

J.K. SHAH[®]

**TEST
SERIES**



SUGGESTED SOLUTION

CA INTERMEDIATE

SUBJECT- COST AND MANAGEMENT ACCOUNTING

Test Code – ISP 2404

BRANCH - () (Date :)

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.

Tel : (022) 26836666

ANSWER : 1

MULTIPLE CHOICE QUESTIONS :

No.	Answer	
i.	D	Variable Overhead Cost = Standard Variable Overheads for Production - Actual Variance $= 44,800 - 55,680$ $= \text{Rs. } 10,880 \text{ (A)}$
ii.	C	Fixed Overhead Volume = Absorbed Fixed Overheads - Budgeted Fixed Overheads Variance = $87,200 - 1,09,000 = 21,800 \text{ (A)}$
iii.	A	Fixed Overhead Expenditure = Budgeted Fixed Overheads - Actual Fixed Overheads Variance = $10.9 \times 10,000 \text{ units} - \text{Rs. } 1,30,520 = \text{Rs. } 21,520 \text{ (A)}$
iv.	B	Calendar Variance = Possible Fixed Overheads - Budgeted Fixed Overheads

(4 * 2.5 MARKS = 10)

ANSWER : 2

No.	Answer	
i.	D	Budgeted Machine hour rate (Blanket rate) $= \frac{50,40,000}{6,000 \text{ hours}} = \text{Rs. } 840 \text{ per hour}$
ii.	A	Rs. 25,20,000
iii.	A	1,18,000 over-absorbed
iv.	B	Accounting treatment of over absorbed production overheads: As, 40% of the over absorbed overheads were due to defective production policies, this being abnormal, hence should be credited to Costing Profit and Loss Account. Amount to be credited to Costing Profit and Loss Account $= \text{Rs. } 1,18,000 \times 40\% = \text{Rs. } 47,200.$ Balance of over absorbed production overheads should be distributed over Works in progress, finished goods and Cost of sales by applying supplementary rate *. Amount to be distributed = $\text{Rs. } 1,18,000 \times 60\% = \text{Rs. } 70,800$ Supplementary rate = $\frac{70,800}{1,50,000 \text{ units}} = 0.472 \text{ per unit}$
v.	C	Apportionment of over absorbed production overheads over WIP, Finished goods and Cost of sales:

ANSWER : 3 (A)

Optimum batch size or Economic Batch Quantity (EBQ):

$$EBQ = \sqrt{\frac{2DS}{C}} = \sqrt{\frac{2 \times 80,000 \times 3,500}{12}} = 6,832 \text{ units.}$$

Number of Optimum runs = $80,000 \div 6,832 = 11.70$ or 12 run

(2 Marks)

ANSWER : 4 (C)

Ordering Cost = $4,00,000/320 = 1,250$

Delivery Cost = $1,35,000/270 = 500$

A = $1,250 \times 100 + 500 \times 70 = 1,60,000$

B = $1,250 \times 220 + 500 \times 200 = 3,75,000$

(2 Marks)

ANSWER : 5 (D)

Labour rate variance = Standard time for actual production (SR-AR)

$7,500 (A) = (30,000 \times 30 \text{ minutes}/60 \text{ minutes}) \times (50-AR)$

$AR = (7,50,000 + 7,500)/15,000 = \text{Rs. } 50.50 \text{ per hour}$

Actual wages per unit = $50.50/2 = \text{Rs. } 25.25$

(2 Marks)

ANSWER : 6 (B)

Variable overhead for each % of level of activity

$$\frac{40,00,000-30,00,000}{75-50} = 40,000$$

Fixed cost = $30,00,000 - (40,000 \times 50) = 10,00,000$

Total overheads for 60% level of activity

= $10,00,000 + (40,000 \times 60) = 34,00,000$

(2 Marks)

ANSWER : 7 (B)

Direct labour	:	Rs. 45,000
Direct expenses	:	Rs. 15,000
Direct materials consumed	:	Rs. 7,500

Prime Cost	:	Rs. 1,27,500
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(2 Marks)

PART-II – Descriptive Questions (70 Marks)

Question No. 1 is compulsory.

