Solutions

Operating Cost Statement

Particulars	Per month (₹)	Per km (₹)
Standing Charges:		
Office staff salary	1,500	
Garage staff Salary	2,000	
Garage rent	1,000	
Fixed cost (per month) for 10 taxis	4,500	
Fixed charges (per month) per taxi (₹4,500/10)	450	
Driver's salary	400	
Road tax and repairs (per taxi) (₹2,160/12)	180	
Insurance premium (₹75,000 × 4/100 × 1/12)	250	
Total Standing cost per month	1,280	
Standing Cost per km (₹1,280/3,200 km)		0.40
Variable Cost per km		
Depreciation		0.25
Oil and other Sundry Expenses		0.125
Petrol		0.875
Cost per km		1.65

Working Notes:

(b)

Q. 1. (b)

 Effective runs (km) of a taxi is 80% because the taxi runs 20% as a vacant Effective runs (km) per month = 4,000 × 80% = 3,200 km
 Effective working life = 3,00,000 km × 80% = 2,40,000 km

2. Depreciation cost =
$$\frac{₹75,000 - ₹15,000}{2,40,000 \text{ km (WN 1)}} = ₹0.25$$

3. Oil and other sundry expenses =
$$\frac{₹10}{100 \text{ km}} \times \frac{4,000 \text{ km}}{3,200 \text{ km}} = ₹0.125$$

4. Petrol =
$$\frac{₹6.30}{9 \text{ km}} \times \frac{4,000 \text{ km}}{3,200 \text{ km}}$$
 = ₹0.875 per km

Or

Dr.	Contract A	Account	Cr.
Particulars	₹	Particulars	₹
2014			
To Materials	1,80,000	By Work Certified	3,75,000
To Wages	1,70,000		
To Carriage	6,000		
To Cartage	1,000		
To Sundry Expenses	3,000		
To Notional Profit c/d	15,000		
	3,75,000		3,75,000
To Profit and Loss A/c (₹15,000 × 1/3 × 80%)	4,000	By Notional Profit b/d	15,000
To Reserve	11,000		
	15,000		15,000

2015				
To Work Certified <i>b/d</i>	3,75,000		By Work-in-Progress A/c:	
Less: Profit in reserve	(15,000)	3,60,000	Work Certified (₹15,00,000 – ₹3,75,000)	11,25,000
To Materials		2,20,000	Work Uncertified	20,000
To Wages		2,30,000		
To Cartage		2,000		
To Sundry Expenses		4,000		
To Carriage		23,000		
To Notional Profit c/d		3,06,000		
		11,45,000		11,45,000
To Profit and Loss A/c		1,63,200	By Notional Profit b/d	3,06,000
(₹3,06,000 × 80/100 × 2/3)				
To Reserve		1,42,800		
		3,06,000		3,06,000
2016				
To Work-in-Progress A/c:				
Certified	11,25,000		By Contractee A/c	15,00,000
Uncertified	20,000			
Less: Profit in reserve	(1,42,800)	10,02,200		
To Materials		1,26,000		
To Wages		1,70,000		
To Cartage		6,000		
To Sundry Expense		3,000		
To Profit and Loss A/c		1,92,800		
		15,00,000		15,00,000
Dr.		Contractee's	s Account	Cr.
Particulars		₹	Particulars	₹
2014			2014	
To Balance c/d		3,00,000	By Bank A/c (₹3,75,000 × 80/100)	3,00,000
		3,00,000		3,00,000
2015			2015	
		1		1

2015		2015	
To Balance c/d	9,00,000	By Balance b/d	3,00,000
		By Bank A/c	6,00,000
	9,00,000		9,00,000
2016		2016	
To Contract A/c	15,00,000	By Balance b/d	9,00,000
		By Bank A/c	6,00,000
	15,00,000		15,00,000

Q.	2.	(b)
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(b)	₹
Actual overheads	4,46,380
Less: Absorbed overheads (2,93,104 hrs. @ ₹1.25)	3,66,380
Under-absorbed overheads	80,000

Accounting Treatment. As 50% of under-absorbed overheads (*i.e.*, 50% of ₹80,000) ₹40,000 is due to inefficiency is transferred to costing Profit and Loss A/c.

Remaining 50% (*i.e.*, ₹40,000) should be charged to output units by a supplementary rate.

