7. PROCESS AND OPERATION COSTING

ASSIGNMENT SOLUTIONS

PROBLEM NO:1

Dr. Process '1' Account Cr.

Particulars	units	Total (Rs.)	Particulars	units	Total (Rs.)
To Material	10,000	40,000	By Normal loss (10,000x2%)	200	nil
To labour		6,000	By Abnormal loss@5.7142	50	286
To manufacturing overheads		10,000	BY Process '2' A/c @5.7142	9750	55714
	10,000	56,000		10,000	56,000

Abnormal Loss=Expected output-Actual output=9800-9750=50 Units (or)

Actual loss-Normal loss=250-200=50 Units

$$\text{cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{56,000 - \text{nil}}{10,000 - 200} = 5.7142 \text{ per unit}$$

Expected output=input-normal loss=10,000-200=9800 units

Actual loss=input-Actual output=10,000-9750=250 Units

Dr. Process '2' Account Cr.

Particulars	units	Total (Rs.)	Particulars	units	Total (Rs.)
To Process '1' A/c	9750	55714	By Normal loss (9750x5%)	488	nil
To Material		20,000	BY Process '2' A/c @5.7142	9400	91051
To labour		4,000			
To manufacturing overheads		10,000			
To Abnormal gain@9.6862	138	1337			
	9888	91051		9888	91051

Abnormal gain= Actual output -Expected output =9400-9262=138 Units (or)

Normal loss -Actual loss=488-350=138 Units

$$\text{cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{89714 - \text{nil}}{9750 - 488} = 9.6862 \text{per unit}$$

Expected output=input-normal loss=9750-488=9262 units

Actual loss=input-Actual output=9750-9400=350 Units

Dr. Process '3' Account Cr.

Particulars	units	Total (Rs.)	Particulars	units	Total (Rs.)
To Process '2' A/c	9400	91051	By Normal loss (9400x10%)	940	nil
To Material		10,000	BY finished goods A/c (b/f)	8000	1,10,687
To labour		1,000	By Abnormal loss	460	6364
To manufacturing overheads		15,000			
	9400	1,71,051		9400	1,71,051

Abnormal Loss=Expected output-Actual output=8460-8000=460 Units (or)

Actual loss-Normal loss=1400-940=460 Units

$$\text{cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{1,71,051 - \text{nil}}{9400 - 940} = 13.835842 \text{ per unit}$$

Expected output=input-normal loss=9400-940=9800 units

Actual loss=input-Actual output=9400-8000=1400 Units

Cost of finished goods=Rs.1,10,687

PROBLEM NO: 2

Process- P Account

Particulars	Kg.	Amt	Particulars	Kg.	Amt
To Input	10,000	50,000	By Normal wastage (1,000 kg. × Rs. 1)	1000	1,000
To Direct Material	-	38,000	By Process- Q (9,000 kg. × Rs. 15.50)	9000	1,39,500
To Direct Labour	-	30,000			
To Production OH (Rs. 90,000 × 3/12)	-	22,500			
	10,000	1,40,500		10,000	1,40,500

$$\text{Cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{1,40,500 - 1000}{10,000 - 1000} = 15.50 \text{ per unit}$$

Process- Q Account

Particulars	Kg.	Amt	Particulars	Kg.	Amt
To process P a/c	9,000	1,39,500	By Normal wastage (900 kg. × 1)	900	900
To Direct Material	-	42,500	By Process- R (8,200 kg. × 31)	8200	2,54,200
To Direct Labour	-	40,000			
To Production OH (90,000 × 4/12)	-	30,000			
To Abnormal Gain (100 kg. × 31)	100	3,100			
	9,100	2,55,100		9,100	2,55,100

$$\text{Cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{2,52,000 - 900}{9000 - 900} = 31 \text{ per unit}$$

Process- R Account

Particulars	Kg.	Amt	Particulars	Kg.	Amt
To process Q a/c	8,200	2,54,200	By Normal wastage (820kg. × 1)	820	820
To Direct Material	-	42,880	By Abnormal loss (80 kg. × 52)	80	4,160
To Direct Labour	-	50,000	By Finished Goods (7,300 kg. × 52)	7,300	3,79,600
To Production OH (90,000 × 5/12)	-	37,500			
	8,200	3,84,580		8,200	3,84,580

$$\text{Cost per unit} = \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{3,84,580 - 820}{8200\,\text{kg} - 820\,\text{kg}} = 52\,\text{per unit}$$