ANSWER : 1(a)

Process A Account

Particulars	Units	Rs.	Particulars	Units	Rs.
To Material	78,000	3,90,000	By Normal Loss	7,800	-
To Wages		2,85,000	By Abnormal Loss	1,560	18,720
To Overheads		1,67,400	By Process B A/c	68,640	8,23,680
Total	78,000	8,42,400	Total	78,000	8,42,400

Cost per unit of completed units and abnormal loss = $\frac{8,42,400}{78,000 \text{ units} - 7,800 \text{ units}} = \text{Rs. 12 unit}$

Process B Account

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process A A/c	68,640	8,23,680	By Normal loss	240	-
To Indirect Material		34,320	By Finished stock	69,000	13,11,000
To Wages		3,30,000			
To Overheads		1,11,600			
To Abnormal gain	600	11,400			
Total	69,240	13,11,000	Total	69,240	13,11,000

Cost per unit of completed units and abnormal gains:

$\frac{\text{Total cost}}{\text{Inputs} - \text{Normal loss}} = \frac{\text{Rs. 12,99,600}}{68,640 \text{ units} - 240 \text{ units}} = \text{Rs. 19}$

(5 Marks)

ANSWER : 1(b)

(ii) Calculation of Economic Order Quantity

$$EOQ = \sqrt{\frac{2 \times \text{Annual Demand} \times \text{Ordering Cost}}{\text{Carrying Cost per unit per annum}}}$$

$$= \sqrt{\frac{2 \times 12,000 \text{ units} \times \text{Rs. } 1,200}{\text{Rs. } 1,740 \times 0.12}} = 371 \text{ units (Approx)}$$

(ii) Evaluation of Profitability of Different Options of Order Quantity

(a) When EOQ is ordered

		(Rs.)
Purchase Cost	(12,000 units × Rs. 1,740)	2,08,80,000.00
Ordering Cost*	[(12,000 units ÷ 371 units) i.e. 33 × Rs. 1,200]	39,600.00
Carrying Cost **	(371 units × Rs. 1,740 × 1/2 × 12/100)	38,732.40
Total Cost		2,09,58,332.40

(b) When Quantity Discount of 5% is offered.

		(Rs.)
Purchase Cost	(12,000 units × Rs. 1,740 × 0.95)	1,98,36,000.00
Ordering Cost*	[(12,000 units ÷ 6,000 units) × Rs. 1,200]	2,400.00
Carrying Cost**	(6,000 units × Rs. 1,653 × 1/2 × 12/100)	5,95,080.00
Total Cost		2,04,33,480.00

Advise - The total cost of inventory is lower if quantity discount offer is accepted. Hence, the company is advised to accept the quantity discount.

$$* \text{ Ordering Cost} = \frac{\text{Annual Demand}}{\text{Order Quantity}} \times \text{Cost of placing an order}$$

$$** \text{ Carrying Cost} = \frac{\text{Cost per unit} \times \text{Quantity Ordered} \times \text{Carrying Cost}}{2}$$

(5 Marks)

ANSWER : 1 (c)

(i)	Statement showing Break Even Sales Particulars	Black	White
	Sales Planned	81,00,000	54,00,000
	Selling Price (Rs.)	18	24
	Number of Units to be sold	4,50,000	2,25,000
	Break Even sales (in Units), 70% of total sales	3,15,000	1,57,500
	Or		

	Break Even sales (in Rs.), 70% of total sales	56,70,000	37,80,000
(ii)	Statement Showing Fixed Cost Reduction Profit to be maintained (Rs.)	8,26,200	7,45,200
	Margin of Safety (70% of Sales) (Rs.)	24,30,000	16,20,000
	PVR (Profit/ Margin of Safety) × 100	34%	46%
	Contribution (Sales × 34% or 46%) (Rs.)	27,54,000	24,84,000
	Less: Profit (Rs.)	8,26,200	7,45,200
	Revised Fixed Cost (Rs.)	19,27,800	17,38,800
	Present Fixed Cost (Rs.)	22,00,000	20,00,000
		Reduction in Fixed Cost 2,72,200	2,61,200

(4 Marks)

ANSWER : 2(a)

Statement Showing Distribution of Overheads of PM Ltd.

