				

The total inventory cost is lower at the discount offer of 10%. There is a saving of ₹6,242 (66,308 – 60,066). Hence, discount offer should be accepted.

Note: Difference in the total ordering cost and total carrying cost at EOQ level is because of the approximation in EOQ units and the number of orders.

Q. 3. Process A Account						
Particulars	Units	₹	Particulars	Units	₹	
To Units Introduced	10,000	80,000	By Normal Wastage/Loss A/c	500	_	
To Labour 13,000 (5% of 10,000 units)						
To Direct Expenses		8,500	By Abnormal Loss A/c	100	1,068	
			By Process B A/c (@ ₹10.684 per unit)	9,400	1,00,432	
	10,000	1,01,500		10,000	1,01,500	

Process B Account								
Particulars	Units	₹	Particulars	Units	₹			
To Process A A/c	9,400	1,00,432	By Normal Wastage/Loss A/c	188	_			
To Material		8,260	(2% of 9,400 units)					
To Labour		6,500	By Finished Stock A/c	9,250	1,21,592			
To Direct Expenses		5,900	(@ ₹13.145 per unit)					
To Abnormal Gain/Effectiveness A/c	38	500						
	9,438	1,21,592		9,438	1,21,592			

Working Notes:

1.	Calculation of Abnormal Loss of Process A:						
	Normal Output = Units Entered – Normal Loss						
	= 10,000 – 500 = 9,500 units.						
	Actual Output = 9,400 units						
	Abnormal Loss Units = 9,500 – 9,400 = 100 units						
	Value of Abnormal Loss = Total Cost – Value of Normal Loss × Units of Abnormal Loss						
	Units Introduced–Normal Loss Units						
	$= \frac{\{1,01,500 - \text{Nil}}{10,000 - 500} \times 100$						
	= $\frac{₹1,01,500}{9,500}$ × 100 = ₹1,068.						
2.	Calculation of Value of Abnormal Gain in Process B:						
	Normal Output = Units Entered – Normal Loss						
	= 9,400 – 188 = 9,212 units						
	Actual Output = 9,250 units						
	Abnormal Gain Units = 9,250 – 9,212 = 38 units						
	Total Cost – Value of Normal Loss						
	Value of Abnormal Gain = Units Introduced–Normal Loss Units						
	$= \frac{\{1,21,092 - \text{Nil}}{9,400 - 188} \times 38$						
	= ₹1,21,092 9,212 × 38 =₹500 (approx).						

Q. 4. This solution is done not as per Cost Accounting Standards.

Statement of Cost and Profit

Particulars	₹
Material	20,00,000
Wages	10,00,000
Prime Cost	30,00,000
Add: Factory Overheads (100% of ₹10,00,000)	10,00,000
Gross Works Cost	40,00,000
Less: Closing Work-in-Progress:	
Material 60,000	
Wages 40,000	
Factory Overheads (100% of ₹40,000) 40,000	(1,40,000)
Net Works Cost	38,60,000
Add: Administration Overheads (10% of ₹38,60,000)	3,86,000
Cost of Production	42,46,000
Less: Closing Stock of Finished Goods $\left(\frac{\frac{3}{242,46,000}}{24,220,000} \times 1,230 \text{ units}\right)$	
Cost of Goods Sold	40,00,000
Add: Selling and Distribution Overheads (20,000 units ×₹ 20)	4,00,000
Cost of Sales	44,00,000
Profit (Balancing Figure)	6,00,000
Sales	50,00,000

Working Note:

1. Total number of units produced = Sales + Closing Stock of Finished Goods

= 20,000 + 1,230 = 21,230 units.

Profit and Loss Account

Particulars	₹	Particulars		₹
To Material	20,00,000	By Sales		50,00,000
To Wages	10,00,000	By Closing Work-in-Progress:		
To Factory Overheads	9,00,000	Material	60,000	
To Administration Overheads	5,20,000	Labour	40,000	
To Selling and Distribution Overheads	3,60,000	Factory Overhead	40,000	1,40,000
To Interest on Capital	40,000	By Finished Goods Stock in Hand		3,00,000
To Goodwill Written off	2,00,000			
To Net Profit	4,20,000			
	54,40,000			54,40,000

Reconciliation Statement

Particulars		₹
Profit as per Cost Accounts		5,60,000
Add: Over-recovery of Factory Overheads in Cost Accounts	1,00,000	
Over-recovery of Selling and Distribution Overheads in Cost Accounts	40,000	
Under-valuation of Closing Finished Goods Stock in Cost Accounts	54,000	1,94,000
		7,54,000
Less: Under-recovery of Administration Overhead in Cost Accounts	1,34,000	
Goodwill	2,00,000	(3,34,000)
	Profit as per Financial Accounts	4,20,000

