(GI-10, GI-11, VI-2(A) & AI-2(A), DI-1+2 & Drive)

DATE: 12.02.2024   **MAXIMUM MARKS: 100**   **TIMING: 3¼ Hours**

COST AND MANAGEMENT ACCOUNTING

Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium. His/her answer in Hindi will not be valued.

1. The question paper comprises two parts, Part I and Part II.

2. Part I comprises Multiple Choice Questions (MCQs).

3. Part II comprises questions which require descriptive type answers.

In case, any candidate answers extra question(s)/sub-question(s) over and above the required number, then all answers shall be valued and best four will be considered.

Wherever necessary, suitable assumptions may be made and disclosed by way of note.

SECTION – A
PART – I – MULTIPLE CHOICE QUESTIONS

TOTAL MARKS: 30 MARKS

Write the most appropriate answer to each of the following multiple choice questions by choosing one of the four options given, All questions are compulsory.

1.   Ans. b
2.   Ans. c
3.   Ans. c
4.   Ans. a
5.   Ans. b
6.   Ans. a
7.   Ans. b
8.   Ans. b
9.   Ans. d
10.   Ans. d
11.   Ans. a
12.   Ans. a
13.   Ans. a
14.   Ans. a
15.   Ans. b
16.   Ans. d
17.   Ans. d
18.   Ans. d
19.   Ans. d
20.   Ans. d
21.   Ans. c
22.   Ans. a
23.   Ans. c
24.   Ans. a
25.   Ans. a
26.   Ans. d
27.   Ans. a
28.   Ans. d
29.   Ans. d
30.   Ans. d

(30 MCQ x 1 M Each = 30 Marks)

SECTION – B
PART – II - DESCRIPTIVE QUESTIONS
QUESTIONS NO. 1 IS COMPULSORY
ATTEMPT ANY FOUR QUESTIONS THE REMAINING FIVE QUESTIONS

TOTAL MARKS: 70 MARKS

Answer 1:
(a)   **Basic Data:**

A	(Number of units to be purchased annually)	=	5,000 units
O	(Ordering cost per order)	=	Rs. 20
C	(Annual cost of storage per unit)	=	Rs. 5
Purchase price per unit inclusive of transportation cost		=	Rs. 50

Computations:

(i)   Re-ordering level   = Maximum usage per period × Maximum lead time
(ROL)   = 20 units per day × 15 days
= 300 units }**{1 M}**

(ii)   Maximum level   = ROL + ROQ – [Min. rate of consumption × Min.
(Refer to working notes 1 and 2) lead time]
= 300 units + 200 units – [10 units per day × 5 days]
= 450 units }**{1 M}**

(iii)   Minimum level   = ROL – Average rate of consumption × Average re-order-period
= 300 units – (15 units per day × 10 days)
=150 units }**{1 M}**

(iv)   Danger level   = Average consumption × Lead time for emergency purchases
= 15 units per day × 4 days
= 60 units }**{1 M}**

Working Notes:

1.   Minimum rate of consumption per day

$$\text{Av. rate of consumption} = \frac{\text{Minimum rate of consumption} + \text{Maximum rate of consumption}}{2}\Bigg\} \text{{1/2 M}}$$

$$15 \text{ units per day} = \frac{X \text{ units/day} + 20 \text{ units per day}}{2} \quad \text{or} \quad X = 10 \text{ units per day. } \text{{1/2 M}}$$

2.   Re-order Quantity (ROQ) or Economic Order Quantity (EOQ)   =
$$\sqrt{\frac{2 \times 5,000 \text{ units} \times ₹20}{5}} = 200 \text{ units } \text{{1 M}}$$

Answer:
(b)   **Computation of Over/Under-absorbed overhead expenses during the month of August**

	(Rs.)	(Rs.)
Total expenses incurred in the month of August:		80,000
Less: The amount paid according to labour court award (Assumed to be non-recurring)	15,000 }**{1/2 M}**	
Expenses of previous year **{1/2 M}{**	5000	(20,000)
Net overhead expenses incurred for the month		60,000 }**{1/2 M}**
Overhead recovered for 10,000 hours @ Rs. 5 per hour		(50,000)
Under-absorbed overheads		10,000 }**{1/2 M}**

60% of under-absorbed overhead was due to defective planning, it will be charged to costing profit & loss account.}**{1/2 M}**

