(ALL BATCHES)

DATE: 25.07.2018 **MAXIMUM MARKS: 100** **TIMING: 3¼Hours**

PAPER 2 : COSTING

Answer 1:

(a) **Process A Account**

Dr. Cr.

	Rs.		Rs.
To Materials	40,000	By Process B A/c (Transfer to Process B)	1,20,000
To Labour	40,000		
To Overheads	16,000		
	96,000		
To Profit (20% of transfer price, i.e., 25% of cost)	24,000		
	1,20,000		1,20,000

2 M

Process B Account

Dr. Cr.

	Rs.		Rs.
To Process A A/c (Transferred from Process A)	1,20,000	By Finished Stock A/c (Transfer to finished stock)	2,88,000
To Labour	56,000		
To Overheads	40,000		
	2,16,000		
To Profit (25% of transfer price, i.e., 33.33% of cost)	72,000		
	2,88,000		2,88,000

2 M

Statement of Total Profit

	Rs.
Profit from Process A	24,000
Profit from Process B	72,000
Profit on Sales (Rs. 4,00,000 – Rs. 2,88,000)	1,12,000
Total Profit	2,08,000

1 M

(5 Marks)

(b) Let x be the cost of material and y be the normal rate of wage/hour

	Worker A (Rs.)	Worker B (Rs.)
Material cost	x	x
Labour wages	90 y	100 y
Bonus	Rowan system $\frac{\text{Time saved}}{\text{Time allowed}} \times \text{hour worked} \times \text{rate}$ $\frac{30}{120} \times 90 \times y = 22.5y$	Halsey system Hours saved × 50% × rate $20 \times \frac{1}{2} \times y \times = 10y$
Overheads	90 × Rs. 50 = 4,500	100 × Rs. 50 = 5,000
Factory cost	x + 112.5y + 4,500 = 80,200 ∴ x + 112.5y = 75,700 ……(1)	x + 110y + 5,000 = 79,400 ∴ x + 110y = 74,400 ……(2)

Solving (1) and (2) we get x = Rs.17,200 and y = Rs. 520

(i) Normal rate of wages is Rs. 520 per hour. **]1½**

(ii) Cost of materials = Rs. 17,200.**]1½**

(iii) **Comparative Statement of factory cost**

	Worker A (Rs.)	Worker B (Rs.)
Material cost	17,200	17,200
wages	46,800 (900 × Rs. 520)	52,000 (100 × Rs. 520)
Bonus	11,700 ($\frac{30}{120}$ × 90 × 520)	(20 × $\frac{1}{2}$ × 520)
Overheads	4,500 (90 × Rs. 50)	5,000 (100 × Rs. 50)
Factory cost	80,200**[1M]**	79,400**[1M]**

(5 Marks)

(c) **(i) Statement Showing "Activity Rate"**

Activity	Activity Cost [a] (Rs.)	Activity Driver	No. of Units of Activity Driver [b]	Activity Rate [a] / [b] (Rs.)	
Providing ATM Service	1,00,000	No. of ATM Transactions	2,00,000	0.50	1 M
Computer Processing	10,00,000	No. of Computer Transactions	25,00,000	0.40	
Issuing Statements	8,00,000	No. of Statements	5,00,000	1.60	1 M
Customer Inquiries	3,60,000	Telephone Minutes	6,00,000	0.60	

(ii) Statement Showing "Cost of Product"

Activity	Checking Accounts (Rs.)	Personal Loans	Gold Visa (Rs.)
Providing ATM Service	90,000 (1,80,000 tr.× Rs. 0.50)	----	10,000 (20,000 tr. × Rs. 0.50)
Computer Processing	8,00,000 (20,00,000 tr. × Rs. 0.40)	80,000 (2,00,000 tr.× Rs. 0.40)	1,20,000 (3,00,000 tr. × Rs. 0.40)
Issuing Statements	4,80,000 (3,00,000 st. × Rs. 1.60)	80,000 (50,000 st.× Rs. 1.60)	2,40,000 (1,50,000 st. × Rs. 1.60)
Customer Inquiries	2,10,000 (3,50,000 min. × Rs. 0.60)	54,000 (90,000 min.× Rs. 0.60)	96,000 (1,60,000 min. × Rs. 0.60)
Total Cost [a]	Rs. 15,80,000	Rs. 2,14,000	Rs. 4,66,000
Units of Product [b]	30,000	5,000	10,000
Cost of each Product [a] / [b]	52.67 **[1M]**	42.80 **[1M]**	46.60 **[1M]**