Particulars	Basis	Total	Production Departments			Service Departments	
			P ₁	P ₂	P ₃	S ₁	S ₂
			(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
Direct wages	Actual	33,900	-	-	-	30,000	3,900
Rent & rates	Area	1,00,000	20,000	25,000	30,000	20,000	5,000
General lighting	Light points	12,000	2,000	3,000	4,000	2,000	1,000
Indirect wages	Direct wages	38,780	12,000	8,000	12,000	6,000	780
Power	H.P.	30,000	12,000	6,000	10,000	2,000	-
Depreciation of machines	Value of machines	2,00,000	48,000	64,000	80,000	4,000	4,000
Sundries	Direct wages	1,93,900	60,000	40,000	60,000	30,000	3,900
		6,08,580	1,54,000	1,46,000	1,96,000	94,000	18,580

Redistribution of Service Department's Expenses over Production Departments

	P ₁ (Rs.)	P ₂ (Rs.)	P ₃ (Rs.)	S ₁ (Rs.)	S ₂ (Rs.)
Total overhead distributed as above	1,54,000	1,46,000	1,96,000	94,000	18,580
Dept. S ₁ Overheads apportioned (20:30:40:—:10)	18,800	28,200	37,600	(94,000)	9,400

Dept. S ₂ overheads apportioned (40:20:30:10:—)	11,192	5,596	8,394	2,798	(27,980)
Dept. S ₁ Overheads apportioned (20:30:40:—:10)	560	839	1,119	(2,798)	280
Dept. S ₂ overheads apportioned (40:20:30:10:—)	124	63	93	-	(280)
	1,84,676	1,80,698	2,43,206	-	-
Working hours	3,070	4,475	2,419		
Rate per hour	60.16	40.38	100.54		

Determination of total cost of Product 'X'

	(Rs.)
Direct material cost	1,000.00
Direct labour cost	600.00
Overhead cost (See working note)	744.14
	2,344.14

Working Notes:

Overhead cost

$$= (\text{Rs. } 60.16 \times 4 \text{ hours}) + (\text{Rs. } 40.38 \times 5 \text{ hours}) + (\text{Rs. } 100.54 \times 3 \text{ hrs.})$$

$$= \text{Rs. } 240.62 + \text{Rs. } 201.90 + \text{Rs. } 301.62 = \text{Rs. } 744.14$$

(10 Marks)

ANSWER : 2(b)

Journal entries are as follows:			
		Dr.	Cr.
		(Rs.)	(Rs.)
(i) Stores Ledger Control A/c.....	Dr.	27,000	
To Cost Ledger Control A/c			27,000
(ii) Work-in-Process Control A/c.....	Dr.	6,000	
To Manufacturing Overhead Control A/c			6,000
(iii) Cost of Sales A/c.....	Dr.	4,000	
To Selling & Dist. Overhead Control A/c	1		4,000
(iv) (1) Wage Control A/c.....	Dr.	8,000	
To Cost Ledger Control A/c			8,000
(2) Manufacturing Overhead Control A/c.....	Dr.	8,000	

To Wages Control A/c			8,000
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OR

Manufacturing Overhead Control A/c.....	Dr.		
To Cost Ledger Control A/c		8,000	8,000
(v) Stores Ledger Control A/c.	Dr.		9,000
To Work-in-Process Control A/c			9,000

* Cost Ledger Control A/c is also known as General Ledger Control A/c

(4 Marks)

ANSWER : 3(a)

Calculation of Cost of Production and Profit for the month ended March, 20x9:		Amount
Particulars	Amount (Rs.)	(Rs.)
Materials consumed:		
- Opening stock	6,06,000	
- Add: Purchases	28,57,000	
	34,63,000	
- Less: Closing stock	(7,50,000)	27,13,000
Direct wages		37,50,000
Prime cost		64,63,000
Factory expenses		21,25,000
		85,88,000
Add: Opening W-I-P		12,56,000
Less: Closing W-I-P		(14,22,000)
Factory cost		84,22,000
Less: Sale of scrap		(26,000)
Cost of Production		83,96,000
Add: Opening stock of finished goods		3,59,000
Less: Closing stock of finished goods		(3,09,000)
Cost of Goods Sold		84,46,000
Office and administration expenses		10,34,000
Selling and distribution expenses		7,50,000
Cost of Sales		1,02,30,000

Profit (balancing figure)	31,70,000
Sales	1,34,00,000

(5 Marks)

ANSWER : 3(b)

