

**Note: All questions are compulsory.**

**Question 1 (4 Marks)**

$$(a) \text{ Labour Turnover by Replacment Method} = \frac{\text{No.of workers replaced during the quarter}}{\text{Average no.workers onroll during the quarter}}$$

$$\text{Or,} \quad 0.03 = \frac{\text{No.of workers replaced during the quarter}}{(990+1,010 \div 2)}$$

Or, No. of worker replaced during the quarter =  $0.03 \times 1,000 = 30$  workers **(2 marks)**

(i) Labour Turnover by Separation Method **(1 mark)**

$$= \frac{\text{No.of workers replaced during the quarter}}{\text{Average no.workers onroll during the quarter}} \times 100$$

$$= \frac{\text{Worker at begining+Fresh recruitment+Replacements-workers at closing}}{\text{Average no.workers onroll during the quarter}} \times 100$$

$$= \frac{990+4030-1,010}{(990+1,010) \div 2} \times 100 = \frac{50 \text{ workers}}{1,000 \text{ workers}} \times 100 = 5\%$$

(ii) Labour Turnover by Flux Method **(1 mark)**

$$\frac{\text{No.of workers(Separated+ replaced+Fresh Recuriment) during the quarter}}{\text{Average no.workers onroll during the quarter}} \times 100$$

$$= \frac{50+30+40}{(990+1,010) \div 2} \times 100 = \frac{120 \text{ workers}}{1,000 \text{ workers}} \times 100 = 12 \%$$

**Question 2 (8 marks)**

**(a) Statement Showing Cost Elements Equivalent Units of Performance and the Actual Cost per Equivalent Unit (1 Mark)**

Detail of Returns	Detail of Input Units	Details	Equivalent Units				
			Output Units	Labour		Overheads	
				Units	%	Units	%
Returns in Process at Start	200	Returns Completed in March	900	900	100	900	100

Returns Started in March	825	Returns in Process at the end of March	125	100	80	100	80
	1,025		1,025	1,000		1,000	
<b>Costs: (1 mark)</b>				(`)		(`)	
From previous month				12,000		5,000	
During the month				1,78,000		90,000	
Total Cost				1,90,000		95,000	
Cost per Equivalent Unit				190.00		95.00	

**(a) Actual cost of returns in process on March 31: (1 mark)**

	Numbers	Stage of Completion	Rate per Return (`)	Total (`)
Labour	125 returns	0.80	190.00	19,000
Overhead	125 returns	0.80	95.00	9,500
				28,500

**(b) Standard Cost per Return: (1 mark)**

Labour            5 Hrs × ` 40 per hour = ` 200  
Overhead            5 Hrs × ` 20 per hour = ` 100

300

Budgeted volume for March = ` 98,000 / 1000 = 980 Returns

Actual labour rate = ` 178000 / 4000 = ` 44.50

**(c) Computation of Variances:**

Statement Showing Output (March only) Element Wise	Labour	Overhead
Actual performance in March in terms of equivalent units as Calculated above	1,000	1,000
Less: Returns in process at the beginning of March in terms of equivalent units i.e. 25% of returns (200)	50	50
	950	950

**Variance Analysis:**

**a. Labour Rate Variance (1 mark)**

= Actual Time × (Standard Rate – Actual Rate)  
= Standard Rate × Actual Time – Actual Rate × Actual Time  
= ` 40 × 4,000 hrs. – ` 1,78,000 = ` 18,000(A)

**b. Labour Efficiency Variance(1 mark)**

= Standard Rate × (Standard Time – Actual Time)  
= Standard Rate × Standard Time – Standard Rate × Actual Time  
= ` 40 × (950 units × 5 hrs.) – ` 40 × 4,000 hrs.  
= ` 30,000(F)

**c. Overhead Expenditure or Budgeted Variance(1 mark)**

= Budgeted Overhead – Actual Overhead  
= ` 98,000 – ` 90,000  
= ` 8,000(F)

**d. Overhead Volume Variance(1 mark)**

= Recovered/Absorbed Overhead – Budgeted Overhead

$$= 950 \text{ Units} \times 5 \text{ hrs.} \times 20 - 98,000 = 3,000(A)$$

**Question 3 (8 marks)**

**(a) Production Budget (in units) (2 marks)**

	Product –K (units)	Product-H (units)
Expected sales Add:	8,000	4,200
Closing stock Less:	1,000	2,100
Opening stock	(800)	(1,600)
Units to be produced	8,200	4,700