40% of under-absorbed overhead i.e. Rs. 4,000 may be distributed over Finished Goods and Cost of Sales using supplementary overhead rate:

Supplementary rate = Under-absorbed OH
                                    Units produced

=   Rs. 4,000   = **Rs. 0.10** }**{1/2 M}**
           40,000 units

Amount of under-absorbed overheads charged to finished goods
= 10,000 units × Rs. 0.10 = Rs. 1,000 }**{1/2 M}**
Amount of under-absorbed overheads charged to cost of sales
= 30,000 units × Rs. 0.10 = Rs. 3,000 }**{1/2 M}**

Answer:
(c)   **Statement of Cost and Selling price for 2,000 units of output**

Particulars	Cost per unit (Rs.)	Total Cost (Rs.)
Direct Materials	7.50	15,000
Direct Labour	3.00	6,000
Prime cost	10.50	21,000
Add: Factory Overheads (Refer working note-2)	17.50	35,000
Total cost	28.00	56,000
Add: Profit (20% of Sales is equivalent to 25% of Cost)	7.00	14,000
Sales	**{1/2 M}{** 35.00	70,000 }**{1/2 M}**

Working Notes:
(1)   Direct Material and Direct Labour cost is varying directly in proportion to units produced and shall remain same per unit of output. Thus, direct material cost is equal to Rs. 9000 ÷ 1200 units = **Rs. 7.50** per unit and }**{1/4 M}** labour cost is equal to Rs. 3600 ÷ 1200 units = **Rs. 3 per** unit. }**{1/4 M}**

(2)   Calculation of Factory Overheads- An observation of cost related to different output levels for factory overheads shall reveal 2 things
        a.   Total cost increases from Rs. 31,000 to Rs. 34,000 along with increase in output from 1,200 units to 1,800 units but cost per unit is not constant. Thus it is not a variable cost. Cost per unit is reducing along with increase in output from Rs. 25.83 (Rs. 31,000 ÷ 1,200 units) to Rs. 18.89 (Rs. 34,000 ÷ 1,800 units)
        b.   Since the cost is varying with the output, it is also not a fixed cost.
        Hence, we can see that the cost is a semi- variable cost and has to be calculated for 2,000 units by analysing its fixed and variable components

Week Number	Units Manufactured	Factory Overheads
1	1,200	31,000
2	1,600	33,000
Difference	400	2,000

        Therefore, Variable Cost per unit = Change in Factory Overheads ÷ Change in output
        = Rs. 2,000 ÷ 400 = **Rs. 5** }**{1/4 M}**
        Now total factory overheads for week 2 = Rs. 33,000
        Out of this, Variable Overheads = 1,600 units × Rs. 5 = **Rs. 8,000** }**{1/4 M}**
        Thus, fixed component = Rs. 33,000 – Rs. 8,000 = **Rs. 25,000** }**{1/2 M}**
        Therefore, Variable Cost for 2,000 units = 2,000 units × Rs. 5 = **Rs. 10,000** }**{1/2 M}**
        Fixed Cost will not change and hence will be = **Rs. 25,000** }**{1/2 M}**

Therefore, Total Factory Cost = Variable Overheads + Fixed Overheads
Overheads for 2,000 units = Rs. 10,000 + Rs. 25,000 = **Rs. 35,000. }{1/2 M}**

Answer 2:
(a) **Difference between Cost Control and Cost Reduction**

	Cost Control		Cost Reduction	
{1/2 M}{	1. Cost control aims at maintaining the costs in accordance with the established standards.	1.	Cost reduction is concerned with reducing costs. It challenges all standards and endeavours to improvise them continuously	}{1/2 M}
{1/2 M}{	2. Cost control seeks to attain lowest possible cost under existing conditions.	2.	Cost reduction recognises no condition as permanent, since a change will result in lower cost.	}{1/2 M}
{1/2 M}{	3. In case of cost control, emphasis is on past and present	3.	In case of cost reduction, it is on present and future.	}{1/2 M}
{1/2 M}{	4. Cost control is a preventive function	4.	Cost reduction is a corrective function. It operates even when an efficient cost control system exists.	}{1/2 M}
{1 M}{	5. Cost control ends when targets are achieved.	5.	Cost reduction has no visible end and is a continuous process.	}{1 M}

Answer:
(b) **Workings:**
1. Standard hours (SH) for actual hours produced are calculated as below:
   Skilled = $\dfrac{1,800}{2,000} \times 1,280$ = 1,152 hrs.

