PAPER 8 - COST ACCOUNTING
SUGGESTED ANSWERS
SECTION – A

1.

(i) (C)

(ii) (A)

(iii) (A)

(iv) (B)

(v) (A)

(vi) (C)

(vii) (A/B/C/D)

(viii) (B)

(ix) (C)

(x) (B)

(xi) (B)

(xii) (B)

(xiii) (A)

(xiv) (B)

(xv) (A)

SECTION – B

2. (a):

Let 'x' be the total cost and 'y' be the profit for an article whose selling price is ₹ 1,20,000

x + y = ₹ 1,20,000 ……. Eq.

Elements	Present cost	Increase		Anticipated cost
Direct Material	0.5x	15%	0.075 x	0.575 x
Direct Labour	0.2x	25%	0.050 x	0.250 x
Overheads	0.3x	-	-	0.300 x
Total	x		0.125x	1.125x

1.125x + 0.75y = ₹ 1,20,000 ……Eq.

By solving the above two equations,

x = ₹ 80,000; y = ₹ 40,000

Profit = $\frac{40,000}{80,000} \times 100$ = 50% on Cost

Alternatively,

Let the cost per article be ₹ x.

Elements	Present Costs (₹)	Increase	Anticipated Costs (₹)
Direct Material	0.5x	15% = 0.075x	0.575x
Direct Labour	0.2x	25% = 0.05x	0.25x
Overhead	0.3x		0.3x
Total	x	0.125x	1.125x

Therefore, 1,20,000 – 1.125x = 75% of (1,20,000 – x)
Solving we get, x = ₹ 80,000 and
the present profit per article = ₹ (1,20,000 – 80,000) = ₹ 40,000
Profit = $\frac{40,000}{80,000} \times 100$ = 50% on Cost

(i) Statement of Profit per article: **₹**

Direct Material	0.5 of ₹ 80,000	= 40,000
Direct Labour	0.2 of ₹ 80,000	= 16,000
Overhead	0.3 of ₹ 80,000	= 24,000
Total cost		= 80,000
Add: Profit		40,000
Selling Price		1,20,000

(ii) Statement of required selling price:

Direct Material 0.575 of 80,000	46,000
Direct Labour 0.250 of 80,000	20,000
Overhead 0.300 of 80,000	24,000
Total cost	90,000
Add: Anticipated profit (50% of cost)	45,000
Selling price	1,35,000

Alternatively, Total cost = 1.125 x 80000	= ₹ 90,000
Profit @ 50% on cost	= ₹45,000
Selling price	= ₹1,35,000

2. (b):

Calculation of Optimum order size

Annual Req. (units)	Size of Order (units)	No. of Orders	Purchase Cost per unit	Annual Cost	Av. Inventory = Order Size/2	Storage cost @ ₹ 12.50	Admin Cost	Total Cost
			₹	Rs	(units)	Rs	Rs	Rs
9,600	9,600	1	36	3,45,600	4,800	60,000	250	4,05,850
9,600	4,800	2	36*	3,45,600	2,400	30,000	500	3,76,100
9,600	2,400	4	38#	3,64,800	1,200	15,000	1,000	3,80,800
9,600	800	12	40	3,84,000	400	5,000	3,000	3,92,000
9,600	400	24	40	3,84,000	200	2,500	6,000	3,92,500

*Price after 10% discount on ₹ 40 = ₹ 36 #Price after 5% discount on ₹ 40 = ₹ 38
Purchasing of 4800 units has the lowest total cost of ₹ 3,76,100. Therefore, it is the optimum order size.

3. (a):

Calculation of comprehensive machine hour rate

	Per Month	Per Hour
Fixed costs:	₹	₹
Supervision Charges	3,000.00	
Electric and Lighting	7,500.00	
Insurance of Plant & Building (16250/12)*	1,354.17	
Other General Expenses (27500/12)*	2,291.67	
Depreciation ((324000 x 10%/12)*	2,700.00	
	16,845.84	112.31
Variable costs:		
Repairs and Maintenance	17,500.00	116.67
Power	15,000.00	100.00
Wages of Machine Man		44.91
Wages of Helper		32.97
Comprehensive machine hour rate		406.86

Working Notes:

(1) Effective machine working hours per month = 200 hours × 75% = 150 hours
Working days in a month = 200 hours/8 hours (Daily hrs) = 25 working days