**(b) Material Purchase Budget (3 marks)**

	Material-X (kg)	Material-Y (kg)	Material-Z (ltr)
Material required			
-Product-K	98,400 (8,200 units x 12kg)	1,23,000 (8,200 units x 15kg)	65,600 (8,200 units x 8ltr)
-Product-H	70,500 (4,700 units x 15kg)	28,200 (4,700 units x 6kg)	65,800 (4700 units x 14ltr)
Total	1,68,900	1,51,200	1,31,400
Add: Closing stock	30,000	18,000	7,500
Less: Opening stock	(25,000)	(30,000)	(14,000)
Quantity to be purchased	1,73,900	1,39,200	1,24,900
Rate	15per kg.	16per kg	5 per ltr
Purchase cost	26,08,500	22,27,200	6,24,500

**(c) Direct Labour Budget (3 marks)**

	Unskilled (hours)	Skilled (hours)
For Product K	98,400 (8,200 units x 12 hours)	65,600 (8,200 units x 8 hours)
For Product H	70,500 (4,700 units x 10 hours)	23,500 (4,700 units x 5hours)
Labour hours required	1,45,400	89,100
Rate	40 per hour	75 per hour
Wages to be paid	58,16,000	66,82,500

**Question 4 (8 marks)**

**(a) Working Notes :**

- Total Kilometers to be run during the year 2016-17  
 $= 50\text{km} \times 2 \text{ sides} \times 3\text{trips} \times 25 \text{ days} \times 12 \text{ month} \times 6 \text{ buses} = 5,40,000 \text{ Kilometers}$   
 $= 5,40,000\text{km.} \times 48 \text{ passengers} \times 75\% = 1,94,40,000 \text{ Passenger –km.}$

**Operating Cost Sheet for the year 2016-17**

Particulars	Total Cost(Rs.)
<b>A. Fixed Charges (1/2 mark for each cost)</b>	
Garage rent (Rs. 6,000 x 12 months)	72,000
Salary of drivers (Rs.4,000 x 6 drivers x 12 months)	2,88,000
Wages of Conductors (Rs. 1,600 x 6 conductor x 12 months)	1,15,200
Wages of Clearance (Rs.1,000 x 6 clearance x 12 months)	72,000

	Manager's salary (Rs. 10,000 x 12 months)	1,20,000
	Road Tax ,Permit fee etc. (Rs.6,000 x 4 quarters)	24,000
	Office expenses (Rs. 2,500 x 12months)	30,000
	Depreciation (Rs.7,50,000 x 6 buses x 20 %)	9,00,000
	Insurance (Rs. 7,50,000 x 6 buses x 4%)	1,80,000
	<b>Total (A)</b>	<b>18,01,200</b>
<b>B.</b>	<b>Variable Charges: (1/2 mark for each cost)</b>	
	Repairs and Maintenance (Rs. 24,000 x 6 buses)	1,44,000
	Diesel {(5,40,000km. ÷ 6 km. )x Rs.66}	59,40,000
	Engine oils &lubricants {(Rs. 2000 ÷ 1000 km.) x 5,40,000km}	10,80,000
	<b>Total (B)</b>	<b>71,64,000</b>
	<b>Total Cost (A+B)</b>	<b>89,65,200</b>
	<b>Add 33<sup>1/3</sup> %Profit on takings or 50% on cost (1/2 mark)</b>	<b>44,82,600</b>
<b>C.</b>	<b>Total Takings (Total bus fare collection)</b>	<b>1,34,47,800</b>
<b>D.</b>	<b>Total Passenger-km.(Working Note 2) (1 ½ mark)</b>	<b>1,94,40,000</b>
<b>E.</b>	<b>Bus fare to be charged from each passenger per km. (C ÷ D)</b>	<b>0.6918</b>

### Question 5 (8 marks)

#### Apportionment of Joint Costs (2 marks)

Particulars	A(Rs.)	B(Rs.)
Selling Price	16,000	8,000
Less: Estimated profit	4,000	1,600
	(25% of Rs. 16,000)	(25% of Rs. 8,000)
Cost of sales	12,000	6,400
Less :Selling & Distribution exp . (Refer to working note)	267	133
	(Rs.400 x2/3)	(Rs.400 x 1/3)
Less :Subsequent cost	5,000	3,000
<b>Share of Joint cost</b>	<b>6,733</b>	<b>3,267</b>

So, Joint cost of manufacture is to be distributed to A & B in the ratio of 6733: 3267