(5 Marks)

(d) Labour turnover rate

It comprises of computation of labour turnover by using following methods:

(i) Separation Method:

$$= \frac{\text{No. of workers let} + \text{No. of workers discharged}}{\text{Average number of workers}} \times 100$$

$$= \frac{(80 + 320)}{(7{,}600 + 8{,}400) \div 2} \times 100 = \frac{400}{8{,}000} \times 100 = 5\%$$

1 M

(ii) Replacement Method:

$$= \frac{\text{No. of workers replaced}}{\text{Average number of workers}} \times 100 = \frac{300}{8{,}000} \times 100 = 3.75\%$$

1 M

(iii) New Recruitment:

$$= \frac{\text{No. of workers newly recruited}}{\text{Average number of workers}} \times 100$$

$$= \frac{\text{No. Recruitments - No. of Replacements}}{\text{Average number of workers}} \times 100$$

$$= \frac{1,200 - 300}{8,000} \times 100 = \frac{900}{8,000} = 100 = 11.25\%$$

1 M

Flux Method:

$$= \frac{\text{No. of separations} + \text{No. of accessions}}{\text{Average number of workers}} \times 100$$

$$= \frac{(400 + 1200)}{(7600 + 8400) \div 2} \times 100 = \frac{1,600}{8,000} \times 100 = 20\%$$

2 M

(5 Marks)

Answer 2:

(a) **WorkingNotes:**

(1)

ComputationofAnnualconsumption&AnnualDemandforrawmaterial'Dee':

Salesforecastoftheproduct'Exe'	10,000units
Less:Opening stockof 'Exe'	900units
Freshunitsof'Exe'tobeproduced	9,100units
Rawmaterialrequiredtoproduce9,100unitsof 'Exe' (9,100units×2kg.)	18,200kg.
Less:OpeningStockof'Dee'	1,000kg.
Annualdemandforrawmaterial'Dee'	17,200kg.

1 M

(2) ComputationofEconomicOrder Quantity(EOQ):

$$EOQ = \sqrt{\frac{2 \times \text{Annual demand of 'Dee'} \times \text{Ordering Cost}}{\text{Carrying cost per unit per annum}}}$$

$$= \sqrt{\frac{2 \times 17,200\,\text{kg.} \times \text{Rs. } 720}{\text{Rs. } 125 \times 13.76\%}} = \sqrt{\frac{2 \times 17,200\,\text{kg.} \times \text{Rs. } 720}{\text{Rs. } 17.2}} = 1,200 \text{ Kg.}$$

1 M

(3) **Re-Orderlevel:**

=(Maximumconsumptionperday×Maximumleadtime)

$$= \left\{\left(\frac{\text{Annual Consumption of 'Dee'}}{364 \text{ day}} + 20\text{kg.}\right) \times 8 \text{ days}\right\}$$

$$= \left\{\left(\frac{18,200\,\text{kg.}}{364 \text{ days}} + 20\text{kg.}\right) \times 8 \text{ days}\right\} = 560 \text{ Kg.}$$

1 M

(4) Minimum consumption per day of raw material 'Dee':

Average Consumption per day = 50 Kg

Hence, Maximum Consumption per day = 50 Kg + 20 Kg = 70 Kg

So,Minimumconsumptionperdaywillbe

$$\text{Average Consumption} = \frac{\text{Min. consumption} + \text{Max. consumption}}{2}$$

$$\text{Or,} \quad 50 \text{ kg.} = \frac{\text{Min. consumption} + 70\text{kg.}}{2}$$

1 M

Or, Min. consumption = 100 kg – 70 kg. = 30 kg.