Calculation of Selling price per unit of end product:

Particulars	Amt.
Cost per unit	52.00
Add: Profit 25% on selling price i.e. 1/3rd of cost	17.33
Selling price per unit	69.33

PROBLEM NO: 3

Dr. Process I A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Input	25,000	2,00,000	By Normal wastage (2,500 units x Rs. 9.90)	2,500	24,750
To Material		1,92,000	By Abnormal loss A/c (500 units x Rs. 32.50)	500	16,250
To Direct Labour		2,24,000	By Process –II (22,000 units x Rs. 32.50)	22,000	7,15,000
To Manufacturing Exp.		1,40,000			
	25,000	**7,56,000**		**25,000**	**7,56,000**

$$\text{Cost per unit} = \frac{\text{Rs.}7,56,000 - \text{Rs.}24,750}{25,000\,\text{units} - 2,500\,\text{units}} = \text{Rs. } 32.50 \text{ per unit}$$

Dr. Process II A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Process-I	22,000	7,15,000	By Normal wastage (2,200 units x Rs. 8.60)	2,200	18,920
To Material		99,020	By Finished stock (20,000 units x Rs. 49.50)	20,000	9,90,000
To Direct Labour		1,28,000			
To Manufacturing Exp.		60,000			
To Abnormal Gain A/c (200 units x Rs. 49.50)	200	9,900			
	22,200	**10,08,920**		**22,000**	**10,08,920**

$$\text{Cost per unit} = \frac{\text{Rs.}9,99,020 - \text{Rs.}18,920}{22,000\,\text{units} - 2,200\,\text{units}} = \text{Rs. } 49.50 \text{ per unit}$$

Dr. Abnormal Loss A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Process-I A/c	500	16,250	By Cash (Sales) (500 units x Rs. 9.90)	500	4,950
			By Costing Profit and Loss A/c		11,300
	500	16,250		500	16,250

Dr. Abnormal Gain A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Normal wastage (200 units x Rs. 8.60)	200	1,720	By Process II A/c	200	9,900
To Costing Profit and Loss		8,180			
	200	**9,900**		**200**	**9,900**

PROBLEM NO: 4

Dr. Process I A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Raw material used (Rs.60 × 7,500 units)	7,500	4,50,000	By Normal loss (5% of 7,500 units) × Rs.12.5	375	4,688
To Direct wages	--	1,35,750	By Process- II A/c (Rs.96.7947 × 7,050 units)	7,050	6,82,403
To Direct expenses	--	81,450	By Abnormal loss (Rs.96. 7947 × 75 units)	75	7,259
To Manufacturing overhead		27,150			
	7,500	6,94,350		7,500	6,94,350

Cost per unit of completed units and abnormal Loss

$$= \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{\text{Rs.6,94,350 - Rs.4,688}}{\text{7,500 units - 375 units}} = \frac{\text{Rs. 6,89,622}}{\text{7,125 units}} = \text{Rs. 96.7947}$$

Dr. Process II A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Process- I A/c	7,050	6,82,403	By Normal loss (10% of 7,050 units)× Rs. 37.5	705	26,438
To Direct wages	--	1,29,250	By Finished Stock A/c (Rs.140.0496 × 6,525 units)	6,525	9,13,824
To Direct expenses	--	84,013			
To Manufacturing overhead	--	19,581			
To Abnormal gain (Rs.140.0496 × 180 units)	180	25,209			
	7,230	9,40,262		7,230	9,40,262

Cost per unit of completed units and abnormal Loss

$$= \frac{\text{Total Cost - Realisable value from normal loss}}{\text{Inputs units - Normal loss units}} = \frac{\text{Rs.9,15,053 - Rs.26,438}}{\text{7,050 units - 705 units}} = \frac{\text{Rs.8,88,165}}{\text{6,345 units}} = \text{Rs.140.0496}$$

Dr. Finished Goods Stock A/c Cr.