Supplementary Rate = $\frac{$ ₹40,000 $}{(7,800 \text{ units} + 200 \text{ units})} = ₹5$	
(7,000 units + 200 units)	₹
Charge to Cost of Sales (7,000 units @ ₹5)	35,000
Charge to Work-in-Progress (200 units @ ₹5)	1,000
Charge to Finished Stock (800 units @ ₹5)	4,000
Total	40,000

Effect on Profit. The profit will come down by ₹35,000 because of increase in the cost of sales by ₹35,000. Increase in finished goods by ₹4,000 and work-in-progress by ₹1,000 will reduce profit by (₹4,000 + ₹1,000) = ₹5,000. The net reduction in profit will be (₹35,000 - ₹5,000) = ₹30,000.

(b)	Computation of Machine Hour Rate		
Particulars		Per Machine p.a. (₹)	Per Hour (₹)
A. Standing Charges:			
Operator Salary		15,750	
Departmental and General Work Overho	eads	11,250	
Total Standing Charges		27,000	
Cost per Machine Hour (₹27,000/2,000))		13.5
B. Operating Charges:			
Depreciation			24
Electricity (15 units × 2)			30
Special Oil			15
Maintenance			12.5
Machine Hour Rate			95
Working Notes:			₹

67,500

27,000 94,500

Or

1. Effective hours = 2,400 – 400 = 2,000 hrs

Operator Salary = 3 × ₹450 × 50 weeks

Add: 40% of fringe benefits

Operator salary per machine per hour ₹94,500/6 = ₹15,750

2. Departmental and General Overhead (₹60,000 + 12.5%)/6 = ₹11,250 per annum

3. Depreciation =
$$\left(\frac{₹7,50,000 - ₹30,000}{15 \text{ years } \times 2,000}\right) = ₹24 \text{ per hour}$$

4. Special Oil =
$$\frac{₹2,500 \times 12}{2,000} = ₹15$$

5. Maintenance =
$$\frac{₹500 \times 300 \text{ days}}{6 \text{ days} \times 2,000 \text{ hrs}}$$
 = ₹12.5 per hour

	₹
Wages at normal rate (52 hrs. @ ₹15 per hr)	780
Add: Overtime premium (12 hrs. @ ₹15 per hr)	180
Total Wages	960

Or

- (b) (i) Minimum Stock Level of M
 - = Re-order Level (Normal Wage × Normal Delivery Time)
 - = 15,000 (400 × 10 kg × 3 weeks) = 15,000 12,000
 - = 3,000 kg.
 - (ii) Maximum Stock Level of N
 - = Re-order Level + Re-order Quantity (Minimum Usage × Minimum Delivery Time)
 - = 10,000 + 15,000 (300 × 8 kg × 4 weeks) = 25,000 9,600
 - = 15,400 kg.
 - (iii) Re-order Level of O = (Maximum Usage × Maximum Delivery Time)
 = 500 × 6 kg × 5 weeks = 15,000 kg.
 - (iv) Average Stock Level of M = Minimum Level + 1/2 of Re-order Quantity
 = 3,000 + 1/2 of 20,000
 = 13,000 kg.
- Q. 4. This solution is not as per the Cost Accounting Standards.

Cost Sheet		
Particulars	₹	
Direct Materials	56,000	
Productive Wages	30,000	
Prime Cost	86,000	
Add: Factory Overheads (20% of ₹86,000)	17,200	
	1,03,200	
Less: Work-in-Progress (Closing)	(2,400)	
Works Cost	1,00,800	
Add: Administrative Overheads (12,400 units @ ₹0.60)	7,440	
Cost of Production	1,08,240	
Less: Closing Stock	(3,492)	
Cost of Goods Sold	1,04,748	
Add: Selling and Distribution Overheads (12,000 units × ₹0.80)	9,600	
Total Cost	1,14,348	
Profit	5,652	
Sales	1,20,000	

Dr. Profit and Loss Account		Cr.		
Particulars	₹	Particulars		₹
To Direct Material	50,000	By Sales		1,20,000
To Productive Wages	30,000	By Dividend received		1,000
To Factory Overheads	16,000	By Interest received on bank deposits		200
To Administration Overheads	7,000	By Closing Stock:		
To Selling and Distribution Overheads	9,600	Finished Stock	3,200	
To Bad Debts	800	Work-in-Progress	2,400	5,600
To Preliminary Expenses	400			
To Legal Charges	100			
To Net Profit	12,900			
	1,26,800			1,26,800

