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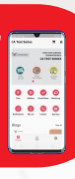

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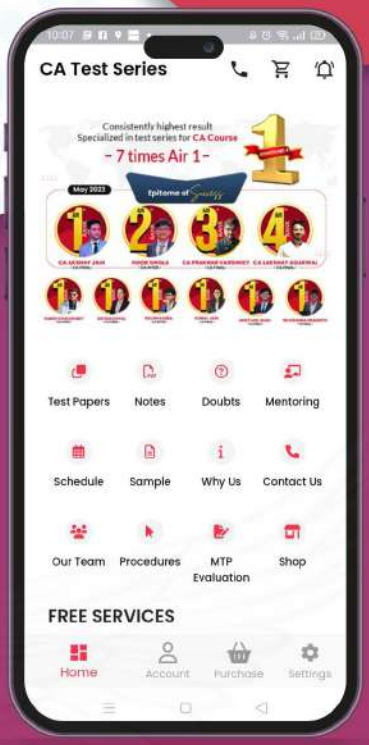

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Cost and management accounting

100 important questions

Q-1. Prepare a Process Account, Abnormal Loss Account and Normal Loss Account from the following information.

Input of Raw material	1000 units @ Rs. 20 per unit
Direct Material	Rs. 4,200/-
Direct Wages	Rs. 6,000/-
Production Overheads	Rs. 6,000/-
Actual output transferred to process II	900 units
Normal Loss	5%
Value of Scrap per unit	Rs. 8/-

Solution:

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

Particulars	Units	Rs.	Particulars	Units	Rs.
To Raw material @ 20	1000	20000	By Normal Loss		
To Direct Material		4200	(5% on 1000)	50	400
To Direct Wages		6000	By Abnormal Loss A/c.	50	
To Production			BY Process – II A/c.		

Overheads		6000	(output transferred)	900	
	1000	36200		1000	36200

Dr. **Abnormal Loss A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	50		By Bank A/c.	50	400
			By Costing P & L A/c.		
	50			50	400

Dr. **Normal Loss A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	50	400	BY Bank	50	400

Working Notes:

(1) Cost of abnormal Loss:

$$= \frac{\textbf{Total Cost increased – Sales value of Scrap}}{\textbf{Input units – Normal Loss Units}} \times \textbf{abnormal units}$$

$$= \frac{36200 - 400}{1000 - 50} \text{ x } 50$$

(2) It has been assumed that units of abnormal loss have also been sold at the same rate i.e. of Normal Scrap.

Q-2. The product of a company passes through 3 distinct process. The following information is obtained from the accounts for the month ending January 31, 2008.

Particulars	Process – A	Process – B	Process – C
Direct Material	7800	5940	8886
Direct Wages	6000	9000	12000
Production Overheads	6000	9000	12000

3000 units @ Rs. 3 each were introduced to process – I. There was no stock of materials or work in progress. The output of each process passes directly to the next process and finally to finished stock A/c. The following additional data is obtained:

Process	Output	Percentage of Normal Loss to Input	Value of Scrap per unit (Rs.)
Process – I	2850	5 %	2
Process – II	2520	10 %	4
Process – III	2250	15 %	5

Prepare Process Cost Account, Normal Cost Account and Abnormal Gain or Loss Account.

Solution:

Dr. **Process – A A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Units introduced	3000	9000	By Normal Loss A/c.	150	300
To Direct Material		7800	By Process – B A/c.	2850	28500
To Direct Wages		6000	(Units transferred		
To Production			@ Rs. 10/-)		
Overheads		6000			
	3000	**28800**		**3000**	**28800**

Dr. **Process – B A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	2850	28500	By Normal Loss A/c.	285	1140
To Direct Material		5940	By Abnormal Loss A/c.	45	9000
To Direct Wages		9000	By Process – C A/c.	2520	50400
To Production					
Overheads		9000			
	2850	**52440**		**2850**	**52440**

Dr. **Process – C A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – II A/c.	2520	50400	By Normal Loss A/c.	378	1890
To Direct Material A/c		8886	By Finished Stock A/c.	2250	85500
To Direct Wages		12000			
To Production					
Overheads		12000			
To Abnormal Gain A/c.	108	4104			
	2628	**87390**		**2628**	**87390**

Dr. **Abnormal Gain A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Normal Loss A/c.	108	540	By Process – C A/c.	108	4104
To Costing P&L A/c.		3564			
	108	**4104**		**108**	**4104**

Dr. **Normal Loss A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – A A/c.	150	300	By Bank A/c. (Sales)		
To Process – B A/c.	285	1140	Process – A A/c.	150	300
To Process – C A/c.	378	1890	Process – B A/c.	285	1140
			Process – C A/c.	270	1350
			By Abnormal Gain A/c.	108	540
	813	**3330**		**813**	**3330**

Q-3. A product passes through three processes before its completion. The output of each process charged to the next process at a price calculated to give a profit of 20% on transfer price. The output of Process III is transferred to finished stock account on a similar basis. There was no work-in-progress at the beginning of the years. Stock in each process has been valued at prime cost of the process. The following data is available at the end of 31st March, 2009.

	Process I	Process II	Process III	Finished Stock Rs.
Direct Material	20000	30000	10000	-
Direct Wages	30000	20000	40000	-
Stock on 31st March 2009	10000	20000	30000	15000
Sale during the year	-	-	-	180000

From above information prepare:

1. Process Cost Account showing the profit at each stage.

2. Actual realized profit and

3. Stock Valuation as would appear in the balance sheet.

Solution:

Dr. **Process – I A/c.** **Cr.**

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Materials	20000	20000	--	By Process IIA/c.(Transfer)	50000	40000	10000
To Wages	30000	30000	--				
Total	50000	50000	--				
Less Closing							
Stock c/d	10000	10000	--				
Prime Cost	40000	40000	--				
To Gross							
Profit	10000	--	10000				
(20% on Transfer Price)	50000	40000	10000		50000	40000	10000
To Stock B/d	10000	10000	--				

Dr. **Process – II A/c.** **Cr.**

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.