Particulars	Units	(Rs.)	Particulars	Units	(Rs.)
To Process II A/c	6,525	9,13,824	By Cost of Sales (Rs.140.0496 × 6,000 units)	6,000	8,40,828
			By Balance c/d	525	73,526
	6,525	9,13,824		6,525	9,13,824

Income Statement

Particulars	(Rs.)	Particulars	(Rs.)
To Cost of sales (Rs.140.0496 × 6,000 units)	8,40,298	By Abnormal gain {180 units × (Rs.140.0496 - Rs.37.50)}	18,459
To Abnormal loss {75 units × (Rs.96.7947 - Rs.12.50)}	6,322	By Sales (Rs.8,40,298 × 115%)	9,66,343
To Net Profit	1,38,182		
	9,84,802		9,84,802

PROBLEM NO: 5

a) Statement of Equivalent Production

Particulars	Units	Material		Labour		Overhead	
		Units	(%)	Units	(%)	Units	(%)
Finished Output	39,500	39,500	100	39,500	100	39,500	100
Normal Loss (2% of 42,000 units)	840	--	--	--	--	--	--
Abnormal Loss (42,000 - 39,500 - 840 - 1,200)	460	460	100	368	80	276	60
Closing W.I.P	1,200	1,200	100	600	50	480	40
	42,000	41,160		40,468		40,256	

b) Statement of Cost (in Rs.)

Units Introduced 42,000 units @ Rs. 12 per unit	5,04,000
Add: Material	61,530
	5,65,530
Less: Value of Normal Loss (840 units x Rs. 4.50)	3,780
	5,61,750

Particulars		Cost per Unit (Rs.)
Material	(Rs.5,61,750 / 41,460 units)	13.648
Labour	(Rs.88,820 / 40,468 units)	2.195
Overhead	(Rs.1,76,400 / 40,256 units)	4.382
		20.225

Particulars		Amount (Rs.)
Abnormal Loss:		
Material	(460 units x Rs. 13.648)	6,278.08
Labour	(368 units x Rs. 2.195)	807.76
Overheads	(276 units x Rs. 4.382)	1,209.42
		8,295.26
Closing W.I.P:		
Material	(1,200 units x Rs. 13.648)	16,377.60
Labour	(600 units x Rs. 2.195)	1,317.00
Overheads	(480 units x Rs. 4.382)	2,103.36
		19,797.96
Finished Goods	(39,500 units x Rs. 20.225)	7,98,887.50

c) Dr. Process II A/c Cr.

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Opening WIP		Nil	By Normal Loss	840	3,780
To Input	42,000	5,04,000	By Abnormal Loss	460	8,295
To Direct Material	-	61,530	By Finished Goods	39,500	7,98,877
To Labour	-	88,820			
To Overhead	-	1,76,400	By Closing WIP	1,200	19,798
	42,000	8,30,750		42,000	8,30,750

Dr. Abnormal Loss A/c Cr.

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Process II	460	8,295	By Cash (460 units x Rs. 9)	460	4,140
			By Costing P & L	--	4,155
	460	**8,295**		**460**	**8,295**

PROBLEM NO: 6

i) Statement of Equivalent Production

Input Details	Units	Output Particulars	Units	Equivalent Production					
				Material - A*		Consumables		Labour & Overheads	
				%	Units	%	Units	%	Units
Units transferred from Process-I	55,000	Units transferred from Process-III	51,000	100	51,000	100	51,000	100	51,000
		Normal loss (4% of 55,000)	2,200	-	-	-	-	-	-
		Closing WIP	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

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

iii) Determination of value of Work-in-Process and units transferred to Process-III

Particulars	Units	Rate (Rs.)	Amount (Rs.)
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 to Process-III	51,000	12.00	6,12,000

PROBLEM NO: 7

Statement of Equivalent Units (litre):

Input Details	Units	Output details	Units	Total cost	
Opening WIP	1000	Units Transferred to next process:		% DOC	Equivalent units
Units introduced	10,000	- Opening WIP	1000	40%	400
		Fresh inputs	8000	100%	8000
		Normal loss	1100	0%	0
		Abnormal loss	100	100%	100
		Closing WIP	800	75%	600
	11,000		**11,000**		**9,100**

Particulars	Amt.
Cost incurred in current period	19,30,000
Less: Scrap value(1100x10)	(11,000)
	19,19,000
Cost per Equivalent Units(19,19,000/9100)	210.88

PROBLEM NO: 8

a) Statement of Equivalent Production (FIFO Method)