(i) Re-order Quantity:
EOQ - 200 kg. = 1,200 kg. - 200 kg. = 1,000 kg. **1 M**

(ii) Maximum stock level:
= Re-order level + Re-order Quantity - (Min. consumption per day × Min. lead time)
= 560 kg. + 1,000 kg. - (30 kg. × 4 days) = 1,560 kg. – 120 kg.
= 1,440 kg. **1 M**

(iii) Minimum stock level:
= Re-order level - (Average consumption per day × Average lead time)
= 560 kg. - (50 kg. × 6 days) = 260 kg. **1 M**

(iv) Impact on the profitability of the company by not ordering the EOQ. **3 M**

		When purchasing the ROQ	When purchasing the EOQ
I	Order quantity	1,000 kg.	1,200 kg.
II	No. of orders a year	$\frac{17,200\,kg.}{1,000kg.}$ =17.2 or18 order	$\frac{17,200\,kg}{1,200\,kg}$ =14.33 or15 orders
III	Ordering Cost	18 orders×Rs. 720= Rs. 12,960	15 orders × Rs. 720 = Rs. 10,800
IV	Average Inventory	$\frac{1,000kg}{2}$ =500kg.	$\frac{1,000kg}{2}$ =600kg.
V	Carrying Cost	500kg ×Rs. 17.2 = Rs. 8,600	600kg ×Rs. 17.2 = Rs. 10,320
VI	Total Cost	Rs. 21,560	Rs. 21,120

ExtraCostincurredduetonotorderingEOQ=Rs.21,560-Rs.21,120=Rs.440

(10 Marks)

(b) Sales Volume 50,000 Units

Computation of existing contribution

Particulars	Per Unit (Rs.)	Total (Rs. in Lakhs)
Sales	3,400	1,700
Fixed Cost	1,700	850
Profit	300	150
Contribution	2,000	1,000
Variable Cost	1,400	700

(i) Break even sales in units = $\frac{\text{Fixed Cost}}{\text{Contribution per unit}} = \frac{8,50,00,000}{2,000}$ = 42,500 units **1 M**

Break even sales in rupees = 42,500 units x Rs. 3,400 = Rs. 1,445 lakhs

OR

P/V Ratio = $\frac{2,000}{3,400} \times 100$ = 58.82% **1 M**

B.E.P (in rupees) = $\frac{\text{Fixed Cost}}{\text{P / V Ratio}} = \frac{8,50,00,000}{58.82\%}$ = Rs. 1,445 lakhs (approx.)

(ii) Number of units sold to achieve a target profit of Rs. 350 lakhs:

Desired Contribution = Fixed Cost + Target Profit
= 850 lakhs + 350 lakhs
= 1,200 lakhs

Number of units to be sold = $\frac{\text{Desired Contribution}}{\text{Contribution per unit}} = \frac{12,00,00,000}{2,000}$
= 60,000 units

2 M

(iii) Profit if selling price is increased by 15% and sales volume drops by 10%

Existing Selling Price per unit = Rs. 3,400
Revised selling price per unit = Rs. 3,400 × 115% = Rs. 3,910
Existing Sales Volume = 50,000 units
Revised sales volume = 50,000 units – 10% of 50,000 = 45,000 units.
Statement of profit at sales volume of 45,000 units @ Rs. 3,910 per unit

3 M

Particulars	Per Unit (Rs.)	Total (Rs. in Lakhs)
Sales	3,910.00	1,759.50
Less: Variable Costs	(1,400.00)	(630.00)
Contribution	2,510.00	1,129.50
Less: Fixed Cost		(850.00)
Profit		279.50

(iv) Volume to be achieved to earn target profit of Rs. 350 lakhs with revised selling price and reduction of 8% in variable costs and Rs. 85 lakhs in fixed cost.

Revised selling price per unit = Rs. 3,910
Variable costs per unit existing = Rs. 1,400
Revised Variable Costs
Reduction of 8% in variable costs = Rs. 1,400 – 8% of 1,400
= Rs. 1,400 – Rs. 112
= Rs. 1,288
Total Fixed Cost (existing) = Rs. 850 lakhs
Reduction in fixed cost = Rs. 85 lakhs
Revised fixed cost = Rs. 850 lakhs – Rs. 85 lakhs = Rs. 765 lakhs
Revised Contribution (unit) = Revised selling price per unit – Revised Variable Costs per units
Revised Contribution per unit = Rs. 3,910 – Rs. 1,288 = Rs. 2,622
Desired Contribution = Revised Fixed Cost + Target Profit
= Rs. 765 lakhs + Rs.350 lakhs= Rs.1,115 lakhs

No. of units to be sold = $\frac{\text{Desired Contribution}}{\text{Contribution per unit}} = \frac{1,115\text{ lakh}}{\text{Rs. } 2,622}$ = 42,525 units

3 M

(10 Marks)

Answer 3:

(a) **Expense Budget of R Ltd. for the period……**

		50% Capacity	60% Capacity
	Per unit (Rs.)	60,000 units	72,000 units
		Amount (Rs.)	Amount (Rs.)