Reconciliation Statement

Particulars		₹
Profit as per Cost Accounts		5,652
Add: Overcharging of material cost in Cost Accounts (₹56,000 – ₹50,000)	6,000	
Overcharging of factory overheads (₹17,200 – ₹16,000)	1,200	
Overcharging of administrative overheads (₹7,440 – ₹7,000)	440	
Dividend income	1,000	
Interest income	200	8,840
		14,492
Less: Bad debts	800	
Preliminary Expenses	400	
Legal Charges	100	
Over-valuation of closing stock of finished stock (₹3,492 – ₹3,200)	292	(1,592)
Profit as per Financial Accounts		12,900

Working Notes:

(b)

1. Total units produced = 12,000 + 400 = 12,400 units.

2. Value of closing stock = ₹1,08,240/12,400 units × 400 units = 3,492 (approx).

Or

Statement	of	Cost	and	Profit
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Particulars	₹
Direct Materials (43,500 × ₹3)	1,30,500
Direct Labour (43,500 × ₹2)	87,000
Prime Cost	2,17,500
Add: Overheads:	
Fixed	1,50,000
Variable (43,500 × ₹5)	2,17,500
Add: Semi-variable Overheads:	
First 3 months: at 50% capacity (₹50,000 × 3/12)	12,500
For 9 months: at 80% capacity (₹70,000 × 9/12)	52,500
Total Cost	6,50,000
Profit (Given)	1,00,000
Sales	7,50,000

∴ Selling price per unit = ₹7,50,000/43,500 units = ₹17.24

Working Note: Output for: First 3 months = $60,000 \times 50\% \times 3/12 = 7,500$ units

Next 9 months = 60,000 × 80% × 9/12 = 36,000 units

∴ **Total Output:** 7,500 + 36,000 = 43,500 units.

Q. 5.

Process I Account

Particulars	Units	₹	Particulars	Units	₹
To Units Introduced	1,000	3,000	By Normal Loss A/c @ ₹2 (5% of 1,000)	50	100
To Direct Materials		2,600	By Transfer to Process II A/c	950	9,500
To Direct Wages		2,000			
To Production Overheads		2,000			
	1,000	9,600		1,000	9,600

Process II Account							
Particulars	Units	₹	Particulars	Units	₹		
To Transfer for Process I A/c	950	9,500	By Normal Loss A/c @ ₹4 (10% of 950)	95	380		
To Direct Materials		1,980	By Abnormal Loss A/c @₹20	15	300		
To Direct Wages		3,000	[(950 – 95 – 840) × ₹20]				
To Production Overheads		3,000	By Transfer to Process III A/c	840	16,800		
	950	17.480		950	17.480		

Working Note:

Cost per unit = $\frac{\ddot{u}17,480 - 380}{(950 - 95)} = \frac{17,100}{855} = ₹20$

Process	III Account
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Particulars	Units	₹	Particulars	Units	₹
To Transfer from Process II A/c	840	16,800	By Normal Loss A/c @ ₹5 (15% of 840)	126	630
To Direct Materials		2,962	By Finished Stock A/c	750	28,500
To Direct Wages		4,000			
To Production Overheads		4,000			
To Abnormal Gain A/c @ ₹38	36	1,368			
[(750 – 840 + 126) × ₹38]					
	876	29,130		876	29,130

Working Note:

Cost per unit = $\frac{₹27,762 - ₹630}{(840 - 126)}$ units = $\frac{₹27,132}{714}$ = ₹38

Abnormal	Loss	Account	

Particulars	Units	₹	Particulars	Units	₹
To Process II A/c	15	300	By Scrap Sales @ ₹4	15	60
			By Costing Profit and Loss A/c		240
	15	300		15	300

Abnormal Gain Account						
Particulars	Units	₹	Particulars	Units	₹	
To Normal Loss A/c (Short fall in sale of scrap)	36	180	By Process III A/c	36	1,368	
To Costing Profit and Loss A/c		1,188				
	36	1.368		36	1.368	

Normal Loss Account								
Particulars	Units	₹	Particulars	Units	₹			
To Process I A/c	50	100	By Cash A/c (Process I A/c)	50	100			
To Process II A/c	95	380	By Cash A/c (Process II A/c)	95	380			
To Process III A/c	126	630	By Abnormal Gain A/c	36	180			
			By Cash A/c (Process III A/c)	90	450			
	271	1,110		271	1,110			