(2) Wages per Machine hour

	Machine man	Helper
	₹	₹
Wages for 200 hours		
(₹ 125 × 25 days)	3,125	
(₹ 75 × 25 days)		1,875
Dearness Allowance	1,575	1,575
	4,700	3,450
Production Bonus [1/3 of (Wages + DA)]	1,567	1,150
	6,267	4,600
Leave Wages [10% of (Wages + DA)]	470	345
Total wages	6,737	4,945
Effective wage rate per machine hour		
(dividing by 150 hours)	44.91	32.97

3. (b):

Cost Sheet

Particulars	Product A		Product B		Total
	Per unit (₹)	Amount (₹)	Per unit (₹)	Amount (₹)	Amount (₹)
Direct Material	12.50	2,500	7.50	3,750	6,250
Direct wages	10.00	2,000	6.00	3,000	5,000
Prime cost	22.50	4,500	13.50	6,750	11,250
Add: Factory overheads (100% of wages)	10.00	2,000	6.00	3,000	5,000
Works cost	32.50	6,500	19.50	9,750	16,250
Add: Office expenses (25% of works cost)	8.125	1,625	4.875	2,438	4,063
Cost of production	40.625	8,125	24.375	12,188	20,313
Sales	50.00	10,000	30.00	15,000	25,000
Profit (bal. fig)	9.375	1,875	5.625	2,812	4,687

Dr. Profit and Loss Account Cr.

	Amount (₹)		Amount (₹)
To Direct Material	6,250	By Sales	25,000
To Direct Wages	5,000		
To Factory Overhead	4,800		
To Office Overhead	4,200		
To Profit (bal. fig)	4,750		
	25,000		25,000

Reconciliation of cost and financial accounts

	₹
Profit as per cost accounts	4,687
Add: Overabsorption of works expenses (5000 – 4800)	200
	4,887
Less: Under absorption of works expenses (4200 – 4063)	137
Profit as per financial accounts	4,750

4. (a):

	Per month	Per Ton-km
Standing charges:		
Insurance (6000/12)	500	
Tax (3000/12)	250	
Driver's wages	900	
Cleaner's wages	300	
Depreciation [(120000/10) ÷ 12]	1,000	
General supervision (6000/12)	500	
Total standing charges	3,450	0.26
Semi variable expenses:		
Repairs and maintenance	600	0.04
Operating charges:		
Diesels, oil, grease (20 x 3600)/60	1,200	0.09
Or, 20 x 2 x 30		
Cost per ton kilometre		0.39

Alternatively, repair and maintenance may be included in total standing charges also. Total standing charges in such a case will be Re. 0.30.

Working Note:

1. Calculation of total km run:
   Total km per month = 60 km x 2 ways x 30 days = 3,600 km
2. Calculation of total ton-km:
   Onward trip = 60 km x 6 tons x 100% capacity x 30 days = 10,800 ton-km
   Return trip = 60 km x 6 tons x 25% capacity x 30 days = 2,700 ton-km
   Total ton-km per month = 10,800 + 2,700 = 13,500 ton-km

4. (b):

If the plant was lost on 1st April, 2024 (beginning of the year).

Contract Account

Dr. **For the year ended on 31.03.2025** **Cr.**

Particulars	Amount (₹)	Particulars	Amount (₹)
To Materials	51,000	By Work in progress:	
To Wages	81,000	Work certified (128000/80%)	1,60,000
To Other expenses	5,000	Work uncertified	1,000
To Plant	15,000	By Profit & Loss a/c	
To Notional profit c/d (bal. fig.)	27,000	Material lost	2,500
		Plant lost*	3,000
		By Materials in hand	2,300
		By Plant in hand 15,000	
		Less: Plant lost 3,000	
		12,000	
		Less: Depreciation (15%) 1,800	10,200
	1,79,000		1,79,000
To Profit & Loss A/c	14,400	By Notional Profit b/d	27,000
To Work in progress Reserve	12,600		
(bal. fig.)			
	27,000		27,000

Working Note:

Percentage of work completed = $\frac{160000}{300000}$ x 100 = 53.33% (> 50%)

Amount of Profit to be transferred to Profit and Loss account:

2/3 × 27,000 × 80/100 = ₹ 14,400

***Alternative Solution:**

If the plant was lost on 31.03.2025 (end of the year)	If the plant was lost on 30.09.2024 (mid of the year)
Plant lost will be (3000 – 15% of 3000) = ₹ 2550	Plant lost will be (3000 – 15% of 3000x 6/12) = ₹ 2775
Depreciation will be = 15000 x 15% = ₹ 2,250	Depreciation will be = (12000 x 15% + 3000 x 15% x 6/12) = ₹ 2,025
Notional profit will be = ₹ 26,550	Notional profit will be = ₹ 26,775
Profit for P/L A/c = 2/3 x 26,550 x 80/100 = ₹ 14160	Profit for P/L A/c = 2/3 x 26,775 x 80/100 = ₹ 14280