To Process – I A/c.	50000	40000	10000	By Process-III A/c.(Transfer)	100000	72000	28000
To Material	30000	30000	--				
To Wages	20000	20000	--				
	100000	90000	10000				
Less : Closing							
Stock C/d.	20000	18000	2000				
Prime Cost	80000	72000	8000				
To Gross Profit							
(20% on Transfer Price)	20000	--	20000				
	100000	72000	28000		100000	72000	28000
To Stock B/d.	20000	18000	2000				

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

Particulars	**Total Rs.**	**Cost Rs.**	**Profit Rs.**	**Particulars**	**Total Rs.**	**Cost Rs.**	**Profit Rs.**
To process II A/c	100000	72000	28000	By Finished stock A/c	150000	97600	52400
To Material	10000	10000	-------				
To Wages	40000	40000	-------				
TOTAL	150000	122000	28000				
Less. Closing stock	30000	24400	5600				
To Gross profit	120000	97600	22400				
(20%of transfer price)	30000	-------	30000				
	150000	97600	52400		150000	97600	52400

To Stock b/d	30000	24000	5600				

Dr. **Finished stock A/c** **Cr.**

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To process III A/c	115000	97600	52400	By Sales	180000	87840	92160
(-)Stock	15000	9760	5240				
To gross profit	135000	87840	92160				
	45000	---	45000				
	180000	87840	92160		180000	87840	92160
To Stock A/c	15000	9760	5240				

Calculation of profit on closing stock

Profit included in stock = $\frac{\textbf{Profit included in transfer price x Value of stock}}{\textbf{Transfer price}}$

Process I = No profit

Process Ii = $\frac{10000x20000}{100000}$ = 2000

Process Iii = $\frac{28000x30000}{150000}$ = 5600

Finished stock= $\frac{52400x15000}{150000}$ = 5240

Q-4. A product process through three process A, B and C. The details of expenses incurred on the three process during the year 2008 were as under:

	Process A	**Process B**	**Process C**
Units introduced	10000		
Cost per unit is Rs. 50/-			
	Rs.	Rs.	Rs.
Sundry Material	6000	9000	3233
Labor	18000	48000	39000
Direct Expenses	3000	11000	18000
Selling price per unit of output	70	100	200

Management expenses during the year were Rs. 80000 and selling were Rs. 5000. There are not allocable to the processes. Actual output of the three process were A – 9300 units, B – 5400 units and C 2100 units. Two-thirds of the output of process A and one half of the output of process B was passed on to the next process A and one-half of the output of process B was passed on to the next process and the balance was sold. The entire output of process C was sold.

The normal losses of the three process, calculated on the input of every process was: Process A – 5%, B – 15% and C – 20%. The loss of process A was sold @ Rs. 3 per unit that of B @ Rs. 5 per unit and of process C @ Rs. 10 per unit. Prepare process A, B and C account and the Profit and Loss Account.

Solution:

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

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**

To Units Introduced			By Normal Loss	500	1,500
@ Rs. 50	10000	5,00,000	By Abnormal	200	11063
To Sundry Materials		6,000	Loss A/c.	6,200	342958
To Labor		18,000	By Process B A/c.	3,100	171479
To Direct Expenses		3,000	By P & L A/c. (@ 55.32)		
	10000	**5,27,000**			**5,27,000**

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

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process A A/c.	6200	342958	By Normal Loss	930	4650
To Sundry Materials		9000	By Process C A/c.	2700	2,08,165
To Labor		48000	By P & L A/c.	2700	2,08,165
To Direct Expenses		11000			
To Abnormal Gains A/c. (@ 77.19)		100221			
	6330	**420980**		**6,330**	**4,20,980**

Dr. **Process – C A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process B A/c.		208165	By Normal Loss	540	5400
To Sundry Materials		3233	By Abnormal Loss	60	7305
To Labor		39000	By P & L A/c. (@ 12.76)	2100	255693
To Direct Expenses		18000			
	2700	**268398**		**2700**	**268398**

Dr. **Profit & Loss A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process A A/c.	3100	171479	By Sales(@ Rs. 70)	3100	217000
To Process B A/c.	2700	208165	By Sales(@Rs. 100)	2700	270000
To Process C A/c.	2700	265693	By Sales(@Rs. 2000)	2700	420000
To Management Expenses A/c.		80000	BY Abnormal Gain A/c.		9372
To Selling Expenses		50000			
To Abnormal Loss A/c.		17168			
To Net Profit		133867			
		916372			**916372**

Dr. **Abnormal loss A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process A A/c.	200	11063	By Bank Sales (@ Rs. 30)	200	600
To Process B A/c.	60	7305	By Bank (@ Rs. 10)	60	600
			By P & L A/c.		17168
	260	**18368**		**260**	**18368**

Dr. **Abnormal Gain A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Normal Loss A/c.	130	650	By Process B /c.	130	10022
To Costing P & L A/c.		9372			
	130	**10022**		**130**	**10022**

Q-5. Mahesh Ltd process a material which passes through three processes. Figures relating to production for the first 6 months of 2009 are as follows

	Process A	**Process B**	**Process C**
Raw material used	1000 tones @ Rs. 200		
Manufacturing Wages	Rs. 40000	Rs. 30000	Rs. 7000
Expenses	Rs. 32500	Rs. 10800	Rs. 3710
Scrap sold @ Rs. 50 per tone	50 tones	30 tones	51 tones
Selling price per tone	Rs. 320	Rs. 450	Rs. 800
Weight Loss	5%	10%	20%

Management expenses were Rs. 10500, selling expenses Rs. 8000 and interest on borrowed capital Rs. 2000. Two third of process I and one half of process 2 are passed on to the next process and the balance are sold.

Prepare Process Account, Process Stock Account and Costing Profit & Loss A/c.