Comprehensive Cost Statement

Particulars	Total Cost (Rs.)	Product- M	Product-N
No. of units produced *		5,400 units	810 units
Cost of raw material (Rs.80 × 6,750 units)	5,40,000		
Processing cost:			
- Labour cost (Rs. 2,25,000 × 66%)	1,48,500		
- Other costs(Rs.2,25,000-1,48,500)	76,500		
Total joint cost	7,65,000		
(i) Apportionment of joint costs between the joint products			
Labour cost in the ratio of 100:80	1,48,500	82,500 $\left(\frac{1,48,500 \times 100}{180}\right)$	66,000 $\left(\frac{1,48,500 \times 80}{180}\right)$
Other joint costs (including material) in the ratio of output (5,400:810)	6,16,500	5,36,087 $\left(\frac{6,16,500 \times 5,400}{6,210}\right)$	80,413 $\left(\frac{6,16,500 \times 810}{6,210}\right)$
(ii) Total product cost	7,65,000	6,18,587	1,46,413

No. of units produced of Product M = 6750 units × 80% = 5400 units
No. of units produced of Product

N = 6750 units × 12% = 810 units

(5 Marks)

ANSWER : 3(c)

Flexible Budget of "Action Plan Manufacturers" (for the month of January)

Indirect manufacturing cost	Nature of cost (1)	Expenses for a normal month	Planned expenses (Rs.)(3)	Expenses as per flexible budget	Actual expenses (Rs.)(5)	Difference (Rs.) (6)=(5)-(4)

		(Rs.) (2)		(Rs.) (4)		
Salary of foreman	Fixed	1,000	1,000	1,000	1,000	Nil
Indirect labour (WN 1)	Variable	720	900	540	600	60
Indirect material	Variable	800	1,000	600	700	100

(wn2)						
Repair and maintenance (WN3)	Semi-variable	600	650	550	600	50
Power (WN 4)	Semi-variable	800	875	725	740	15
Tools consumed (WN 5)	variable	320	400	240	300	60
Rates and taxes	Fixed	150	150	150	150	Nil
Depreciation	Fixed	800	800	800	800	Nil
Insurance	Fixed	100	100	100	100	Nil
		5,290	5,875	4,705	4,990	285

Conclusion: The above statement of flexible budget shows that the concern's expenses in the month of January have increased by Rs. 285 as compared to flexible budget. Under such circumstances, assuming the expenses are controllable and based on the financial perspective the Foreman of the company should not be entitled for any performance bonus for the month of January.

Working notes:

$$\text{Indirect Labour cost per unit} = \frac{\text{Rs } 720}{8000} = 0.09$$

$$\text{Indirect Labour for 6,000 units} = 6,000 \times \text{Rs. } 0.09 = \text{Rs. } 540.$$

$$\text{Indirect Material cost per unit} = \frac{\text{Rs } 800}{8000} = 0.10$$

$$\text{Indirect material for 6,000 units} = 6,000 \times \text{Rs. } 0.10 = \text{Rs. } 600$$

According to high and low point method of segregating semi-variable cost into fixed and variable components, following formulae may be used.

$$\text{Variable cost of repair and maintenance per unit} = \frac{\text{Change in expense level}}{\text{Change in output level}} = \frac{650-600}{2000} = 0.025$$

For 8,000 units

$$\text{Total Variable cost of repair and maintenance} = \text{Rs. } 200$$

$$\text{Fixed repair \& maintenance cost} = \text{Rs. } 400$$

Hence at 6,000 units output level, total cost of repair and maintenance should be

$$= \text{Rs. } 400 + \text{Rs. } 0.025 \times 6,000 \text{ units} = \text{Rs. } 400 + \text{Rs. } 150 = \text{Rs. } 550$$

$$\text{Variable cost of power per unit} = \frac{875-800}{2000} = 0.0375$$

For 8,000 units

$$\text{Total variable cost of power} = \text{Rs. } 300 \text{ Fixed cost} = \text{Rs. } 500$$

Hence, at 6,000 units output level, total cost of power should be

$$= \text{Rs. } 500 + \text{Rs. } 0.0375 \times 6,000 \text{ units} = \text{Rs. } 500 + \text{Rs. } 225 = \text{Rs. } 725$$

Tools consumed cost for 8,000 units = Rs. 320

Hence, tools consumed cost for 6,000 units = $(Rs. 320/8,000 \text{ units}) \times 6,000 \text{ units} = Rs. 240$

(4 Marks)

ANSWER : 4(a)

1. Workings:

500					
	Large	Medium		Small	
Qty (ltr)	Max bottles	Qty (ltr)	Max bottles	Qty (ltr)	Max bottles
3	1,666	1.5	3,333	0.6	8,333

*For simplicity of calculation small fractions has been ignored.