Input		Output		Equivalent Production					
Particulars	Units	Particulars	Units	Material		Labour		Overheads	
				(%)	Units	(%)	Units	(%)	Units
Opening Stock	600	Finished goods transferred to next process: from opening stock	600	-	-	40	240	40	240
		- from fresh materials	8,300	100	8,300	100	8,300	100	8,300
		Closing W-I-P	700	100	700	70	490	70	490
Fresh inputs	9,200	Normal loss	392	-	-	-	-	-	-
			9,992		9,000		9,030		9,030
		Less: Abnormal loss	(192)	100	(192)	100	(192)	100	(192)
	9,800		**9,800**		**8,808**		**8,838**		**8,838**

b) Statement of Cost per equivalent units

Elements	Rs.	Cost (Rs.)	Equivalent units	Cost per equivalent Unit (Rs.)
Material Cost	11,04,000			
Less: Scrap realisation 392 units @ Rs.120/- p.u.	47,040	10,56,960	8,808	120.00
Labour cost		3,72,000	8,838	42.10
Overheads		1,72,600	8,838	19.53
Total Cost		**16,01,560**		**181.63**

c) Cost of Abnormal Gain - 192 Units:

Particulars	Rs.	Rs.
Material cost of 192 units @ Rs. 120.00/- p.u.	23,040.00	
Labour cost of 192 units @ Rs. 42.10/- p.u.	8,083.20	
Overheads of 192 units @ Rs. 19.53/- p.u.	3,749.76	34,872.96

Cost of closing WIP - 700 Units:

Material cost of 700 equivalent units @ Rs. 120.00/- p.u.	84,000.00	
Labour cost of 490 equivalent units @ Rs. 42.10/- p.u.	20,629.00	
Overheads of 490 equivalent @ Rs. 19.53/- p.u.	9,569.70	1,14,198.70

Cost of 8,900 units transferred to next process (Rs.)

i)	Cost of opening W-I-P Stock b/f - 600 units @ Rs. 140		84,000.00
ii)	Cost incurred on opening WIP stock:		
	Material cost	-	
	Labour cost 240 equivalent units @ Rs.42.10 p.u.	10,104.00	
	Overheads 240 equivalent units @ Rs.19.53/- p.u.	4,687.20	14,791.20
iii)	Cost of 8,300 completed units:		
	8,300 units @ Rs.181.63 p.u.		15,07,529.00
	Total cost [(i) + (ii) + (iii))]		16,06,320.20

PROBLEM NO: 9

a) Calculation of Raw Material inputs during the month:

Quantities Entering Process	Litres	Quantities Leaving Process	Litres
Opening WIP	800	Transfer to Finished Goods	4,200
Raw material input (balancing figure)	5,360	Process Losses	1,800
		Closing WIP	160
	6,160		6,160

b) Calculation of Normal Loss and Abnormal Loss/Gain:

Particulars	Litres
Total process losses for month	1,800
Normal Loss (10% input)	536
Abnormal Loss (balancing figure)	1,264

c) Calculation of values of Raw Material, Labour and Overheads added to the process:

	Material	Labour	Overheads
Cost per equivalent unit	23.00	7.00	9.00
Equivalent units (litre) (refer the working note)	4,824	4,952	5,016
Cost of equivalent units	1,10,952	34,664	45,144
Add: Scrap value of normal loss (536 units × 15)	8,040	--	--
Total value added	**1,18,992**	**34,664**	**45,144**

d) Process Account for Month

Particulars	Litres	Amount	Particulars	Litres	Amount
To Opening WIP	800	26,640	By Finished goods	4,200	1,63,800
To Raw Materials	5,360	1,18,992	By Normal loss	536	8,040
To Wages	--	34,664	By Abnormal loss	1,264	49,296
To Overheads	--	45,144	By Closing WIP	160	4,304
	6,160	**2,25,440**		**6,160**	**2,25,440**

Workings:

Statement of Equivalent Units (litre):

Input Details	Units	Output details	Units	Equivalent Production					
				Material		Labour		Overheads	
				Units	(%)	Units	(%)	Units	(%)
Opening WIP	800	Units completed:							
Units introduced	5,360	- Opening WIP	800	--	--	240	30	320	40
		Fresh inputs	3,400	3,400	100	3,400	100	3,400	100
		Normal loss	536	--	--	--	--	--	--
		Abnormal loss	1,264	1,264	100	1,264	100	1,264	100
		Closing WIP	160	160	100	48	30	32	20
	6,160		6,160	4,824		4,952		5,016	