5. (a):

Dr. **Process A Account** **Cr.**

Particulars	Unit	Amount (₹)	Particulars	Unit	Amount (₹)
To Units introduced	10000	10,000	By Normal loss	500	125
To Sundry Materials		1,000	By Process B A/c	9500	25,325
To Direct Labour		5,000	(bal. fig.)		
To Direct Expenses		1,050			
To Overheads		8,400			
	10000	25,450		10000	25,450

Dr. **Process B Account** **Cr.**

Particulars	Unit	Amount (₹)	Particulars	Unit	Amount (₹)
To Process A	9500	25,325	By Normal loss	380	190
To Sundry Materials		1,500	By Process C A/c	9120	49,263
To Direct Labour		8,000	(bal. fig.)		
To Direct Expenses		1,188			
To Overheads		13,440			
	9500	49,453		9500	49,453

Dr. **Process C Account** **Cr.**

Particulars	Unit	Amount (₹)	Particulars	Unit	Amount (₹)
To Process B	9120	49,263	By Normal loss	456	456
To Sundry Materials		1,480	By Cost of process c/d	8,664	69,312
To Direct Labour		6,500			
To Direct Expenses		1,605			
To Overheads		10,920			
	9120	69,768		9120	69,768
To Cost of process b/d	8,664	69,312	By Sales A/c	8,664	86,640
To Profit (bal. fig.)		17,328			
	8,664	86,640		8,664	86,640

Working Note:

Computation of Percentage of wastage in process C

Suppose number of waste units is x

Sales value of waste units = x × Re. 1 = ₹ x

Total cost = ₹ 69,768 - x

Cost price per unit of Process C = 10 – 10 x 20% = ₹ 8.00

Total Cost = Cost per unit × No. of units produced

or, 69,768 - x = 8 x (9120 – x)

or, 69,768 – x = 72,960 – 8x

or, 8x - x = 72960 - 69768

or, 7x = 3192

or, x = 456

Percentage of wastage = 100 × 456/9120 = 5%

5. (b):

Calculation of standard hours for actual output:

Skilled = 65 x 40 /2000 x 1800 = 2,340, hrs.

Semi-Skilled = 20 x 40 /2000 x 1800 = 720 hrs.

Unskilled = 15 x 40 /2000 x 1800 = 540 hrs.

Total standard hours = 3,600 hours

Calculation of actual hours paid:

Skilled = 50 x 40 = 2000 hours

Semi-skilled = 30 x 40 = 1,200 hours

Unskilled = 20 x 40 = 800 hours

Total actual hours paid = 4,000 hours

Calculation of idle time:

Skilled	= 50 x 2	= 100 hours
Semi-skilled	= 30 x 2	= 60 hours
Unskilled	= 20 x 2	= 40 hours
Total idle time hours		= 200 hours

Calculation of actual hours worked:

Skilled	= 2,000 -100	= 1900 hours
Semi-skilled	= 1,200 - 60	= 1140 hours
Unskilled	= 800 - 40	= 760 hours
Total actual hours worked		= 3,800 hours

Calculation of standard cost of actual output:

		₹
Skilled	= 2,340 x 45	= 1,05,300
Semi-skilled	= 720 x 30	= 21,600
Unskilled	= 540 x 15	= 8,100
Total standard cost of actual output		= 1,35,000

Calculation of actual cost:

		₹
Skilled	= 2,000 x 50	= 1,00,000
Semi-skilled	= 1,200 x 35	= 42,000
Unskilled	= 800 x 10	= 8,000
Total actual cost		= 1,50,000

(i) Labour cost variance:

		₹
Skilled	= 1,05,300 - 1,00,000	= 5,300 (F)
Semi-skilled	= 21,600 - 42,000	= 20,400 (A)
Unskilled	= 8,100 - 8,000	= 100 (F)
Total labour cost variance		= 15,000 (A)

(ii) Labour Efficiency variance:

		₹
Skilled	= 45 (2340 - 1900)	= 19,800 (F)
Semi-skilled	= 30 (720 - 1140)	= 12,600 (A)
Unskilled	= 15 (540 -760)	= 3,300 (A)
Total labour cost variance		= 3,900 (F)*

(iii) Labour Idle Time variance:

		₹
Skilled	= 45 x 100	= 4,500 (A)
Semi-skilled	= 30 x 60	= 1,800 (A)
Unskilled	= 15 x 40	= 600 (A)
Total labour Idle Time variance		= 6,900 (A)

***Note:**

Sometime, the calculation in (ii) above is termed as Labour Sub-efficiency variance/ Yield variance and Labour Efficiency Variance is taken as = Idle Time Variance + Labour Sub-efficiency Variance/ Yield Variance + Labour Gang/ Mix Variance. In that case, LEV = (ii) + (iii) = 3900 (F) + 6900 (A) = 3000(A).