Sales (A)	200.00	1,20,00,000	1,44,00,000
Less: Variable Costs:			
- Direct Material	82.50	49,50,000	59,40,000
- Direct Wages	27.50	16,50,000	19,80,000
- Variable Overheads	27.50	16,50,000	19,80,000
- Direct Expenses	16.50	9,90,000	11,88,000
- Variable factory expenses (75% of Rs.20p.u.)	16.50	9,90,000	11,88,000
- Variable Selling & Dist. exp. (80% of Rs. 10 p.u.)	8.80	5,28,000	6,33,600
Total Variable Cost (B)	179.30 **{2M}**	1,07,58,000 **{2M}**	1,29,09,600 **{2M}**
Contribution (C) = (A – B)	20.70	12,42,000	14,90,400
Less: Fixed Costs:			
- Office and Admin. exp. (100%)	--	3,45,000	3,45,000
- Fixed factory exp. (25%)	--	3,45,000	3,45,000
- Fixed Selling & Dist. exp. (20%)	--	1,38,000	1,38,000
Total Fixed Costs (D)	--	8,28,000	8,28,000
(C – D)	--	4,14,000 **{2M}**	6,62,400 **{2M}**

(10 Marks)

(b) SR - Standard labour Rate per Hour
AR - Actual labour rate per hour
SH - Standard hours
AH - Actual Hours

(i) Labour rate Variance = AH (SR – AR)
= 17094 (8 – AR) = 68,376(A) = – 68,476
= 8 – AR = – 4
= AR = Rs. 12 **2 M**

(ii) Labour Efficiency $= \frac{SH}{AH} \times 100 = 105.3$

$= SH = \frac{AH \times 105.3}{100} = \frac{AH \times 105.3}{100}$

= 17,999.982
= SH = 18,000 hours **2 M**

(iii) Labour Efficiency Variance = SR (SH – AH)
= 8(18,000 - 17,094)
= 8 × 906
= Rs. 7,248(F) **2 M**

(iv) StandardLabour Cost per unit $= \frac{18,000}{6,000}$ = Rs. 24 **2 M**

(v) Actual Labour Cost per unit $= \frac{17,094}{6,000}$ = Rs. 34.19 **2 M**

(10 Marks)

Answer4:

(a) **Stores Ledger Control A/c**

Particulars	Rs.	Particulars	(Rs.)
To Balance b/d	1,08,000	By Work in Process A/c	5,76,000

3 M

To General Ledger Adjustment A/c	5,76,000	By Overhead Control A/c	72,000
To Work in Process A/c	2,88,000	By Overhead Control A/c (Deficiency)	21,600*
		By Balance c/d	3,02,400
	9,72,000		9,72,000

Deficiency assumed as normal (alternatively can be treated as abnormal loss)

Work in Process Control A/c

Particulars	Rs.	Particulars	(Rs.)
To Balance b/d	2,16,000	By Stores Ledger Control a/c	2,88,000
To Stores Ledger Control A/c	5,76,000	By Costing P/L A/c (Balancing figures being Cost of finished goods)	14,40,000
To Wages Control A/c	2,16,000	By Balance c/d	1,44,000
To Overheads Control A/c	8,64,000		
	18,72,000		18,72,000

3 M

Overheads Control A/c

Particulars	Rs.	Particulars	(Rs.)
To Stores Ledger Control A/c	72,000	By Work in Process A/c	8,64,000
To Stores Ledger Control A/c	21,600	By Balance c/d (Under absorption)	1,65,600
To Wages Control A/c (Rs.2,52,000-Rs.2,16,000)	36,000		
To Gen. Ledger Adjust. A/c	9,00,000		
	10,29,600		10,29,600

3 M

Costing Profit & Loss A/c

Particulars	Rs.	Particulars	(Rs.)
To Work in process	14,40,000	By Gen. ledger Adjust. A/c (Sales) (Rs.14,40,000 × 115%)	16,56,000
To Gen. Ledger Adjust. A/c (Profit)	2,16,000		
	16,56,000		16,56,000

1 M

(10 Marks)

(b) Working Notes:

Input output ratio of material processed in Department X = 100:90

Particulars	Quantity (Kg)
Material input	9,00,000
Less: Loss of material in process @ 10% of 9,00,000 kgs	(90,000)
Output	8,10,000

Output of department X is product 'P_1' and 'P_2' in the ratio of 60 : 40.