Solution:

Dr. **Process No. 1 A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Material @ Rs. 200	1000	200000	By Normal Loss (sale of Scrap)	50	2500
To Wages		40000	By Weight Loss	50	
To Expenses		32500	By Process I Stock A/c.	900	270000

			(@300per tone)		
	1000	**272500**		**1000**	**272500**

Dr. **Process No. 1 Stock A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process I A/c.	900	270000	By Bank (@ 320)	300	96000
To Costing Profit & Loss A/c.		6000	By Process No.2 A/c.	600	180000
	900	**276000**		**900**	**276000**

Dr. **Process No. 2 A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process 1 Stock A/c.	600	180000	By Normal Loss (@ Rs. 50)	30	1500
To wages		30000	By Wight Loss	60	--
To Expenses		10800	By Process 2 Stock A/c(@ Rs. 430)	510	219300
	600	**220800**		**600**	**220800**

Dr. **Process No. 2 Stock A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process 2 A/c.	510	219300	By Bank (sale @ 450)	255	114750
To Costing Profit & Loss A/c.		5100	By Process 3 A/c.	255	109650

	510	**244400**		**510**	**244400**

Dr. **Process No. 3 A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process 2 Stock A/c.	255	109650	By scrap	51	2550
To wages		7000	By Weight Loss	51	--
To Expenses		3710	By Process 3 stock A/c	153	117810
	255	**120360**		**255**	**120360**

Dr. **Process No. 3 Stock A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Process 3 A/c.	153	117810	By Bank (sale@800)	153	122400
To Costing P & L A/c.		4590			
	153	**122400**		**153**	**122400**

Dr. **Costing Profit & Loss A/c.** **Cr.**

Particulars	**Rs.**	**Particulars**	**Rs.**
To Management Expenses	10500	By Process 1 Stock A/c.	6000
To Selling Expenses	8000	By Process 2 Stock A/c.	5100
To Interest on Capital	2000	By Process 3 Stock A/c.	4590
		By Net Loss	4810
	20500		**20500**

Q-6. Prepare a statement of equivalent production, statement of cost, process account from the following information using average costing method.

Particular	**Amount**
Opening Stock	50000 Units
Material	Rs. 25000
Labor	Rs. 10000
Overheads	Rs. 25000
Units Introduced	2000000 Units
Material	Rs. 100000
Wages	Rs. 75000
Overheads	Rs. 70000

During the period 1,50,000 units were completed and transferred to Process II.

Closing stock 1,00,000 units. Degree of completion.

Material 100 %

Labor 50 %

Overheads 40 %

Solution:

Input		**Output**		**Equivalent Production**					
Particulars	Units	Particulars	Units	Material		Labor		Overheads	
Opening		Units		%	Units	%	Units	%	Units
Stock	50,000	Produced	150000	100	150000	100	150000	100	150000

Introduced	2,00,000	Closing							
		Stock	100000	100	100000	50	50000	40	40000
	250000		250000		200000		200000		190000

Statement of Cost:

Element	Opening cost Rs.	Current cost Rs.	Total Cost Rs.	Equivalent units	Cost per unit
Material	25,000	1,00,000	1,25,000	2,50,000	0.500
Labor	10,000	75,000	85,000	2,00,000	0.425
Overheads	25,000	70,000	95,000	1,90,000	0.500
	60,000	2,45,000	3,05,000		1.425

Statement of Apportionment of Cost:

Particulars	Units	Cost per unit	Cost	Total cost
1. Units introduced & transferred	1,50,000	1.425		213750
2. Closing work-in-progress				
Material	1,00,000	0.500	50,000	
Labor	50,000	0.425	21,250	
Overheads	40,000	0.500	20,000	91,250
				3,05,000

Dr. **Process – 1 A/c.** **Cr.**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Opening	50,000	60,000	By Units completed &	50,000	2,13,750

Stock			transfer		
To Materials	2,00,000	1,00,000	By Closing Stock	50,000	91,250
To Labor		75,000			
To Overheads		70,000			
	2,50,000	3,05,000		2,50,000	3,05,000

Q-7. From the following information relating to KKN Company Ltd. Prepare Process Cost Account for Process III for the year 2008.

Particulars	Amount
Opening Stock IN Process III	5000 units of Rs. 36,000
Transfer from Process II	2,13,000 units of Rs. 8,27,000
Direct Material added in Process III	Rs. 4,01,800
Direct Wages	Rs. 1,98,100
Production Overhead	Rs. 99,050
Units Scrap	11,000 units
Transferred to Process IV	1,89,000 units
Closing Stock	18,000 units

Degree of Completion:

	Opening Stock	Closing Stock	Scrap
Material	70 %	80 %	100 %
Labor	50 %	60 %	80 %
Overhead	50 %	60 %	80 %

There was a normal loss of 5% production and unit scraped were sold at Rs. 1.50

Solution:

Input		**Output**		**Equivalent Production**					
Particulars	**Units**	**Particulars**	**Units**	**Material**		**Labor**		**Overheads**	
				%	Units	%	Units	%	Units
Opening Stock	5,000	Normal Loss	10000						
Process II		Op. Stock							
Transfer	2,13,000	Processed	5000	-	-	30	1500	50	2500
		Introduces & Completed	184000	100	184000	100	184000	100	184000
		Abnormal Loss	1000	100	1000	100	1000	80	800
		Closing Stock	18000	100	18000	80	14400	60	10800
	218000		218000		203000		200900		198100

Note: Units Produced: Opening stock + units introduced – closing stock

: 5000 + 213000 – 18000 = 200000

Normal Loss : 5 % of 200000 = 10000 units

Statement of Cost

Particulars		**Cost Rs.**	**Equivalent Units Rs.**	**Cost Per Unit Rs.**
Material – I				

Transfer from Previous process	8,27,000			
Less – Value of scrap (normal)	15,000	8,12,000	2,03,000	4.00
Material – II				
Added+ in the process		4,01,800	2,00,900	2.00
Direct Wages		1,98,100	1,98,100	1.00
Overheads		99,050	1,98,100	0.50
				7.50