   Semi-skilled = $\dfrac{1,800}{2,000} \times 480$ = 432 hrs.

   Unskilled = $\dfrac{1,800}{2,000} \times 240$ = 216 hrs.

2. Actual hours (AH) paid are calculated as below:

Category	No. of Worker	Hours in a week	Total Hours
Skilled	28	40	1,120
Semi-skilled	18	40	720
Unskilled	4	40	160
			2,000

3. For 40 hours week total Revised standard hours (RSH) will be calculated as below:

Category	No. of Worker	Hours in a week	Total Hours
Skilled	32	40	1,280
Semi-skilled	12	40	480
Unskilled	6	40	240
			2,000

Calculations

Category of workers	SH × SR	AH × SR	AH × AR	RSH × SR
Skilled	1,152 × 3 = 3,456	1,120 × 3 = 3,360	1,120 × 4 = 4,480	1,280 × 3 = 3,840
Semi-skilled	432 × 2 = 864	720 × 2 = 1,440	720 × 3 = 2,160	480 × 2 = 960
Unskilled	216 × 1 = 216	160 × 1 = 160	160 × 2 = 320	240 × 1 = 240
Total	Rs. 4,536	Rs. 4,960	Rs. 6,960	Rs. 5,040

(i)   Labour Cost Variance = Std. Cost for hours worked – Actual cost paid
            = (SH × SR) – (AH × AR)
            = Rs. 4,536 – 6,960   = **Rs. 2,424 (A)** }{1/2 M}

(ii)   Labour Rate Variance = AH (SR – AR) or (AH × SR) – (AH × AR)
       Skilled   = 3,360 – 4,480   = Rs. 1,120 (A)
       Semi-skilled   = 1,440 – 2,160   = Rs. 720 (A)
       Unskilled   = 160 - 320   = <u>Rs. 160 (A)</u>   **2,000 (A)** }{1 M}

(iii)   Labour Efficiency Variance= SR (SH – AH) or (SR × SH) – (SR × AH)
       Skilled   = 3,456 – 3,360   = Rs. 96 (F)
       Semi-skilled   = 864 – 1,440   = Rs. 576 (A)
       Unskilled   = 216 – 160   = <u>Rs. 56 (F)</u>   **Rs. 424 (A)** }{1 M}

(iv)   Labour Mix Variance = SR (RSH – AH) or (SR × RSH) – (SR × AH)
       Skilled   = 3,840 – 3,360   = Rs. 480 (F)
       Semi-skilled   = 960 – 1,440   = Rs.480 (A)
       Unskilled   = 240 - 160   = <u>Rs. 80 (F)</u>   **Rs. 80 (F)** }{1 M}

(v)   Labour Yield Variance = SR (SH – RSH) or (SR × SH – SR × RSH)
       Skilled   = 3,456 - 3,840   = Rs. 384 (A)
       Semi-skilled   = 864 - 960   = Rs. 96 (A)
       Unskilled   = 216 - 240   = <u>Rs. 24 (A)</u>   **Rs. 504 (A)**}{1/2 M}

Check
(i)   LCV   = LRV + LEV
       Rs. 2,424 (A)   = Rs. 2,000 (A) + Rs. 424 (A)
(ii)   LEV   = LMV + LYV
       Rs. 424 (A)   = Rs. 80 (F) + Rs. 504 (A)

Answer:
(c)

$$\text{Revised Sales Value} = \frac{\text{Desired Contribution}}{\text{Revised P / V Ratio}^*} = \frac{0.40}{0.25} = 1.6 \quad \}\{1/2 \text{ M}\}$$

This means sales value to be increased by 60% of the existing sales.

$$^*\text{Revised P/V Ratio} = \frac{\text{Revised Contribution}}{\text{Revised Selling Price}} = \frac{0.80 \text{-} 0.60}{0.80} = 0.25 \quad \}\{1/2 \text{ M}\}$$

$$\text{Required Sales Quantity} = \frac{\text{Desired Contribution}}{\text{Revised P / V Ratio}^* \times \text{Revised Selling Price}} = \frac{0.40}{0.25 \times 0.80} = 2$$

Therefore, Sales value to be increased by 60% and sales quantity to be }{3 M}
doubled to offset the reduction in selling price.