Output 'P_1' = $\frac{60 \times 8,10,000}{100}$ = 4,86,000kgs.

Output 'P_2' = $\frac{40 \times 8,10,000}{100}$ = 3,24,000kgs.

Statement showing ratio of net sales

Product	P_1	P_2	Total
Quantity (kgs)	4,86,000	3,24,000	8,10,000
Selling price per kg (Rs.)	110.00	325.00	
Sales Value (Rs. in lakhs)	534.60	1,053.00	1587.60
Less: Selling Expenses (Rs. in lakhs)	(28.38)	(25.00)	(53.38)
Net Sales (` in lakhs)	506.22	1,028.00	1,534.00
Ratio	33%	67%	100.00

2 M

Computation of Joint Costs

Particulars	Amount (Rs. Lakhs)
Ram Material Input 9,00,000 kgs @ Rs. 95 per kg	855.00
Direct Material	95.00
Direct Wages	80.00
Variable Overheads	100.00
Fixed Overheads	75.00
Output	1,205.00

2 M

(i) Statement showing apportionment of joint costs in the ratio of net sales

Particulars	Amount (Rs. Lakhs)
Joint cost of P_1 – 33% of Rs. 1,205 lakhs	397.65
Joint cost of P_2 – 67% of Rs. 1,205 lakhs	807.35
Total	1,205.00

1½ M

(ii) Statement showing profitability at split off point

Product	P_1	P_2	Total
Net Sales Value (Rs. in lakhs) – [A]	506.22	1028.00	1534.22
Less: Joint costs (Rs. in lakhs)	(397.65)	(807.35)	(1205.00)
Profit (Rs. in lakhs) [A] – [B]	108.57	220.65	329.22

Alternative Presentation

Product	P_1	P_2	Total
Sales Value (Rs. in lakhs) – [A]	534.60	1053.00	1587.60
Less:Joint cots (Rs. in Lakhs)	397.65	807.35	1205.00
Selling Expenses	28.38	25.00	53.38
Total Cost [B]	426.03	832.35	1258.38
Profit (Rs. in lakhs) [A]-[B]	108.57	220.65	329.22

1½ M

(iii) Statement of profitability of product 'YP_1'

Product		YP_2
Sales Value (Rs. in lakhs) (Refer working note) [A]		629.55
Less: Cost of P_1	397.65	
Cost of Department Y	128.00	
Selling Expenses of Product 'YP_1'	19.00	
Total Costs [B]		544.65
Profit (Rs. in lakhs) [A] – [B]		84.90

1½ M

Working Note:

Computation of product 'YP_1'

Quantity of product P1 input used = 4,86,000kgs

Input output ratio of material processed in Department Y = 100 : 95

Particulars	Quantity (Kg)
Material input	4,86,000
Less: Loss of material in process @ 5% of 4,86,000	(24.300)

Total	4,61,700

Sales Value of YP_1 = 4,61,700kgs @ Rs. 150 per kg = Rs. 692.55 lakhs

(iv) Determination of profitability after further processing of product P_1 into product YP_1:

Particulars	(Rs. in Lakhs)
Profit of Product 'YP_1'{refer (ii) above}	108.57
Profit of Product 'YP_1'{refer (iii) above}	84.90
Decrease in profit after further processing	23.67

Based on the above profitability statement, further processing of product P_1 into YP_1 should not be recommended.

1½ M

(10 Marks)

Answer 5:

(a) Work produced by the gang 1,800 standard labour hours, i.e.,

$\frac{1,800}{32+12+6}$ or 36 gang hours

Standard hours of Skilled Labour	(36 × 12)	1,152 hours
Standard hours of Semi-skilled Labour	(36 × 12)	432 hours
Standard hours of Un-skilled Labour	(36 × 6)	216 hours
Total		1,800 hours
Actual hours of Skilled Labour	(40 × 28)	1,120 hours
Actual hours of Semi-skilled Labour	(40 × 18)	720 hours
Actual hours of Un-skilled Labour	(40 × 4)	160 hours
Total		2,000 hours

Skilled Labour	$\frac{1,152}{1,800}$ × 2,000	1,280 hours
Semi-skilled Labour	$\frac{432}{1,800}$ ×2,000	480 hours
Unskilled Labour	$\frac{216}{1,800}$ ×2,000	240 hours
		2,000 hours