Q. 5.	Operating Cost Sheet	
Particulars		Per Annum for 5 Buses (₹)
Standing Charges:		
Garage Rent (₹40,000 × 12)		4,80,000
Salary of 5 drivers (₹13,000 × 5 × 12)		7,80,000
Conductor Wages (₹9,000 × 5 × 12)		5,40,000
Salary of Manager (₹50,000 × 12)		6,00,000
Road Tax (₹5,000 × 5 buses × 4 quarters)		1,00,000
Office Expenses (₹20,000 × 12)		2,40,000
Insurance (₹45,00,000 × 5 buses × 3%)		6,75,000
	Total Standing Charges (A)	34,15,000
Running and Maintenance Charges:		
Depreciation (₹45,00,000 × 5 buses × 15%)		33,75,000
Repairs (₹82,500 × 5 buses)		4,12,500
5		
Diesei $\left(3,80,000 \text{ km} \times \frac{1}{6 \text{ km}}\right)$		39,00,000
	Total Running and Maintenance Charges (B)	76,87,500
	Total Cost [(A) + (B)]	1,11,02,500
Add: Profit 20% of Taking or 25% of Cost		27,75,625
	Total Fare Collection	1,38,78,125
_		

Fare per passenger-km = $\frac{₹1,38,78,125}{₹1,15,20,000}$ = ₹1.20

Working Notes:

- 1. Calculation of total km run during the year:
 - = 5 buses × 40 km × 2 returns km × 3 trips × 25 days × 12 months = 3,60,000 km
- 2. Total passenger km:
 - = 3,60,000 km × 40 passengers × 80%
 - = 1,15,20,000 passenger km

Q. 6.

Contract Account

for the year ending 31st March, 2019								
Particulars		₹	Particulars		₹			
To Materials issued		7,50,000	By Plant at Site		1,70,000			
To Planning and Estimating Cost		1,00,000	By Materials Returned		25,000			
To Direct Wages	4,00,000		By Materials at Site		20,000			
Add: Wages Due	27,000	4,27,000	By Work-in-Progress:					
To Plant		2,00,000	Work Certified	20,00,000				
To Plant Hire Charges		1,75,000	Work Uncertified	14,900	20,14,900			
To Sundry Expenses		50,000						
To Site-office Cost		67,800						
To Head Office Expenses Apportioned		37,500						
To Direct Expenses		90,200						
To Notional Profit <i>c/d</i>		3,32,400						
		22,29,900			22,29,900			
To Profit and Loss A/c		1,66,200	By Notional Profit <i>b/d</i>		3,32,400			
To Reserve A/c		1,66,200						
		3,32,400			3,32,400			

Working Notes:

1. Depreciation:

=

Depreciation = $\frac{\text{Cost of Plant} - \text{Residual Value}}{1}$

$$\frac{\underbrace{₹2,00,000 - \underbrace{₹50,000}}{5 \text{ Years}} = \frac{\underbrace{₹1,50,000}}{5 \text{ Years}} = \underbrace{₹30,000}$$

- ∴ Plant at site = ₹2,00,000 ₹30,000 = ₹1,70,000
- Plant at Cost (₹2,00,000) is directly debited to Contract Account.
- Plant at cost (after deducting depreciation) is to be credited to Contract Account, *i.e.*, ₹2,00,000 ₹30,000 = ₹1,70,000.
- Plant hire charges are debited to Contract Account.
- 2. Calculation of Profit to be undertaken to Profit and Loss Account:

State of Completion of Work =
$$\frac{\text{Work Certified}}{\text{Work Certified}} \times$$

$$\frac{\text{Work Certified}}{\text{Contract Price}} \times 100$$

As the work has reached in advance level, *i.e.*, > 57%,

Amount transferred to Profit and Loss Account =
$$\frac{2}{3}$$
 × Notional Profit × $\frac{\text{Cash Received}}{\text{Work Certified}}$

=
$$\frac{2}{3}$$
 ×₹3,32,400 × $\frac{₹15,00,000}{₹20,00,000}$ =₹1,66,200

Hence, the amount to be transferred to Profit and Loss Account = ₹1,66,200.

Balance Sheet (Extracts) *as on 31st March, 2019 (Extracts)*

Liabilities	₹	Assets		₹
Profit and Loss A/c	1,66,200	Work-in-Progress:		
Wages Outstanding	27,000	Work Certified	20,00,000	
		Work Uncertified	14,900	
			20,14,900	
		Less: Reserve	(1,66,200)	
			18,48,700	
		Less: Cash Received	(15,00,000)	3,48,700
		Material at Site		20,000
		Material Returned		25,000
		Plant	2,00,000	
		Less: Deprecation	(30,000)	1,70,000