Proof:
Let selling price per unit is Rs. 10 and sales quantity is 100 units.

Data before change in selling price:

	(Rs.)
Sales (Rs. 10 × 100 units)	1,000
Contribution (40% of 1,000)	400
Variable cost (balancing figure)	600

Answer 3:

(a) (i) Calculation of Contribution to sales ratio at existing sales mix:

	Products			Total
	A	**B**	**C**	
Selling Price (Rs.)	300	400	200	}{1/4 M}
Less: Variable Cost (Rs.) {1/4 M}{	150 {1/4 M}{	200	120	
Contribution per unit (Rs.)	150	200	80	
P/V Ratio	50%	50%	40%	
Sales Mix	40%	35%	25%	
Contribution per rupee of sales (P/V Ratio × Sales Mix)	20%	17.5%	10%	47.5%
Present Total Contribution (Rs. 60,00,000 × 47.5%) {1/4 M}{			Rs. 28,50,000	
Less: Fixed Costs			Rs. 18,00,000	
Present Profit			Rs. 10,50,000	
Present Break-Even Sales (Rs. 18,00,000/0.475)			Rs. 37,89,473.68 }{2 M}	

(ii) Calculation of Contribution to sales ratio at proposed sales mix:

	Products			
	A	**B**	**E**	**Total**
Selling Price (Rs.)	300	400	300	
Less: Variable Cost (Rs.)	150	200	150	}{1/4 M}
Contribution per unit (Rs.) {1/4 M}{	150 {1/4 M}{	200	150	
P/V Ratio	50%	50%	50%	
Sales Mix	45%	30%	25%	
Contribution per rupee of sales (P/V Ratio x Sales Mix)	22.5%	15%	12.5%	50%
Proposed Total Contribution (Rs. 64,00,000 × 50%) {1/4 M}{			Rs. 32,00,000	
Less: Fixed Costs			Rs. 18,00,000	
Proposed Profit			Rs. 14,00,000	
Proposed Break-Even Sales (Rs. 18,00,000/0.50)			Rs. 36,00,000 }{2 M}	

(iii) The proposed sales mix increases the total contribution to sales ratio from 47.5% to 50% and the total profit from Rs. 10,50,000 to Rs. 14,00,000. Thus, the proposed sales mix should be accepted.

Answer:

(b) (1) Calculation of hours to be paid for worker A:

	Normal hours	Extra hours	Overtime hours	Equivalent normal hours for overtime worked	Total normal hours
Monday	8	1	1½	3	12
Tuesday	8	--	--	--	8
Wednesday	8	1	1½	3	12
Thursday	8	1	½	1	10
Friday	8	1	1½	3	12
Saturday	--	--	--	--	--
Total	40 }{1/2 M}	4 }{1/2 M}	5 }{1/2 M}	10 }{1/2 M}	54 }{1/2 M}

Calculation of hours to be paid for worker B:

	Normal hours	Extra hours	Overtime hours	Equivalent normal hours for overtime worked	Total normal hours

Monday	8	---	---	---	8	
Tuesday	8	---	---	---	8	
Wednesday	8	---	---	---	8	
Thursday	8	---	---	---	8	
Friday	8	---	---	---	8	
Saturday	4	4*	---	---	8	
Total	**44** }{1/2 M} **4** }{1/2 M} **---**			**---**	**48**	}{1/2 M}

(*Worker-B has neither worked more than 9 hours in any day nor more than 48 hours in the week)

Calculation of hours to be paid for worker C:

	Normal hours	Extra hours	Overtime hours	Equivalent normal hours for overtime worked	Total normal hours
Monday	8	1	1½	3	12
Tuesday	8	---	---	---	8
Wednesday	8	1	1½	3	12
Thursday	8	1	½	1	10
Friday	8	1	1½	3	12
Saturday	8*	---	---	---	8
Total	**48** }{1/2 M}	**4** }{1/2 M}	**5** }{1/2 M}	**10** }{1/2 M}	**62** }{1/2 M}

(*Worker-C will be paid for equivalent 8 hours, though 4 hours of working is required on Saturday. Further, no overtime will be paid for working beyond 4 hours since it is paid for working beyond 9 hours.)