Standard Cost for Actual Output:

Skilled Labour	1,152 hours @ Rs. 30		34,560
Semi-skilled Labour	432 hours @ Rs. 20		8,640
Unskilled Labour	216 hours @ Rs. 10		2,160
	1,800 hours		45,360

Actual Cost:

Skilled Labour	1,120 hours @ Rs. 34		38,080
Semi-skilled Labour	720 hours @ Rs. 23		16,560
Unskilled Labour	160 hours @ Rs. 12		1,920
	1,800 hours		56,560

2 M

(i) Total Labour Cost Variance

Standard Cost- Actual Cost	Rs.
Rs. 45,360 - Rs. 56,560	11,200 (A)

2 M

(ii) Labour Yield Variance:

(Standard hours for Actual Output - Revised Standard hours) × Standard Rate

Skilled	(1,152 - 1,280) × Rs. 30	3,840 (A)
Semi-skilled	(432 - 480) × Rs. 20	960 (A)
Un-skilled	(216 - 240) × Rs. 10	240 (A)

2 M

5,040 (A)	5,040 (A)

(iii) Labour Mix Variance:

(Revised Standard Hours - Actual Hours) × Standard Rate

Skilled	(1,280 - 1,120) × Rs. 30	4,800 (F)	
Semi-skilled	(480 - 720) × Rs. 20	4,800 (A)	
Un-skilled	(240 - 160) × Rs. 10	800 (F)	
		800 (F)	800 (A)

2 M

(iv) Labour Wage Rate Variance:

(Standard Rate - Actual Rate) × Actual Hours

Skilled	(Rs. 30 - Rs. 34) × 1,120	4,480 (A)	
Semi-skilled	(Rs. 20 - Rs. 23) × 720	2,160 (A)	
Un-skilled	(Rs. 10 - Rs. 12) × 160	320 (A)	
		6,960 (A)	9,690 (A)
Check : Total Labour Cost Variance = Yield + Mix + Rate			11,200 (A)

2 M

(10 Marks)

(b) Operating cost statement of 'RP' Resort (P) Limited

Particulars	Cost per annum (Rs. in lakhs)
Staff Salaries	680.00
Room Attendant's Wages (refer W.N-3)	286.20
Lighting, Heating & Power	300.00
Repairs, Maintenance & Renovation	180.00
Linen	30.00
Laundry charges	24.00
Interior Decoration	75.00
Sundries	30.28
Depreciation (refer W.N- 4):	
- Building	45.00
- Furniture & Fixture	9.00
- Air Conditioners	7.50
Total	1,666.98

Computation of profit: Let Rs. x be the rent for deluxe from.

Equivalent deluxe room days are 90,720 (refer W.N- 2)

Total takings = Rs. 90,720x

Profit is 25% of total takings.

Profit = 25% of Rs. 90,720x = Rs. 22,680x

Total takings = Total Cost + Profit

Rs. 90,720x = Rs. 16,66,98,000 + Rs. 22,680x

Rs. 90,720x - Rs. 22,680x = Rs. 16,66,98,000

Rs. 68,040x = Rs. 16,66,98,000

$X = \frac{Rs.\,116,66,98,000}{Rs.\,68,040}$ = Rs. 2,450

3 M

Rent to be charged for Deluxe room	Rs. 2,450
Rent to be charged for Super deluxe room = Rent of deluxe room ×2 = Rs.2,450×2	Rs. 4,900
Rent to be charged for Luxury suite = Rent of Super Deluxe room × 1.5 = Rs. 4,900 × 1.5	Rs. 7,350

2 M

Working Notes:

1. Computation of Room Occupancy

Type of Room	No. of rooms x no. of days x occupancy %	Room days
Deluxe Room	100 rooms x 360 days x 90% occupancy	32,400
Super Deluxe Room	60 rooms x 360 days x 75% occupancy	16,200
Luxury Suit	40 x 360 days x 90% occupancy	8,640
	Total	84.90

1½ M

2. Computation of equivalent deluxe room days:

Rent of 'super deluxe' room is to be fixed at 2 times of 'deluxe room' and luxury suite' is 3 times of 'deluxe room'. Therefore equivalent room days would be:

Type of Room	Room days	Equivalent deluxe room days
Deluxe Room	32,400 × 1	32,400
Super Deluxe Room	16,200 × 2	32,400
Luxury Suite	8,640 × 3	25,920
	Total	90,720