2. Number of batches to be run:

		Large	Medium	Small	Total
A	Demand	3,00,000	7,50,000	20,00,000	
B	Bottles per (Refer WN-1)	1,666	3,333	8,333	
C	No. of batches [A ÷ B]	180	225	240	645

*For simplicity of calculation small fractions has been ignored. Quantity of Material-W and Material C required to meet demand:

	Particulars	Large	Medium	Small	Total
A	Demand (bottle)	3,00,000	7,50,000	20,00,000	
B	Qty per bottle (Litre)	3	1.5	0.6	
C	Output (Litre)	9,00,000	11,25,000	12,00,000	32,25,000
D	Material-W per litre of output (Litre)	14	14	14	
E	Material-W required (Litre)	1,26,00,000	1,57,50,000	1,68,00,000	4,51,50,000
F	Material-C required per litre of output (ml)	25	25		
G	Material-C required (Litre) [[C×F]÷1000]	22,500	28,125	30,000	80,625

3. No. of Man-shift required:

		Large	Medium	Small	Total
A	No. of batches	180	225	240	645
B	Hours required per batch (Hours)	2	2	2	
C	Total hours required (Hours)	360	450	480	1,290
D	No. of shifts required [C ÷ 8]	45	57	60	162
E	Total manshift [D×20 workers]	900	1,140	1,200	3,240

4. Power consumption in Kwh

		Large	Medium	Small	Total
For processing					
A	No. of batches	180	225	240	645
B	Hours required per batch (Hours)	1.75	1.75	1.75	1.75
C	Total hours (Hours) [A x B]	315	393.75	420	1,128.75
D	Power consumption per hour	90	90	90	90
E	Power consumption in Kwh [C × D]	28,350	35,437.5	37,800	1,01,587.5
F	Per batch consumption (Kwh) [E ÷ A]	157.5	157.5	157.5	157.5
For set-up					
G	Hours required per batch (Hours)	0.25	0.25	0.25	0.25
H	Total hours required (Hours) [A × G]	45	56.25	60	161.25
I	Power consumption per hour [20% × 90]	18	18	18	18
J	Power consumption in Kwh [H × I]	810	1,012.5	1,080	2,902.5
K	Per batch consumption (Kwh) [J ÷ A]	4.5	4.5	4.5	4.5

Calculation of Profit/ loss per batch:

	Particulars	Large	Medium	Small	Total
A	Demand (bottle)	3,00,000	7,50,000	20,00,000	30,50,000
B	Price per bottle(Rs.)	150	90	50	
C	Sales value (Rs.)	4,50,00,000	6,75,00,000	10,00,00,000	21,25,00,000
D	Direct Material cost:				
E	Material-W (F)[Qty in WN-3 × Rs. 0.50]	63,00,000	78,75,000	84,00,000	2,25,75,000
F	Material-C (Rs.) [Qty in WN-3 × Rs.1,000]	2,25,00,000	2,81,25,000	3,00,00,000	8,06,25,000
G	[E+F]	2,88,00,000	3,60,00,000	3,84,00,000	10,32,00,000
H	Direct Wages (Rs.) (Man-shift in WN-4 x × Rs.880]	7,92,000	10,03,200	10,56,000	28,51,200
I	Packing cost (Rs.)	9,00,000	22,50,000	60,00,000	91,50,000
	Power cost (Rs.)				
J	For processing (Rs.)	1,98,450	2,48,062.5	2,64,600	7,11,112.5
K	For set-up time (Rs.)	5,670	7,087.5	7,560	20,317.5
L	[J+K]	2,04,120	2,55,150	2,72,160	7,31,430
M	Other variablecost (Rs.) [No. of batch in WN-2 × Rs. 30,000]	54,00,000	67,50,000	72,00,000	1,93,50,000
N	Total Variablecost per batch [G+H+I+L+M]	3,60,96,120	4,62,58,350	5,29,28,160	13,52,82,630
O	Profit/ loss before fixed cost	89,03,880	2,12,41,650	4,70,71,840	7,72,17,370
P	Fixed Cost				4,90,00,000
Q	Total Cost [O-P]				2,82,17,370

Computation of Economic Batch Quantity (EBQ):

$$EBQ = \sqrt{\frac{2 \times D \times S}{c}}$$

D = Annual Demand for the Product = Refer A below S = Set-up cost per batch = Refer D below