Wages payable:

	A	B	C
Basic Wages per hour (Rs.)	25.00	12.50	37.50
Dearness allowance per hour (Rs.)	5.50	5.50	5.50
Hourly rate (Rs.)	30.50	18.00	43.00
Total normal hours	54.00	48.00	62.00
Total Wages payable (Rs. **)**	**1,647.00** }{1/2 M}	**864.00** }{1/2 M}	**2,666.00** }{1/2 M}

Answer 4:
(a)   Budget Showing Current Position and Position for 2022-23

	Position for 2021-22			Position for 2022-23			
	A	B	Total (A+B)	A	B	C	Total (A+B+C)
Sales (units)	2,00,000	1,00,000	–	1,50,000	50,000	2,00,000	–
	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
(A) Sales	4,00,000	3,50,000	7,50,000	3,00,000	1,75,000	3,50,000	8,25,000
Direct Material	1,00,000	75,000	1,75,000	75,000	37,500	80,000	1,92,500
Direct wages	50,000	50,000	1,00,000	37,500	25,000	50,000	1,12,500
Factory overhead (variable)	50,000	50,000	1,00,000	37,500	25,000	50,000	1,12,500
Other variable costs	50,000	30,000	80,000	37,500	15,000	50,000	1,02,500
(B) Marginal Cost	2,50,000	2,05,000	4,55,000	1,87,500	1,02,500	2,30,000	5,20,000
(C) Contribution (A-B)	1,50,000 }{1/2 M}	1,45,000 }{1/2 M}	2,95,000 }{1/2 M}	1,12,500 }{1/2 M}	72,500 }{1/2 M}	1,20,000 }{1/2 M}	3,05,000 }{1/2 M}
Fixed costs –							
Factory			1,00,000				1,00,000
– Others			80,000				80,000
(D) Total fixed cost			1,80,000				1,80,000
Profit			1,15,000 }{1 M}				1,25,000 }{1 M}
(C – D)							

Comments: Introduction of Product C is likely to increase profit by Rs. 10,000 (i.e. from Rs. 1,15,000 to Rs. 1,25,000) in 2022-23 as compared to 2021-22. Therefore, introduction of product C is recommended. **{1/2 M}**

Answer:
(b)   Working notes:
    1.   Total support cost:

	(Rs.)
Bottles returns	60,000
Ordering	7,80,000
Delivery	12,60,000
Shelf stocking	8,64,000
Customer support	15,36,000
Total support cost	45,00,000

}{1/2 M}

2.   Percentage of support cost to cost of goods sold (COGS):

$$= \frac{\text{Total support cost}}{\text{Total cost of goods sold}} \times 100$$

$$= \frac{\text{Rs. } 45,00,000}{\text{Rs. } 1,50,00,000} \times 100 = 30\% \quad \textbf{}\{1/2\ M\}$$

3.   Cost for each activity cost driver:

Activity (1)	Total cost (Rs.) (2)	Cost allocation base (3)	Cost driver rate (4)=[(2)÷(3)]	
Ordering	7,80,000	1,560 purchase orders	Rs. 500 per purchase order	}{1/2 M}
Delivery	12,60,000	3,150 deliveries	Rs. 400 per delivery	}{1/2 M}
Shelf-stocking	8,64,000	8,640 hours	Rs. 100 per stocking hour	}{1/2 M}
Customer support	15,36,000	15,36,000 items sold	Rs. 1 per item sold	}{1/2 M}

(i)   Statement of Operating income and Operating income as a percentage of revenues for each product line
(When support costs are allocated to product lines on the basis of cost of goods sold of each product)

	Soft Drinks (Rs.)	Fresh Produce (Rs.)	Packaged Foods (Rs.)	Total (Rs.)	
Revenues: (A)	39,67,500	1,05,03,000	60,49,500	2,05,20,000	
Cost of Goods sold (COGS): (B)	30,00,000	75,00,000	45,00,000	1,50,00,000	
Support cost (30% of COGS): (C) (Refer working notes)	9,00,000	22,50,000	13,50,000	45,00,000	
Total cost: (D) = {(B) + (C)}	39,00,000	97,50,000	58,50,000	1,95,00,000	
Operating income: E= {(A)-(D)}	67,500 }{1/2 M}	7,53,000 }{1/2 M}	1,99,500 }{1/2 M}	10,20,000	
Operating income as a percentage of revenues: (E/A) × 100	1.70%	7.17%	3.30%	4.97%	}{1/2 M}

(ii)   Statement of Operating income and Operating income as a percentage of revenues for each product line