1½ M

3. Computation of room attendant's wages:

Room occupancy days × Rs. 500 per day
= 57,240 days × Rs. 500 = Rs. 286.20 lakhs

1 M

4. Computation of Depreciation per annum:

Particular	Cost (Rs.)	Rate of Depreciation	Depreciation (Rs.)
Building	900,00,000	5%	45,00,000
Furniture & Fixtures	90,00,000	10%	16,200
Air Conditioners	75,00,000	10%	8,640

1 M

(10 Marks)

Answer 6:

(a) Cost classification based on variability

(i) Fixed Costs – These are the costs which are incurred for a period, and which, within certain output and turnover limits, tend to be unaffected by fluctuations in the levels of activity (output or turnover). They do not tend to increase or decrease with the changes in output. For example, rent, insurance of factory building etc., remain the same for different levels of production.

2 M

(ii) Variable Costs – These costs tend to vary with the volume of activity. Any increase in the activity results in an increase in the variable cost and vice-versa. For example, cost of direct labour, etc.

2 M

(iii) Semi-variable Costs – These costs contain both fixed and variable components and are thus partly affected by fluctuations in the level of activity. Examples of semi variable costs are telephone bills, gas and electricity etc.

1 M

(5 Marks)

(b) Single and Multiple Overhead Rates:

Single overhead rate: It is one single overhead absorption rate for the whole factory. It may be computed as follows:

$$\text{Single overhead rate} = \frac{\text{Overhead costs for the entire factory}}{\text{Total quantity of the base selected}}$$

The base can be total output, total labour hours, total machine hours, etc. **2½ M**

The single overhead rate may be applied in factories which produces only one major product on a continuous basis. It may also be used in factories where the work performed in each department is fairly uniform and standardized.

Multiple overhead rate: It involves computation of separate rates for each production department, service department, cost center and each product for both fixed and variable overheads. It may be computed as follows:

$$\text{Multiple overhead rate} = \frac{\text{Overhead allocated/ appportioned to each department/ cost centre or product}}{\text{Corresponding base}}$$ **2½ M**

Under multiple overheads rate, jobs or products are charged with varying amount of factory overheads depending on the type and number of departments through which they pass. However, the number of overheads rate which a firm may compute would depend upon two opposing factors viz. the degree of accuracy desired and the clerical cost involved.

(5 Marks)

(c) Four different methods of costing along with their applicability to concerned industry have been discussed as below:

(i) Job Costing: The objective under this method of costing is to ascertain the cost of each job order. A job card is prepared for each job to accumulate costs. The cost of the job is determined by adding all costs against the job it has incurred. This method of costing is used in printing press, foundries and general engineering workshops, advertising etc. **2 M**

(ii) Batch Costing: This system of costing is used where small components/ parts of the same kind are required to be manufactured in large quantities. Here batch of similar products is treated as a job and cost of such a job is ascertained as discussed under (1), above. If in a cycle manufacturing unit, rims are produced in batches of 2,500 units each, then the cost will be determined in relation to a batch of 2,500 units. **1 M**

(iii) Contract Costing: If a job is very big and takes a long time for its completion, then method used for costing is known as Contract Costing. Here the cost of each contract is ascertained separately. It is suitable for firms engaged in the construction of bridges, roads, buildings etc. **1 M**

(iv) Operating Costing: The method of Costing used in service rendering undertakings is known as operating costing. This method of costing is used in undertakings like transport, supply of water, telephone services, hospitals, nursing homes etc. **1 M**

(5 Marks)

(d) In batch costing the most important problem is the determination of 'Economic Batch Quantity'

The determination of economic batch quantity involves two types of costs viz, (i) set up cost and (ii) carrying cost. With the increase in the batch size, there is an increase in the carrying cost but the set-up cost per unit of the product is reduced; this situation is reversed when the batch size is reduced. Thus there is one particular batch size for which both set up and carrying costs are minimum. This size of a batch is known as economic or optimum batch quantity. **2 M**

Economic batch quantity can be determined with the help of a table, graph or mathematical formula. The mathematical formula usually used for its determination is as follows: **3 M**

$$EBQ = \sqrt{\frac{2DC}{C}}$$

Where,
D = Annual demand for the product
S = Setting up cost per batch
C = Carrying cost per unit of production per annum

(5 Marks)

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