Statement of Apportionment of Cost:

Particulars	Elements	Equivalent Units	Cost Per Unit Rs.	Cost Rs.	Total cost Rs.
Op. Stock Processed	Material I	--		--	
	Material II	1,500	2.00	3,000	
	Wages	2,500	1.00	2,500	
	Overheads	2,500	0.50	1,250	6,750
Units introduced and Completed	Material I	1,84,000	4.00	7,36,000	
	Material II	1,84,000	2.00	3,68,000	
	Wages	1,84,000	1.00	1,84,000	
	Overheads	1,84,000	0.50	92,000	13,80,000
Closing stock	Material I	18,000	4.00	72,000	13,86,750
	Material II	14,400	2.00	28,800	
	Wages	10,800	1.00	10,800	
	Overheads	10,800	0.50	5,400	1,17,000
Abnormal loss	Material I	1,000	4.00	4,000	
	Material II	1,000	2.00	2,000	
	Wages	800	1.00	800	
	Overheads	800	0.50	400	7,200

TOTAL					**15,10,950**

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

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Balance b/d.	5,000	36,000	By Normal Loss	10,000	15,000
To Process II A/c.	2,13,000	8,27,000	By Process IV A/c.	1,89,000	14,22,750
To Materials		4,01,800	By Abnormal Loss	1,000	7,200
To Wages		1,98,100	By Closing Stock	18,000	1,17,000
To Overheads		99,050			
	2,18,000	**15,61,950**		**2,18,000**	**15,61,950**

Note:

Cost of goods transferred to Process IV:

Value of Opening Stock	36,000
Cost incurred in this process for Opening Stock	6,750
Cost incurred for the units introduced & Processed	13,80,000
Total	**14,22,750**

Q-8. The following information is given in respect of Process costing 10 : 3 for the month of January 2009.

Opening stock – 2,000 units made up of

	Rs.
Direct Material – I	12,350
Direct Material – II	13,200
Direct Labor	17,500
Overheads	11,000

Transferred from Process 2 – 20,000 units @ Rs. 6 per unit.

Transferred to Process 4 – 17,000 units

Expenditure incurred in process – 3

	Rs.
Direct Material	30,000
Direct Labor	60,000
Overheads	60,000

Scrap: 1,000 units-Direct Materials 100%, Direct Labor 60%, Overheads 40%.

Normal Loss 10 % of Production

Scrapped units realized Rs. 4/- per unit

Closing stock: 4,000 units – Degree of completion. Direct Materials 80 %, Direct Labor 60 % and Overheads 40 %.

Prepare Process 3 Account using average price method along with necessary supporting statements.

Solution: Statement of Equivalent Production (weighted Average cost Material)

Particulars	Total Units	Material – I		Material – II		Labor		Overheads	
				%	Units	%	Units	%	Units
Units Completely									
Processed	17000	100	17000	100	17000	100	17000	100	17000
Normal Loss 10% of (2000 + 20000 – 4000)	1800	--							
Abnormal Gain	800	100	800	100	800	100	800	100	800
Closing Stock	4000	100	4000	80	3200	60	2400	40	1600
	22000		20200		19400		18600		17800

Statement of Cost:

Particulars	Cost Rs.	Equivalent Units	Rate / Equivalent Units Rs.
Material – I:			
Opening balance 2000 units	12,350		
Cost of 20000 units @ Rs. 6 Per unit	1,20,000		
	1,25,150	20,200	6.1955
Material – II :			
Opening Stock	13,200		
In Process II	30,000		
	43,200	19,400	2.2268
Labor :			
Opening Labor	17,500		
In Process II	60,000		
	77,500	18,600	4.1667
Overheads :			

Opening Stocks	11,000		
In Process II	60,000		
	71,000	17,800	3.9888
Total cost per unit			**16.5778**

Valuation of Equivalent Unit

			Rs.
Finished goods	(17000 units x Rs. 16.5778)		2,81,822
Abnormal Units	(800 units x Rs. 16.5778)		13,262
Work in progress			
Material I	(4000 units x Rs. 6.1955)	24,782	
Material II	(3200 units x Rs. 2.2268)	7,126	
Labor	(2400 units x Rs. 4.1667)	10,000	
Overheads	(1600 units x Rs. 3.9888)	6,382	48,290

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

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Opening WIP	2,000	57,050	By Normal Loss	1,800	7,200
To Process 2	20,000	1,20,000	By Finished Goods Units	17,000	2,81,822
To Direct			By Closing Balance	4,000	48,290
Material II		30,000			
To Direct Labor		60,000			
To Overheads		60,000			
To Abnormal Gain	800	13,262			
	22,800	**3,37,312**		**22,800**	**3,37,312**

Q-9. The finished product of a factory pass through two processes: the entire material being placed in process at the beginning of the first process. From the following production and last data relating to the first process, work out the value of the closing inventory and the value of the materials transferred to the second process.

Process I	**Rs.**
Opening inventory	10,000
Material	27,500
Labour	50,000
Manufacturing Overheads	40,000
Opening inventory (25 percent complete)	4,000
Put into Process	12,000
Transferred to II Process	10,000
Closing inventory (20 percent completed)	5,000
Spoilage during process	1,000

Solution:

Dr. **Process No. 2 A/c.** **Cr.**

Particulars	**Kg.**	**Amount Rs.**	**Particulars**	**Kg.**	**Amount Rs.**
Opening Inventory	4,000	10,000	Transferred to Process II	10,000	1,15,750
Material	12,000	27,500	Normal Loss	1,000	--
Labour		50,000	Closing Inventory	5,000	11,750
Manufacturing					
Overheads		40,000			
	16,000	**1,27,500**		**16,000**	**1,27,500**

Working Note:

Statement of Equivalent Production Units

Particulars	Output Kg.	Material		Labour		Overheads	
		Qty.	%	Qty.	%	Qty.	%
Opening Stock Processed	4,000	3,000	75	3,000	75	3,000	75
Completely Processed	6,000	6,000	100	6,000	100	6,000	100
Normal Loss	1,000	--	--	--	--	--	--
Closing Inventory	5,000	1,000	20	1,000	20	1,000	20
	16,000	**10,000**		**10,000**		**10,000**	