Alternative Method

1. Calculation of cost per unit

Standard (2000 units)				Actual Cost (1800 units)			
	Hrs.	**Rate**	**Amount (₹)**		**Hrs.**	**Rate**	**Amount (₹)**
Skilled (65x40)	2600	45	117000	Skilled (50x40)	2000	50	100000
Semi-skilled (20 x 40)	800	30	24000	Semi-skilled (30 x 40)	1200	35	42000
Unskilled (15 x 40)	600	15	9000	Unskilled (20 x 40)	800	10	8000
Total	4000		150000	Total	4000		150000

Standard Cost per unit (SCPU) = 150000/2000 = ₹ 75
Total actual cost (AC) = ₹ 150000

2. Calculation of Actual hours worked

	Actual hours paid	**Idle Time**	**Actual hours worked**
Skilled	2000	50x2=100	1900
Semi-skilled	1200	30x2=60	1140
Unskilled	800	20x2=40	760
Total			3800

(i) Labour cost variance = SC – AC
= SCPU x APN – AC = 75 x 1800 – 150000 = 15000 (A)

(ii) Labour Efficiency Variance = Standard rate x (Standard hours – Actual hours worked)
Skilled = 45 x [(2600/2000) x 1800 – 1900] = 19800 (F)
Semi-skilled = 30 x [(800/2000) x 1800 – 1140] = 12600 (A)
Unskilled = 15 x [(600/2000) x 1800 – 760] = 3300 (A)
Total Labour Efficiency Variance = 3900 (F)*

(iii) Labour Idle Time Variance = Idle time x standard rate
Skilled = 100 x 45 = 4,500 (A)
Semi-skilled = 60 x 30 = 1,800 (A)
Unskilled = 40 x 15 = 600 (A)
Total Labour Idle Time Variance = 6,900 (A)

***Note:**
Sometime, the calculation in (ii) above is termed as Labour Sub-efficiency variance/ Yield variance and Labour Efficiency Variance is taken as = Idle Time Variance + Labour Sub-efficiency Variance/ Yield Variance + Labour Gang/ Mix Variance.
In that case, LEV = (ii) + (iii) = 3900 (F) + 6900 (A) = 3000(A).

6. (a):

Contribution per unit = SP – VC = 70 - 20 = ₹ 50

(i) BEP (in units) = Fixed cost / CPU = 50,000/50 = 1000 units
BEP (in value) = 1000 × 70 = ₹ 70,000

(ii) Number of units to be sold to get a profit of ₹ 30,000
$= \frac{Fixed\ Cost + Target\ profit}{Contribution\ per\ unit}$
$= \frac{50000 + 30000}{50}$ = 1,600 units

(iii) Selling price = Let selling price be ₹ X

Profit per unit as per (ii) = 30,000 ÷ 1600 = ₹ 18.75

Conditionally, 2600 × x = 2,600 × 20 + 52,000 + (2600 x 18.75)

or, 2600x = 1,52,750

or, x = 1,52,750 ÷ 2,600 = ₹ 58.75

Target Selling price per unit = ₹ 58.75

6. (b):

Calculation of current profit

	A (₹)	B (₹)	C (₹)	Total (₹)
Material cost p. u	18	26	30	
Wages p. u	7	9	10	
Variable overhead p. u	2	3	3	
Total variable cost p. u	27	38	43	
Selling price p. u	40	60	61	
Contribution p. u	13	22	18	
Units produced	3000	2000	5000	
Total contribution	39,000	44,000	90,000	1,73,000
Less: Fixed overhead (3000x5+2000x8+5000x9)				76,000
Total Profit				97,000

Calculation of profit under revised proposal of discontinuing Product A

	B (₹)	C (₹)	Total (₹)
Contribution p. u	22	18	
Units produced	3000 (2000 x150%)	7500 (5000 x150%)	
Total contribution	66,000	1,35,000	2,01,000
Less: Fixed overhead (3000x5+2000x8+5000x9)			76,000
Total Profit			1,25,000

Comments:

If A is discontinued and production of B and C is increased by 50%, the total contribution is increased by ₹ 28,000. Therefore, the proposal to drop product A may be recommended.