#### Statement showing Cost of Production of A and B

Elovements of cost	Joint Cost (3 marks)		Subsequent Cost (1 mark)		Total Cost(1 mark)	
	A	B	A	B	A	B
Material	3,367	1,633	3,000	1,500	6,367	3,133
Labour	2,020	980	1,400	1,000	3,420	1,980
Overheads	1,346	654	600	500	1,946	1,154
	<b>Cost of Production</b>				<b>11,733</b>	<b>6,267</b>

#### Working Note:

##### Calculation of Selling and Distribution Expenses(1 mark)

Particulars	(Rs.)
Total Sales Revenue (Rs. 16,000+Rs.8,000)	24,000
Less : Estimated profit(Rs. 4,000+Rs. 1,600)	(5,600)
Cost of sales	18,400
Less :Cost of production:	
-Joint Costs	(10,000)
-Subsequent costs (Rs.5,000+Rs.3,000)	(8,000)
<b>Selling and Distribution expenses (Balancing figure)</b>	<b>400</b>

### Question 6 (8 marks)

#### (i) Statement of Equivalent Production (4 marks)

Input Details	Units	Output Particulars	Units	Equivalent Production					
				Material A*		Consumables		Labour & Overheads	
Units transferred from Process-I	55,000	Units transferred to Process-III	51,000	100	51,000	100	51,000	100	51,000
		Normal loss (4% of 55,000)	2,200	-	-	-	-	-	-
		Closing W-I-P	2,000	100	2,000	80	1,600	60	1,200
		Abnormal Gain	(200)	100	(200)	100	(200)	100	(200)
	55,000		55,000		52,800		52,400		52,000

\*Material A represent transferred in units from process-I

**(ii) Determination of Cost per Unit (2 marks)**

Particulars	Amount(₹)	Units	Per Unit(₹)
(i) Direct Material (Consumables):			
Value of units transferred from Process-I	3,27,800		
Less: Value of normal loss (2,200 units x 5)	(11,000)	52,800	6.00
Consumables added in Process-II	3,16,800	52,400	3.00
Labour	1,57,200	52,000	2.00
Overhead	1,04,000	52,000	1.00
Total Cost per equivalent unit	52,000		12.00

**(iii) Determination of value of Work –in –Process and transferred to Process-III (2 marks)**

Particulars	Amount(₹)	Rate(₹)	Amount(₹)
Value of Closing W-I-P			
Material from Process-I	2,000	6.00	12,000
Consumables	1,600	3.00	4,800
Labour	1,200	2.00	2,400
Overhead	1,200	1.00	1,200
			20,400
Value of units transferred from Process-III	51,000	12.00	6,12,000

**Question 7 (6 marks)**

**Store Ledger Account  
For the three months ending 30<sup>th</sup> June, 2014  
(Weighted Average Method)**

Date	Receipt				Issues				Balance		Rate for further Issues (Rs.)
	GRN No.PR No.	QTY. (Kg.)	Rates (Rs.)	Amount	MR No.	Qty. (Kg.)	Rates (RS.)	Amount (Rs.)	Qty (kg)	Amount	
2014											
April 1									1,500	7,200	4.80
April 4						1,100	4.80	5,280	400	1,920	4.80
April 10		1,600	5.00	8,000					2,000	9,920	$\frac{9,920}{2,000} = 4.96$

April 20		2,400	4.90	11,760					4,400	21,680	$\frac{21,680}{4,400}=4.93$
April 24						1,600	4.93	7,888	2,800	13,792	$\frac{13,792}{2,800}=4.93$
May 5		1,000	5.10	5,100					3,800	18,892	$\frac{18,892}{3,800}=4.97$
May 10						1,500	4.97	7,455	2,300	11,437	$\frac{11,437}{2,300}=4.97$
May 17		1,100	5.20	5,720					3,400	17,157	$\frac{17,157}{3,400}=5.05$
May 25		800	5.25	4,200					4,200	21,357	$\frac{21,357}{2,500}=5.09$
May 26						1,700	5.09	8,653	2,500	12,704	$\frac{12,704}{2,500}=5.09$
May 31					Shortage	80			2,420	12,704	$\frac{12,704}{2,420}=5.25$
June 11		900	5.40	4,860					3,320	17,564	$\frac{17,564}{3,320}=5.229$
June 15						1,500	5.29	7,935	1,820	9,629	$\frac{9,629}{1,820}=5.29$
June 21						1,200	5.29	6,348	620	3,281	$\frac{3,281}{620}=5.29$
June 24		1,400	5.50	7,700					2,020	10,981	$\frac{10,981}{2,020}=5.44$
June 30					Shortage	60			1,960	10,981	$\frac{10,981}{1,980}=5.60$

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