Statement of Element of Cost on the basis of Equivalent Production

Particulars	Cost Rs.	Equivalent Units	Cost per Unit Rs.
Material	27,500	10,000	2.75
Labor	50,000	10,000	5.00
Overhead	40,000	10,000	4.00
Total			11.75

Statement of Apportionment of Cost

Particulars	Elements	Equivalent Units	Cost Per Unit Rs.	Cost Rs.	Total cost Rs.
Op. Stock Processed	Material	3,000	2.75	8,250	
	Labour	3,000	5.00	15,000	
	Overheads	3,000	4.00	12,000	35,250
Completely Processed	Material	6,000	2.75	6,500	
	Labour	6,000	5.00	30,000	

	Overheads	6,000	4.00	24,000	70,500
Closing Inventory	Material	1,000	2.75	2,750	
	Labour	1,000	5.00	5,000	
	Overheads	1,000	4.00	4,000	11,750
TOTAL					**1,17,500**

Value of goods transferred to next process

	Rs.	**Units**
Value of opening stock (given)	10,000	
Additional cost on opening stock	35,250	4,000
Value of completely processed units	70,500	6,000
	1,15,750	**10,000**

Q-10. ABC Limited manufactures a product '2X' by using the process normally R. T. for the month of May 2009, the following data is available.

	Process R. T.
Material Introduced	16,000 units
Transfer to next process	14,000 units
Work-in-Process	4,000 units
At the beginning of the month (4/5 completed)	3,000 units
At the end of the month (2/3 completed)	
Cost records:	
Work-n-Process at the beginning of the month	
Material	Rs. 30,000

Conversion cost	Rs. 29,200
Cost during the month	
Materials	Rs. 1,20,000
Conversion cost	Rs. 1,60,800

Normal spoiled units are 10% of goods finished output transferred to next process.

Defects in these units are identified in their finished state.

Materials for the product is put in the process at the beginning of the cycle of operation, whereas labour and other indirect cost flow evenly over the year. It has no realizable value for spoiled units.

Required:

(1) Statement of equivalent production (average cost method)

(2) Statement of cost and distribution of cost

(3) Process accounts

Solution:

Statement of Equivalent Production (average cost method)

Input units	**Particulars**	**Output Units**	**Equivalent Production**			
			Materials		**Conversion cost**	
			% completed	**Equivalent Units**	**% Completed**	**Equivalent Units**
4000	Opening WIP					
16000	Introduced and Completed to next	14,400	100	14,400	100	14,400

	Normal spoilage	1,440	100	1,440	100	1,440
	Abnormal spoilage	1,160	100	1,160	100	1,160
	Closing WIP	3,000	100	3,000	66.67	2,000
20000		20000		20000		19000

Statement showing cost of each element

Particulars		**Materials**	**Conversion cost**
Opening		30,000	29,200
Cost in process		1,20,000	1,60,800
Total	(a)	1,50,000	1,90,000
Equivalent Units	(b)	20,000	19,000
Cost per unit	(a ÷ b)	7.50	10.00

Statement showing distribution of cost

Particulars	**Equivalent Units**	**Cost per unit**	**(Rs.)**	
Units completed Materials	14,400	7.50	1,08,000	
Conversion cost	14,400	10.00	1,44,000	2,52,000
Normal spoilage (10 %)	1,440	17.50		25,200
Closing stock :				
Material	3,000	7.50	22,500	
Conversion cost	2,000	10.00	20,000	42,500
Abnormal Stock:				
Material	1,160	7.50	8,700	

Conversion Stock	1,160	10.00	11,600	20,300

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

Particulars	**Rs.**	**Particulars**	**Rs.**
To Opening WIP	59,200	By Profit and Loss A/c. (abnormal)	20,300
To Material Introduced	1,20,000	By Transfer to Next Process	2,77,200
To Conversion cost Incurred	1,60,800	By Closing WIP	42,500
	340000		**3,40,000**

Q-11. GH & Co. manufactures a product. The process costing is followed and work-in-progress stocks at the end of each month are valued at FIFO basis.

At the beginning of the month of June, the inventory of work in- progress showed 400 units, 40% complete, valued as follows:

Material 3,600

Labour 3,400

Overheads 1,000

Total 8,000

In the month of June, materials were purchased for Rs. 75,000. Wages and overheads in the month amounted to Rs. 79,800 and Rs. 21,280 respectively. Actual issue of material to production was Rs. 68,500. Finished stock in the month was 2500 units. There was no loss in process.

All the end of the month, the work-in-process inventory was 500 units, 60 percent complete as to labour and overheads and 80 % complete as to materials.

Prepare a Process Account for recording the month's transactions and prepare a Process Cost Sheet showing total and units costs.

Solution:

Dr. **Process – A/c.** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Opening Stock	400	8,000	BY Transfer to Finished stock	2,500	1,56,094
To Material	2,600	68,500	By Work-in- Progress	500	21,486
To Labour		79,800			
To Overheads		21,280			
	3000	**1,77,580**		**3000**	**1,77,580**

Working Note:

Statement of Equivalent Production (Units)

Input	**Particulars**	**Output**	**Material**		**Labour**		**Overheads**	
		Kg.	**Qty.**	**%**	**Qty.**	**%**	**Qty.**	**%**
400	Opening Stock	400	240	60	240	60	240	60
2600	Completely Processed	2,100	2,100	100	2,100	100	2,100	100
	Work-in-Progress	500	400	80	300	60	300	60
3,000		3,000	2,740		2,640		2,640	

Working Note :

(1) For opening stock also equivalent production has been calculated as it was partly complete and it has to be converted into finished product in this period. They were completed 60 % in this period.