(When support costs are allocated to product lines using an activity- based costing system)

	Soft drinks (Rs.)	Fresh Produce (Rs.)	Packaged Food (Rs.)	Total (Rs.)	
Revenues: (A)	39,67,500	1,05,03,000	60,49,500	2,05,20,000	
Cost & Goods sold	30,00,000	75,00,000	45,00,000	1,50,00,000	
Bottle return costs	60,000	0	0	60,000	
Ordering cost* (360:840:360)	**1,80,000**	**4,20,000**	**1,80,000**	7,80,000	}{1/4 M Each x 12 = 3 M}
Delivery cost* (300:2190:660)	**1,20,000**	**8,76,000**	**2,64,000**	12,60,000	
Shelf stocking cost* (540:5400:2700)	**54,000**	**5,40,000**	**2,70,000**	8,64,000	
Customer Support cost* (1,26,000:11,04,000:3,06,000)	**1,26,000**	**11,04,000**	**3,06,000**	15,36,000	
Total cost: (B)	35,40,000	1,04,40,000	55,20,000	1,95,00,000	
Operating income C:{(A)- (B)}	4,27,500	63,000	5,29,500	10,20,000	
Operating income as a % of revenues	10.78%	0.60%	8.75%	4.97%	

* Refer to working note 3

Answer 5:
(a)   Working Notes:

(1)   Calculation of standard mix of input (assuming Standard input as 100 kg)

	Qty. (Kg)	Price (Rs.)	Amount (Rs.)
Chemical A	50	12	600
Chemical B	50	15	750
	100	13.50	1,350
Normal Loss (10%)	(10)		
	90		**1,350**

(2)   Let the actual input of chemical A be X kg. and the actual price of chemical B be Rs. Y.

Given,

Material yield variance = (Total standard input – Total Actual input) x Standard cost per unit of input

= [100 – (70 + X)] x 13.5 = 135 (A)

Therefore, X = 40 kg.

Also, Material cost variance= (Standard quantity x Standard price) – (Actual quantity x Actual price)

= 1,350 – {(40 x 15) + (70 x Y)} = 650 (A)

= 1,350 – 600 – 70Y = 650A

Therefore, Y = **Rs. 20** }{2 M}

(i)   Material mix variance

= (Revised Std. Quantity* – Actual quantity) x Standard Price

Chemical A   = (55 – 40) x 12   = 180 (F)

Chemical B   = (55 - 70) x 15   = 225 (A)

                                     = Rs. 45 (A)

*Revised Std. Quantity:

Chemical A   = (70 + 40) x 50% = 55 }{1/4 M}

Chemical B   = (70 + 40) x 50% = 55 }{1/4 M}

(ii) **Material usage variance**
= (Std. qty. – Actual qty.) × Std. price
Chemical A = (50 – 40) × 12 = 120 (F)
Chemical B = (50 – 70) × 15 = 300 (A)
                              = Rs. 180 (A) }**{1 M}**

(iii) **Material price variance**
= (Std. price – Actual price) × Actual qty.
Chemical A = (12 – 15) × 40   = 120 (A)
Chemical B = (15 – 20) × 70   = 350 (A)
                                    = Rs. 470 (A) }**{1 M}**

(iv) **Actual loss of actual input**
Actual total input   =   110 kg.
Less: Actual output   =   90 kg.
Actual loss   =   20 kg.   }**{1/2 M}**

(v) **Actual input of chemical A** = **40 kg.** [As calculated in Working note(2)]. }**{1/2 M}**

(vi) **Actual price per kg. of chemical B** = **Rs. 20** [As calculated in Working }**{1/2 M}**
note (2)].

Answer:
(b)   (A)   Costing books

Stores Control Account

Particulars	(Rs.)	Particulars	(Rs.)	
To Balance b/d	32,000	By W.I.P. Control A/c	1,60,000	
To General ledger adjustment A/c	1,58,000	By Work overhead control A/c	20,000	
To Work in progress control A/c	80,000	By Costing Profit and Loss A/c	6,000	
		By Balance c/d	84,000	}**{1/2 M}**
	2,70,000		2,70,000	

W.I.P. Control Account

Particulars	(Rs.)	Particulars	(Rs.)	
To Balance b/d	60,000	By Stores control A/c	80,000	
To Stores control A/c	1,60,000	By Costing profit and loss A/c (Cost of sales)	4,00,000	
To Direct wages control A/c	65,000	By Balance c/d	45,000	}**{1/2 M}**
To Works overhead control a/c	2,40,000			
	5,25,000		5,25,000	