C= Carrying cost per unit per annum = Refer E below

	Particulars	Large	Medium	Small
A	Annual Demand (bottle)	3,00,000	7,50,000	20,00,000
Set-up Cost:				
B	Power cost for set-up time (Rs.) [Consumption per batch in WN-5 × Rs.7]	31.50	31.50	31.50
C	Other variable cost (Rs.)*	30,000	30,000	30,000
D	Total Set-up cost [B + C]	30,031.50	30,031.50	30,031.50
E	Holding cost:	1.00	1.00	1.00
F	EBQ (Bottle)	1,34,234	2,12,243	3,46,592

Other variable cost is assumed to be part of set-up cost.

(10 Marks)

ANSWER : 4(b)

- (i) Fringe benefits: These are the additional payments or facilities provided to the workers apart from their salary and direct cost-allowances like house rent, dearness and city compensatory allowances. These benefits are given in the form of overtime, extra shift duty allowance, holiday pay, pension facilities etc. These indirect benefits stand to improve the morale, loyalty and stability of employees towards the organization. If the amount of fringe benefit is considerably large, it may be recovered as direct charge by means of a supplementary wage or labour rate; otherwise, these may be collected as part of production overheads.
- (ii) Bad debts: There is no unanimity among different authors of Cost Accounting about the treatment of bad debts. One view is that 'bad debts' should be excluded from cost. According to this view bad debts are financial losses and therefore, they should not be included in the cost of a particular job or product. According to another view it should form part of selling and distribution overheads, especially when they arise in the normal course of trading. Therefore, bad debts should be treated in cost accounting in the same way as any other selling and distribution cost. However extra ordinarily large bad debts should not be included in cost accounts.

(4 Marks)

ANSWER : 5(a).

Calculation of room days:

Nature of Room	Occupancy (Room-days)
Deluxe room	5760(20 × 80% × 360)
Executive room	2160(10 × 60% × 360)
Suite room	1080(4 × 75% × 360)

Statement showing Total Profit for each room type

Elements	Deluxe room (Rs.)	Executive room (Rs.)	Suite room (Rs.)	Total
(Rs.)				
Room Days	5760	2160	1080	
Revenue	86,40,000	51,84,000	41,04,000	1,79,28,000
Cost				
Housekeeping @ Rs. 280 per room day	16,12,800	6,91,200	4,59,000	27,63,000
Breakfast @ Rs. 150 per person-	6,48,000	3,24,000	9,72,000	

The solution can also be presented in following way:

Calculation of room days

Particulars	Occupancy during the year		
	Deluxe Room	Executive Room	Suite Room
(i) No. of Rooms	20	10	4
(ii) Occupancy in %	80%	60%	75%
No. of rooms occupied per day	16	6	3
No. of rooms occupied per year	5,760	2,160	1,080

Statement showing Total Profit for each room type

Annual Room Rent	Deluxe Room	Executive Room	Suite Room
Room Rent per day per room	Rs. 1,500	Rs. 2,400	Rs. 3,800
Annual Room Rent (A)	Rs. 86,40,000	Rs. 51,84,000	Rs. 41,04,000
Annual Fixed Expenses			
Staff Salary (25: 35: 40)	Rs. 14,40,000	Rs. 20,16,000	Rs. 23,04,000
Electricity Expenses (Occupancy)	Rs. 15,36,000	Rs. 5,76,000	Rs. 2,88,000
Total (B)	Rs. 29,76,000	Rs. 25,92,000	Rs. 25,92,000
Housekeeping Expenses	Rs. 16,12,800	Rs. 6,91,200	Rs. 4,59,000
Breakfast Charges		6,48,000 (2,160 × 2 × 150)	Rs. 3,24,000 (1,080 × 2 × 150)
Swimming Pool Charges			74,32,000 (1,080 × 2 × 200)
Total (C)	Rs. 16,12,800	Rs. 13,39,200	Rs. 12,15,000

Total Cost (B + C)	Rs. 45,88,800	Rs. 39,31,200	Rs. 38,07,000
Profit	Rs. 40,51,200	Rs. 12,52,800	Rs. 2,97,000

(10 Marks)

ANSWER : 5(b).