(2) Total units produced in a month are 2,50 units. Out of this 400 units of opening stock has been deducted because they have been partly processed in this particular month and we have already calculated equivalent units of opening stock. Only, 2,100 units have been introduced and completed in the particular period.

(3) For closing stock also equivalent production in terms of total units completed has been calculated.

Statement of Element of cost on the basis of Equivalent Units

	Cost Rs.	**Equivalent Units**	**Cost per unit Rs.**
Material	68,500	2.740	25.000
Labour	79,800	2.640	30.2273
Overheads	21,280	2.640	8.0606

Statement of Apportionment of Cost

Particulars		**Equivalent Units**	**Cost Per Unit Rs.**	**Details Rs.**	**Total Rs.**
Op. Stock Processed	Material	240	25.0000	6,000	
	Labour	240	30.2273	7,255	
	Overheads	240	8.0606	1,935	15,190
Completely Processed	Material	2,100	25.0000	52,500	
	Labour	2,100	30.2273	63,477	
	Overheads	2,100	8.0606	16,927	1,32,904

Work-in-Process	Material	400	25.0000	10,000	
	Labour	300	30.2273	9,068	
	Overheads	300	8.0606	2,418	21,486
				TOTAL	**1,69,580**

Total Cost of 2500 units

	Rs.
Cost of opening stock	8,000
Additional cost of opening stock processed	15,190
Cost of completely processed	1,32,904
	1,56,094

Q-12. The following data is available in respect of Process I for February 1990.

(1) Opening stock of work-in-process 800 units at a total cost of Rs. 4,000.

(2) Degree of completion of opening work in process

Materials 100 %

Labour 60 %

Overheads 60 %

(3) Input of materials at a total cost of Rs. 36,800 for 9,200 units

(4) Direct wages incurred Rs. 16,7540

(5) Production overheads Rs. 8,370

(6) Units scrapped 1,200 units. The stage of completion of these units was

Materials 100 %

Labour 80 %

Overheads 80 %

(7) Closing work-in-process: 900 units. The stage of completion of these units was:

Materials 100 %

Labour 70 %

Overheads 70 %

(8) 7,900 units were completed and transferred to the next process

(9) Normal Loss is 80 % of the total input (opening stock plus units put in)

(10) Scrap value is Rs. 4 per unit

You are required to:

a) Compute equivalent production

(b) Calculate the cost per equivalent unit for each element

(c) Calculate the cost of abnormal loss (or gain), closing work in process and the units transferred to the next process using the FIFO method.

(d) Show the Process Account for February 1990

Solution:

(a) Statement of Equivalent Production (FIFO Method)

input		Output		Equivalent			
Particulars	**units**	**Particulars**	**units**	**Material**		**Labor & Overheads**	
				units	%	units	%
Op. Stock of W.I.P	800	Units completed Work on Op. stock	800	--		320	40
Units		New units	7100	7100	100	7100	100
	9,200	Closing stock	900	900	100	630	70
		Normal Loss	800	--		--	
		Abnormal Loss	400	400	100	320	100
	10,000		10,000	8,400		8,370	

(b) Statement of cost per equivalent units for each element

Particulars		Cost Rs.	Equivalent Unit	Cost Per Unit
Material	36,800			
Less : Scrap realization (800 units @ Rs. 4)	3,200	33,600	8,400	4.00
Labour		16,740	8,370	2.00
Overheads		8,370	8,370	1.00

I Statement showing cost of abnormal loss, closing WIP and units transferred to the next process:

Particulars	Cost per unit Rs.	Equivalent unit	Total cost Rs.
Abnormal Loss			
Materials	4.00	400	1,600
Labour	2.00	320	640
Overheads	1.00	320	320

			2,560
Closing WIP			
Material	4.00	900	3,600
Labour	2.00	630	1,260
Overheads	1.00	630	630
7900 units transferred to next process			5,490
(i) Cost of opening WIP (80 units)			4,000
(ii) Cost incurred on opening WIP			
Material	--	--	
Labour	2.00	320	640
Overheads	1.00	320	320
(iii) Cost of completing 7100 units			960
Material	4.00	7100	28400
Labour	2.00	7100	14200
Overheads	1.00	7100	7100
			49700
Total (I + ii + iii)			**54600**

Dr. **Process A/c. for February 1990** **Cr.**

Particulars	**Units**	**Rs.**	**Particulars**	**Units**	**Rs.**
To Opening WIP	800	4000	By Finished Goods	7900	54660
To Materials	9200	36800	By Closing WIP	900	5490
To Labour	--	16740	By Normal Loss	800	3200
To Overheads	--	8370	By Abnormal Loss	400	2560
	10000	**65910**		**10000**	**65910**

Q-13 From the following information calculate fare for passenger KM.

The cost of the Bus	Rs. 450000
Insurance charges	3 % p.a.
Annual tax	Rs. 4500
Garage rent	Rs. 500 p.m.
Annual repairs	Rs. 4800
Expected life of the bus	5 yrs
Value of scrap at the end of 5 years	Rs. 3000
Route distance	20 km long
Driver's salary	Rs. 550 p.m.
Conductor's Salary	R. 500 p.m.
Commission to Driver & conductor (shared equally)	10 % of the takings
Stationary	Rs. 250 p.m.
Manager-cum-accountant's Salary	Rs. 1750 p.m.
Diesel and Oil (for 100 kms)	125

The bus will make 3 rounds trips for carrying on the average 40 passenger's in each trip. Assume 15 % profit on takings. The bus will work on the average 25 days in a month.

Solution:

Operating Cost Statement

Bus No.