Works Overhead Control Account

Particulars	(Rs.)	Particulars	(Rs.)	
To General ledger adjustment A/c	2,50,000	By W.I.P. Control A/c	2,40,000	
To Store ledger control A/c	20,000	By Costing profit and loss A/c (under recovery)	30,000	}**{1/2 M}**
	2,70,000		2,70,000	

Costing Profit & Loss Account

Particulars	(Rs.)	Particulars		(Rs.)
To W.I.P. control A/c (Cost of sales)	4,00,000	By General ledger adjustment a/c		2,40,000
To Works overhead control A/c	30,000	Cost of sales	4,00,000	
To Stores control A/c (shortage)	6,000	10% profit	40,000	4,40,000
To Profit	4,000	}{1/2 M}		2,70,000
	4,40,000			4,40,000

(B)   Financial Books

Profit & Loss Account

Particulars		(Rs.)	Particulars		(Rs.)
To Opening stock			By Sales		4,40,000
Stores	32,000		By Closing stock:		
W.I.P.	60,000	92,000	Stores	84,000	
To Purchases		1,58,000	W.I.P.	45,000	1,29,000
To Wages incurred		70,000	By Income from investment		10,000
To Overheads incurred		2,50,000	By loss		11,000 }{1/2 M}
To Loss on sale of capital assets		20,000			
		5,90,000			5,90,000

Reconciliation Statement

Particulars	(Rs.)	(Rs.)
Profit as per Cost Accounts		4,000
Add: Income from investment recorded in Financial accounts		10,000 }{1/2 M}
		14,000 }{1/2 M}
Less: Under absorption of wages in Cost accounts	5,000	
Loss on sales of capital asset only included in Financial accounts	20,000	25,000 }{1/2 M}
Loss as per Financial account		11,000

Answer:
(c)   **Factory Cost Statement of Completed Job.**

Month	Job No.	Materials	Direct labour	Factory overheads (80% of direct labour cost)	Factory cost
	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
September	115	1,325	800	640	2765
October	115	--	125	{1/4 M}{ 100	225
Total		1,325	925	740	2,990
September	118	810	500	{1/4 M}{ 400	1,710
October	118	515	330	264	1,109
Total		1,325	830	664	2,819
September	120	765	475	380	1,620

October	120	665	245	{1/4 M}{ **196**	1,106
Total	{1/4 M}{	1,430	720	}{1/4 M}	576	2,726

Invoice Price of Complete Job

Job No.	115 (Rs.)	118 (Rs.)	120 (Rs.)	
Factory cost	2,990.00	2,819.00	2,726.00	
Administration and selling overheads @ 10% of factory cost	299.00}{1/4 M}	281.90 }{1/4 M}	272.60 }{1/4 M}
Total cost	3,289.00	3,100.90	2,998.60	
Profit (20% of total cost)	657.80	620.18	599.72	
Invoice Price	3,946.80	3,721.08	3,598.32	

Assumption: - Indirect labour costs have been included in the factory overhead which has been recovered as **80%** of the labour cost. }{2 M}

Answer 6:
(a) **INSTALLATION OF COSTING SYSTEM**

As in the case of every other form of activity, it should be considered whether it would be profitable to have a cost accounting system. Management of an organisation needs complete and accurate information to make decisions. A well-established Costing system should provide all relevant information as and when required by management as well as various stakeholders.

Before setting up a system of cost accounting the under mentioned factors should be studied:

(a) **Objective:** The objective of costing system, for example whether it is being introduced for fixing prices or for establishing a system of cost control.

(b) **Nature of Business or Industry:** The Industry in which business is operating. Every business industry has its own peculiarity and objectives. According to its cost information requirement cost accounting methods are followed. For example, an oil refinery maintains process wise cost accounts to find out cost incurred on a particular process say in crude refinement process etc.

(c) **Organisational Hierarchy:** Costing system should fulfill the information requirements of different levels of management. Top management is concerned with the corporate strategy, strategic level management is concerned with marketing strategy, product diversification, product pricing etc. Operational level management needs the information on standard quantity to be consumed, report on idle time etc.