PROBLEM NO: 10

Statement of Equivalent Production of Process RT

Input units	Details	Output units	Equivalent Production			
			Material		Conversion Cost	
			Units	(%)	Units	(%)
4,000	Opening WIP					
16,000	Introduced completed and transfer to next process	14,400	14,400	100	14,400	100
	Normal Spoilage	1,440	--	--	--	--
	Abnormal Spoilage	1,160	1,160	100	1,160	100
	Closing WIP	3,000	3,000	100	2,000	66.67
20,000		20,000	18,560		17,560	

Statement showing Cost of each element

	Opening (Rs.)	Cost in Process (Rs.)	Total (Rs.)	Equivalent Units	Cost per unit (Rs.)
Materials	30,000	1,20,000	1,50,000	18,560	8.0819
Conversion cost	29,200	1,60,800	1,90,000	17,560	10.8200

Statement of Apportionment of cost

Completed Units	Material	14,400	8.0819	1,16,380
	Conversion cost	14,400	10.8200	1,55,808
				2,72,188
Closing stock	Material	3,000	8.0819	24,246
	Conversion cost	2,000	10.8200	21,640
				45,886
Abnormal Loss	Material	1,160	8.0819	9,375
	Conversion cost	1,160	10.8200	12,551
				21,926

Dr. Process - RT A/c Cr.

Particulars	Units	Amount	Particulars	Units	Amount
To Opening WIP	4,000	59,200	By Normal Loss	1,440	--
To Material introduced	16,000	1,20,000	By Abnormal loss	1,160	21,926
To Conversion cost		1,60,800	By Transfer to next process	14,400	2,72,188
			By Closing WIP	3,000	45,886
	20,000	**3,40,000**		**20,000**	**3,40,000**

PROBLEM NO: 11

i) **Statement of Equivalent Production**

Particulars	Units	Material		Labour and Overhead	
		(%)	Units	(%)	Units
Production units completed	1,58,000	100	1,58,000	100	1,58,000
Normal Loss 8% of (1,82,000 + 8,000)	15,200	--	--	--	--
Closing WIP	18,000	100	18,000	70	12,600
	1,91,200		1,76,000		1,70,600
Less: Abnormal Gain	(1,200)	100	(1,200)	100	(1,200)
Total	1,90,000		1,74,800		1,69,400

ii) **Statement of cost**

Particulars	Materials (Rs.)	Labour (Rs.)	Overhead (Rs.)
Opening WIP	63,900	10,800	5,400
Input of Materials	7,56,900	-	-
Expenses	-	3,28,000	1,64,000
Total	8,20,800	3,38,800	1,69,400
Less: Sale of Scrap (15,200 x Rs. 8)	1,21,600	-	-
Net cost	6,99,200	3,38,800	1,69,400
Equivalent Units	1,74,800	1,69,400	1,69,400
Cost Per Units	Rs. 4.00	Rs. 2.00	Rs. 1.00

Total cost per unit = Rs. (4 + 2 + 1) = Rs. 7.00

PROBLEM NO: 12

Statement of Equivalent Units (Process - I)

Input Details	Units	Output Particulars	Units	Equivalent production					
				Material-A		Material-B		Labour and Overhead	
				(%)	Units	(%)	Units	(%)	Units
Opening WIP	1,600	Work on Opening WIP	1,600	-	-	20	320	40	640
Process –II Transfer	55,400	Introduced & completed during the month	50,600	100	50,600	100	50,600	100	50,600
		Normal loss (5% of 52,800 units)	2,640	-	-	-	-	-	-
		Closing WIP	4,200	100	4,200	70	2,940	50	2,100
		Abnormal Gain	(2,040)	100	(2,040)	100	(2,040)	100	(2,040)
	57,000		57,000		52,760		51,820		51,300

WORKING NOTE:

Production units = Opening units + Units transferred from Process - II - Closing Units

= 1,600 units + 55,400 units – 4,200 units = 52,800 units

Statement of Cost

Particulars	Cost (Rs.)	Equivalent units	Cost per equivalent units (Rs.)
Material A (Transferred from previous process)	6,23,250		
Less: Scrap value of normal loss (2,640 units x Rs.5)	(13,200)		
	6,10,050	52,760	11.5627