Capacity: 40 persons

Particulars	Per Annum Rs	Per Annum Rs	Per Annum Rs
A. Standing Charges			

Depreciation	84,000		
Tax	4,500		
Insurance	13,500		
Stationery	3,000		
Manager's Salary	21,000	1,26,000	00.08750
B. Maintenance Charges			
Garage Rent	6,000		
Repairs	4,800	10,800	00.00750
C. Operating (or) Running Charges			
Diesel & Oil	3,750		
Driver' Salary	6,600		
Conductor's Salary	6,000	16,350	00.01135
Total		1,53,150	00.10635
Add : Commission and Profit 25/75			00.03545
Fare per passenger km.			00.14180

Working Note:

(1) No. of Km run in a month : 3 x 2 x 20 x 25 = 3000 km

(2) No. of passenger km per annum : 3000 x 40 x 12= 14,40,000

(3) Diesel and oil : 3000 x 125 / 100 = Rs. 3750

(4) Commission & Profits: Commission 10 % of taking + profit 15 % of Taking total = 25 % of taking so the cost

Cost is only 75 %

Q-14 From the following data relating to two different vehicles A and B, compute cost per running mile.

	Vehicle A	**Vehicle B**
Milage run (annual)	15000	6000
Cost of vehicles	Rs. 25000	Rs. 15000
Road License (Annual)	750	750
Immune (Annual)	700	400
Garage rent (Annual)	600	500
Supervision and Salaries (Annual)	1200	1200
Driver's wage per hour	3	3
Cost of fuel per gallon	3	3
Miles runs per gallon	20	15
Repairs and maintenance per mile (Rs.)	1.65	2.00
Tire allocation per mile	0.80	0.60
Estimated life of vehicle (miles)	1,00,000	75,000

Charge interest @ 5 % p.a. on cost of vehicles. The vehicles run 20 miles per hour on an average

Solution:

Operating cost sheet (cost per mile)

Particulars	**Vehicle A**	**Vehicle B**
A. Operating and Maintenance Charges		
Depreciation A – 25000 / 100000	0.25	--
B – 15000 / 75000	--	0.20
Repairs and maintenance	1.65	0.20
Tire allocation	0.80	2.00
Fuel (3 / 20 miles)	0.15	0.60

Driver's wages (A – 3 / 20) (3 – 3 / 15)			0.15	0.15
			3.00	3.15
B. Standing Charges				
	A	**B**		
Road license	750	750		
Insurance	700	400		
Charges	600	500		
Supervision	1200	1200		
Interest @ 5 % p.a.	1250	750		
Mileage run per annum	4500	3600		
Fixed standing charge per mile	15000	6000		
Operating cost per mile	0.30	0.60	0.30	0.60
Operating cost per mile			3.30	3.75

Note: (1) Depreciation is linked with mileage so operating cost.

(2) Driver wage is taken as operating since it is paid per hour.

Q-15 Krishna Transport Ltd. Charges Rs. 150 per ton for its 10 ton lorry load from city A to city B. the charges for the return journey are Rs. 140 per ton. No concession is made for any delivery of goods at intermediate station 'C' in January 2008. The truck made 10 outward journeys for city B with full load of which 2 ton were unloaded twice at city 'C'. The truck carried a load of 12 ton in its return journey for 4 times but once caught by police and Rs. 1500 was paid as fine. For the remaining trips it carried full load out of which all the goods on load were unloaded once at city 'C'. The distance from city A to city A and city 'B' are 150 km and 250 km respectively. Annual fixed cost are Rs. 1,20,000 and maintenance cost is Rs. 15,000. Running charges spent during January 2008 are Rs. 3500.

Calculate the cost per tone-kilometer and the profit for January 2008.

Solution:

Operating Cost and Profit Statement of Krishna Transport Ltd.

Particulars	Rs.
1. Fixed cost (12000 / 12)	
2. Maintenance charges 15000 / 12	
3. Running charges	
Total operating cost	
Cost per ton km	
Net revenue received (working note)	
Less : Total operating cost	
Profit	

Working note:

(1) Tone km on outward journeys

From city A to C–10 journeys x10 ton x 150 km = 15,000

From city C to B–8 journeys x 10 ton x 100 km = 8,000

2 journey x 8 ton x 100 km = 1,600

Total = 24,600 Tone – km

(2) Tone km on return journey

From city B to A – 4 journeys x 250 km x 12ton = 12,000

From city B to A – 5 journeys x 250 km x 10ton = 12,500

From city B to C - 1 journey x 100 km x 10 ton = 1,000

Total = 25,500 Tone – km

(3) Net revenue received

From city A to B–10 journeys x10 ton X Rs.150 = 15,000

From city B to A–4 journeys x 12 ton X Rs. 140 = 6,720

From city B to A -5 journeys x 10 ton X Rs. 140 = 7,000

From city B to C -1 journeys x 10 ton X Rs. 140 1,000

Total = 29,720 Tone – km

Less : Fine Paid = 1,500

Net revenue received =28,220

Q-16 Mr. Sampath owns a fleet of taxies and the following information is available from the records maintained by him.

1. Number of Taxis – 10

2. Cost of each Taxi – Rs. 2,00,000

3. Salary of manager Rs. 6000 p.m.

4. Salary of Accountant Rs. 5000 p.m

5. Salary of cleaner Rs. 3000 p.m.

6. Salary of Mechanic Rs. 4000 p.m.

7. Garage Rent Rs 7000 p.m.

8. Insurance premium 5 %

9. Annual Tax Rs. 6000 per taxi

10. Drivers Salary Rs. 4000 p.m.

11. Annual Repairs Rs. 15,000 per taxi

Total life of a taxi is about 2,00,000 kms. A taxi runs in all 3000 kms. in a month of which 25 % its runs empty. Petrol consumption is one liter for 10 kms @ Rs. 40 per liter. Oil and other sundries are Rs. 10 per 100 kms.

Calculate the cost of running a taxi per km.

Particulars	**Amount per month Rs.**	**Cost per Km Rs.**
Fixed Expenses (for the whole fleet)		
Salary of manager	6000	
Salary of accountant	5000	
Salary of Cleaner	3000	
Salary of mechanic	4000	
Garage Rent	7000	
Insurance premium 5 % on Rs. 2,00000 x 10	8333	
Tax 6000 x 10 / 12	40000	
Total Fixed Expenses	5000	
Effective kilometer 3000x10x 75 % = 22,500		
Fixed expenses per km		3.48147
Running expenses (per taxi)		
Depreciation (2,00,000÷200000 x 10 x 3000)		1.33333
Repairs (15,000 x 10 ÷ 12)		0.55555
Petrol (3000 x 40) ÷ (10 x 22500)		0.53333
Oil and other sundries (10 x 3000) ÷ (100(22500)		0.13333
Cost per km		**6.03701**

Q-17 The following information is available from a intensive care unit.