(d) **Knowing the product:** Nature of product determines the type of costing system to be implemented. The product which has by-products requires costing system which accounts for by-products as well. In case of perishable or short self- life products, marginal costing is appropriate to know the contribution and minimum price at which products could be sold.

(e) **Knowing the production process:** A good costing system can never be established without the complete knowledge of the production process. Cost apportionment can be done on the most appropriate and scientific basis if a cost accountant can identify degree of effort or resources consumed in a particular process. This also includes some basic technical know-how and process peculiarity.

(f) **Information synchronisation:** Establishment of a department or a system requires substantial amount of organisational resources. While drafting a costing system, information needs of various other departments should be taken into account. For example, in a typical business organisation accounts department needs to submit monthly stock

{1/2 M Each for Any 8 Points}

statement to its lender bank, quantity wise stock details at the time of filing returns to tax authorities etc.

(g) **Method of maintenance of cost records:** The manner in which Cost and Financial accounts could be inter-locked into a single integral accounting system and how the results of separate sets of accounts i.e. cost and financial, could be reconciled by means of control accounts.

(h) **Statutory compliances and audit**: Records are to be maintained to comply with statutory requirements and applicable cost accounting standards to be followed.

(i) **Information Attributes:** Information generated from the Costing system should possess all the attributes of information i.e. **complete, accurate, timeliness, relevant** etc. to have an effective management information system (MIS).

Answer:

(b)   Difference between Job Costing and Process Costing
The main points which distinguish job costing and process costing are as below:

Job Costing	Process Costing
{1/2 M} (i) A Job is carried out or a product is **produced by specific orders**.	The process of producing the product has a continuous flow and the **product produced is homogeneous.** {1/2 M}
{1/2 M} (ii) Costs are determined **for each job.**	Costs are compiled on time basis i.e., for production of a given accounting period **for each process** or department. {1/2 M}
{1/2 M} (iii) **Each job is separate and independent** of other jobs.	**Products lose their individual identity** as they are manufactured in a continuous flow. {1/2 M}
{1/2 M} (iv) Each job or order has a number and costs are collected against the same job number.	The unit cost of process is an average cost for the period. {1/2 M}
{1/2 M} (v) Costs are computed when a job is completed. The cost of a job may be determined by adding all costs against the job.	Costs are calculated at the end of the cost period. The unit cost of a process may be computed by dividing the total cost for the period by the output of the process during that period. {1/2 M}
(vi) As production is not continuous and each job may be different, so more managerial attention is required for effective control.	Process of production is usually standardized and is therefore, quite stable. Hence control here is comparatively easier.

Answer:

(c) The following ratios are usually used by the management to measure development from budget.

Capacity Usage Ratio: This relationship between the budgeted number of working hours and the maximum possible number of working hours in a budget period. {1/2 M}

Standard Capacity Employed Ratio: This ratio indicates the extent to which facilities were actually utilized during the budget period. {1/2 M}

Level of Activity Ratio: This may be defined as the number of standard hours equivalent to work produced expressed as a percentage of the budget of standard hours. {1/2 M}

Efficiency Ratio: This ratio may be defined as standard hours equivalent of work produced expressed as a percentage of the actual hours spent in producing the work. {1/2 M}

Calendar Ratio: This ratio may be defined as the relationship between the number of working days in a period and the number of working as in the relative budget period   **{1/2 M}**

Budget Ratios:

(i)   Efficiency Ratio = $\dfrac{\text{Standard Hours}}{\text{Actual Hours}} \times 100$ **}{1/2 M}**

(ii)   Activity Ratio = $\dfrac{\text{Standard Hours}}{\text{Budgeted Hours}} \times 100$ **}{1/2 M}**

(iii)   Calendar Ratio = $\dfrac{\text{Available Working Days}}{\text{Budgeted Working Days}} \times 100$ **}{1/2 M}**

(iv)   Standard Capacity Usage Ratio = $\dfrac{\text{Budgeted Hours}}{\text{Max. possible Hours in the budgeted period}} \times 100$ **}{1/2 M}**

(v)   Actual Capacity Usage Ratio = $\dfrac{\text{Actual Hours Worked}}{\text{Max. possible working hours in a period}} \times 100$ **}{1/4 M}**

(vi)   Actual Usage of Budgeted Capacity Ratio = $\dfrac{\text{Actual working hours}}{\text{Budgeted Hours}} \times 100$ **}{1/4 M}**

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