Material B	2,12,400	51,820	4.0988
Labour	96,420	51,300	1.8795
Overheads	56,400	51,300	1.0994
	9,75,270		18.6404

Statement of apportionment of Process Cost

		(Rs.)	(Rs.)
Opening WIP	Material A		24,000
Completed: Opening WIP units: 1600	Material B (320 units x Rs. 4.0988)	1,311.62	
	Wages (640 units x Rs. 1.8795)	1,202.88	
	Overheads (640 units x Rs. 1.0994)	703.62	3,218.12
Introduced & Completed:	50,600 units x Rs. 18.6404		9,43,204.24
Total cost of 52,200 finished goods units			9,70,422.36
Closing WIP units- 4,200	Material A (4,200 units x Rs. 11.5627)		48,563.34
	Material B (2,940 units x Rs. 4.0988)		12,050.47
	Wages (2,100 units x Rs. 1.8795)		3,946.95
	Overheads (2,100 units x Rs. 1.0994)		2,308.74
			66,869.50
Abnormal gain units-2,040	(2,040 units x Rs. 18.6404)		38,026.42

Statement of apportionment of Process Cost

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount(Rs.)
To Balance b/d	1,600	[illegible]000	By Normal loss	2,640	13,200
To Process II A/c	55,400	[illegible]3,250	By Finished goods	52,200	9,70,422.36
To Direct material		2,12,400	By Closing WIP	4,200	66,874.06*
To Direct wages		96,420			
To Production overheads		56,400			
To Abnormal gain	2,040	38,026.42			
	59,040	10,50,496.42		59,040	10,50,496.42

*Difference in figure due to rounding off has been adjusted with closing WIP

PROBLEM NO: 13

Dr. **Process I A/c** **Cr.**

Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)	Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)
Opening stock	7,500	7,500	--	Process II A/c	54,000	40,500	13,500
Direct materials	15,000	15,000	--				
Direct wages	11,200	11,200	--				
	33,700	33,700	--				
Less: Closing stock	(3,700)	(3,700)					
Prime cost	30,000	30,000	--				
Overheads	10,500	10,500	--				
Process cost	40,500	40,500	--				
Profit (33 1/3 of total cost)	13,500	--	13,500				
	54,000	40,500	13,500		54,000	40,500	13,500

Dr. Process II A/c Cr.

Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)	Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)
Opening stock	9,000	7,500	1,500	Finished Stock A/c	1,12,500	75,750	36,750
Transferred from Process I	54,000	40,500	13,500				
Direct materials	15,750	15,750	--				
Direct wages	11,250	11,250	--				
	90,000	75,000	15,000				
Less: Closing Stock*	(4,500)	(3,750)	(750)				
Prime cost	85,500	71,250	14,250				
Overheads	4,500	4,500	--				
Process cost	90,000	75,750	14,250				
Profit (25% on total cost)	22,500	--	22,500				
	1,12,500	**75,750**	**36,750**		**1,12,500**	**75,750**	**36,750**

***Cost of Closing Stock** = $\frac{\text{Rs.75,000}}{\text{Rs.90,000}}$ x Rs. 4,500 = Rs. 3,750

Dr. Finished Stock A/c Cr.

Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)	Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)
Opening stock	22,500	14,250	8,250	Process II A/c	1,40,000	82,500	57,500
Process II	1,12,500	75,750	36,750				
	1,35,000	90,000	45,000				
Less: Closing Stock*	(11,250)	(7,500)	(3,750)				
Finished stock	1,23,750	82,500	41,250				
Profit	16,250	--	16,250				
	1,40,000	82,500	57,500		1,40,000	82,500	57,500

***Cost of Closing Stock** = $\frac{\text{Rs.90,000}}{\text{Rs.1,35,000}}$ x Rs. 11,250 = Rs. 7,500

WORKING NOTES:

Let the transfer price be 100 then profit is 25; i.e. cost price is Rs. 75

1. If cost is Rs. 75 then profit is Rs. 25

   If cost is Rs. 40,500 then profit is $\frac{25}{75}$ x 40,500 = Rs. 13,500

2. If cost is Rs. 80 then profit is Rs. 20

   If cost is Rs. 90,000 then profit is $\frac{20}{80}$ x 90,000 = Rs. 22,500

THE END