- (i) Material Usage Variance = Std. Price (Std. Quantity - Actual Quantity)
= Rs.90(18,000 kg.-17,800 kg.)
= Rs.18,000 (Favourable)
- (ii) Material Price Variance = Actual Quantity (Std. Price - Actual Price)
= 17,800 kg. (Rs. 90-Rs.92) = Rs.35,600 (Adverse)
- (iii) Material Cost Variance
= Std. Material Cost - Actual Material Cost
= (SQ × SP)-(AQ × AP)
= (18,000 kg. × Rs.90) - (17,800 kg. × Rs.92)
= Rs.16,20,000 - Rs.16,37,600
= Rs.17,600 (Adverse)
- (iv) Labour Efficiency Variance = Std. Rate (Std. Hours - Actual Hours)
= Rs.100 (1,800 units × 8-14,000 hrs.)
= Rs.100 (14,400 hrs. -14,000 hrs.)
= Rs.40,000 (Favorable)
- (v) Labour Rate Variance = Actual Hours (Std. Rate - Actual Rate)
= 14,000 hrs. Rs.100 - Rs.104
= Rs. 56,000 (Adverse)
- (vi) Labour Cost Variance
= Rs. 56,000 (Adverse)
= Std. Labour Cost – Actual Labour Cost
= (SH × SR) – (AH × AR)
= (14.400hrs.× Rs. 10n) – 114nnhrc × ≥ 1nA1
- (viii) Fixed Overhead Cost Variance
= Rs. 1,500 (Adverse)
= (1,800 units × Rs. 400) – Rs. 7,68,000
= Rs. 7,20,000 – Rs. 7,68,000 = Rs. 48,000 (Adverse)

(4 Marks)

ANSWER : 6(a).

Calculation of Direct expenses

Particulars	Job A (Rs.)	Job B (Rs.)	Job C (Rs.)
Product blueprint cost	2,80,000	-	-
Hire charges paid for machinery	-	80,000	-
License fee paid for software	-	-	1,00,000
Total Direct expenses	2,80,000	80,000	1,00,000

(4 Marks)

ANSWER : 6(b).

$$\text{Labour Turnover Rate (Replacement Method)} = \frac{\text{No. of Workers replaced}}{\text{Average no. of workers}} \times 100$$

$$\text{Or, } \frac{10}{100} = \frac{50}{\text{Average no. of workers}}$$

Thus, Average No. of workers = 500

$$\text{Labour Turnover Rate (Separation Method)} = \frac{\text{No. of workers replaced}}{\text{Average no. of workers}} \times 100$$

$$\text{Or, } \frac{5}{100} = \frac{\text{Number of workers separated}}{50}$$

Thus, No. of workers separated = 25

Labour Turnover Rate (Flux Method)

$$= \frac{\text{No. of Separations} + \text{No. of Accession (Joinings)}}{\text{Average no. of workers}} \times 100$$

$$\text{Or, } \frac{20}{100} = \frac{25 + \text{No. of accessions (joinings)}}{500}$$

$$\text{Or, } 100(25 + \text{No. of Accessions}) = 10,000$$

$$\text{Or, } 25 + \text{No. of Accessions} = 100$$

$$\text{Thus, No. of Accessions} = 100 - 25 = 75$$

Accordingly,

- (i) Workers recruited and Joined = 75
- (ii) Workers left and discharged = 25
- (iii) Average number of workers on roll = 500

(5 Marks)

ANSWER : 6(c).

(i) Calculation of cost driver rate:

Cost pool	Budgeted overheads (Rs.)	Cost driver	Cost driver rate (Rs.)
Material procurement	18,42,000	1,200	1,535.00
Material handling	8,50,000	1,240	685.48
Maintenance	24,56,000	17,550	139.94
Set-up	9,12,000	1,450	628.97
Quality control	4,42,000	1,820	242.86

(ii) Calculation of cost for the batch:

Calculation of cost for the		
Particulars	Amount (Rs.)	Amount (Rs.)
Material cost		24,62,000.00
Wages		4,68,500.00
Overheads:		
- Material procurement (Rs. 1,535 × 56 orders)	85,960.00	
- Material handling (Rs. 685.48 × 84 movements)	57,580.32	
- Maintenance (Rs. 139.94 × 1,420 hours)	1,98,714.80	
- Set-up (Rs. 628.97 × 60 set-ups)	37,738.20	
- Quality control (Rs. 242.86 × 18 inspections)	4,371.48	3,84,364.80
Total Cost		33,14,864.80
No. of units		7,600
Cost per units		436.17

(5 Marks)