7. (a):

Cash budget for 3 months ending 30th June, 2024

	April	May	June
	₹	₹	₹
Opening Balance	40,000	47,700	29,700
Add: Receipts:			
Cash sales (10%)	7,000	11,600	8,500
Received from debtors	1,12,500	90,000	83,700
	1,59,500	1,49,300	1,21,900
Less: Payments:			
Payments to creditors	98,000	1,00,000	1,03,000
Wages	8,800	9,600	8,400
Sales expenses	5,000	10,000	8,000
Dividend	----	---	12,000
Payment of Income tax	----	---	20,000
Total Payments	1,11,800	1,19,600	1,51,400
Closing Balance	47,700	29,700	(29500)

Workings:

Payment of wages:	₹	₹	₹
Current month	6,400	8,000	6,400
Previous month (20%)	2,400	1,600	2,000
	8,800	9,600	8,400
Amount realised from debtors			
Received in next month	58,500	31,500	52,200
Received in second month	54,000	58,500	31,500
	1,12,500	90,000	83,700

7. (b):

Scope of CAS 5

This standard should be applied for calculation of cost of transportation required under any statute or regulations or for any other purpose.

For example this standard can be used for:

(i) Determination of average transportation cost to arrive the assessable value of excisable goods.

(ii) Insurance claim valuation

(iii) Working out claim for freight subsidy

(iv) Administrated price mechanism of freight cost element

(v) Determination of inward freight costs included or to be included in the cost of purchases attributable to the acquisition

(vi) Computation of freight included in the value of inventory for accounting on inventory or valuation of stock hypothecated with banks/ Financial institution etc.

8. (a):

Before the installation of costing system, the following factors are to be considered (any four of the following points):

1. **Size of the firm** – Size of the firm is an extremely important factor in designing a cost accounting system. As the size of the firm and its business grows, the volume and complexity of the cost data also grows. In such situation, the cost accounting system should be capable of supplying such information.
2. **Manufacturing Process** – Process of manufacturer changes from industry to industry. In some industries, there may be a continuous process of production while in some, batch or job type of production may be in operation. A cost accounting system should be such that the manufacturing process is taken into consideration and cost data is collected accordingly.
3. **Nature and Number of Products** – If a single product is produced, all costs like material, labour and indirect expenses can be directly allocated to that product. But if more than one product is manufactured, the question of allocation and apportionment as well as absorption of indirect expenses (Overheads) arises and hence the cost accounting system should be designed accordingly as more complex data will be required.
4. **Management Control Needs** – The designing of a cost accounting system in a business organization is guided by the management control requirements. The costing system should supply data to persons at different levels in the organization to take suitable action in their respective areas.
5. **Raw Materials** – The designing of a cost accounting system in a business is also guided by the raw materials required for the production. The nature of raw materials and the degree of waste therein influence the designing of costing system. There are some materials which have a high degree of spoilage. The costing system should be such that identification of spoilage, keeping records of materials, pricing of the issues etc. are taken into consideration.

6. **Organization Structure** – The structure of the organization also plays a vital role in designing a costing system. The system should correspond to the hierarchy of the organization.
7. **External Factors** – External factors are also important in designing of a costing system. For example. Cost Accounting Record Rules have been mandatory for certain types of industries. For the sake of compliance of the same, costing system should be designed.

8. (b)

Meaning of Idle Time:

Idle time refers to the period during which employees or machinery are not actively engaged in productive work but are still being paid. It represents unproductive time that does not contribute to the completion of tasks or the overall output of an organization. Idle time refers to the period of time when an asset, such as a machine or an employee, is available for use but remains unproductive.

e.g.: Idle time due to power failure, machine break down etc. Idle time cannot be booked for any particular job or process.

Reasons or Causes of Idle Time:

The reasons/causes of idle time are as follows:

1. Production causes:

(i) Machine breakdown
(ii) Power failure
(iii) Waiting for work
(iv) Waiting for tools
(v) Waiting for materials
(vi) Waiting for instructions

2. Administrative causes:

(i) Poor planning
(ii) Inadequate guidance
(iii) Lack of supervision
(iv) Unusual tea break
(v) Distance between factory gate and place of work
(vi) Interval between one job and another

3. Economic causes:

(i) Poor demand for products
(ii) Strikes or lockouts
(iii) Underutilization of production capacity
(iv) Closure in seasonal industries
(v) Surplus manpower

8. (c):

Different methods of costing are as follows:

1. Specific Order Costing
(i) Job Costing
(ii) Batch Costing
(iii) Contract Costing
2. Process Costing
3. Operating Costing

A brief explanation of point 1(i), (ii), (iii), 2 and 3 is required.