Rent (including repairs) Rs. 10000 p.m.

The unit cost consists of 25 beds and 5 more beds can be accommodate when the occasion demands. The permanent staff attached to the unit is as follows:

2 supervisors each at a salary or Rs. 2000 per month.

4 nurse each at a salary of Rs. 1500 per month.

2 ward boys each at a salary of Rs. 1000 per month**.**

Though the unit was open for the patients all the 365 days in a year, security of accounts of 2008 revealed that only 150 days in a year the unit had the full capacity of 25 patients per day and for another 80 days it had on an average 20 beds only occupied per day. But there were occasions when the beds were full, extra beds were hired from outside at a charge of Rs. 10 per bed per day and this did not come to more than 5 beds extra above the normal capacity any one day. The total hire charges for the whole year were Rs. 4000.

The unit engaged expert doctor from outside to attend on the patients and the fees were paid on the basis of number of patients attended at time spent by them on an average worked out to Rs. 2000 per month in 2008. The other expenses for the year were as under.

	Rs.
Repairs and maintenance	8,000
Food supplied to patients	1,00,000
Janitor and other services for patients	25,000
Laundry charges for bed linens	40,000
Medicines supplied	70,000
Cost of oxygen, x ray etc other than directly born for treatment of patients (Fixed)	90,000

General administration charges allocated to the unit	1,00,000

(1) If the unit recovered an overall amount of Rs. 200 per day on an average from each patient what is the profit per patient day made by the unit in 2008.

(2) The unit wants to work out a budget for 2009, since the number of patients is very uncertain, annuity the same revenue and expenses prevail in 2009, work out the number of patient days required break-even.

Solution:

Statement of cost and profit

	Particulars	**Rs.**	**Rs.**
A)	Income received (Rs. 200 x 6150)		1,23,000
B)	Variable cost (per annum)		
	Food	1,00,000	
	Janitor and other services	25,000	
	Laundry charges	40,000	
	Medicines	70,000	
	Doctors fees (20,000 x 12)	2,40,000	
	Hire charges for extra bed	4,000	
	(B)	4,79,000	
C)	Fixed Costs		
	Salaries		
	Supervisor	4,800	
	Nurses	72,000	
	Ward boys	24,000	
	Rent (10000 x 12)	1,20,000	
	Repairs & Maintenance	8,000	

	General administration	1,00,000	
	Cost of oxygen, X ray etc.	90,000	
	(C)	4,62,000	
	Total cost (B + C)		9,41,000
	Profit		2,89,000

Profit per patient day = $\frac{28900}{6150}$ = 46.91 loss Rs. 47/-

Working Note:

Calculation of No. of patient days in 2008

25 beds x 150 days = 3750

20 beds x 80 days = 1600

Extra beds 4000 ÷ 5 = 800

= 6150

Breakeven point = $\frac{Fixed\ Cost \quad x\ income}{Income - Variable\ cost}$ = $\frac{46200}{751000} \times 1230000$

= Rs. 756671 (or) $\frac{756671}{200}$ = 3783.25 patient days

Q-18 A company runs a holiday home for this purpose it hired a building at a rent of Rs. 10,000 per month along with 5% of total takings. It has three types of suites for its customer's viz. single room, double room and triple rooms.

Following information is given:

Types of suite	**Number**	**Occupancy percentage**

Single rooms	100	100 %
Double rooms	50	80 %
Triple rooms	30	60 %

The rent of double room's suite is to be fixed at 2.5 times of the single room and that of triple rooms at twice of the double room suite.

The other expenses for the year 2009 are as follows:

	Rs.
Staff salaries	14,25,000
Room attendants wages	4,50,000
Lighting heating and powers	2,15,000
Repairs and renovations	1,23,500
Laundry charges	80,500
Interior decoration	74,000
Sundries	1,53,000

Provide profit @ 20 % on total takings and assume 360 days in a year. You are required to calculate the rent to be charged for each type of suite

Solution:

Calculation of room occupancy

Type of suite	**Number**	**Occupancy %**	**No. of days in a year**	**Room occupancy days**
Single Room	100	100	360	36000
Double Room	50	80	360	14400

Triple Room	30	60	360	6480

Calculation of equalant single room suits occupancy

36,000 x 1 + 14400 x 2.5 + 6480 x 5 = 104400

Calculation of Total Cost :

	Rs.
Staff salaries	14,25,000
Room attendant wages	4,50,000
Lighting heating and power	2,15,000
Repair and renovation	1,23,500
Laundry charges	80,500
Interior decoration	74,000
Sundries	1,53,000
Total cost excluding building rent	25,21,000
Building rent = 10000 x 12 + 5% of taking	2,96,066
Total cost	28,17,066
Profit 20 % of takings	7,04,267
Total takings	35,21,333

Rent for a single room = 3521333 ÷ 104400 = Rs. 33.73

Rent for a double room = 33.73 x 2.5 = Rs. 84.325

Rent for a triple room = 84.325 x 2 = Rs. 168.65

Q-19.A lodging home is being run in a small hill station with 50 single rooms. The home offers concessional rate during six off season months in a year. During this period, half of the full room rent is charged. The management profit margin is targeted at 20% of the room rent. The following are the cost estimates and other details for the year ending 3^{1st} March, 1996 (assume a month to be of 30 days)

(a) Occupancy during the season is 80%, while in the off season is 40% only.

b) Expenses:

(i) Staff Salary (excluding room attendants)	Rs. 2,75,000
(ii) Repairs to buildings	Rs.1,30,000
(iii) Laundry and linen	Rs. 40,000
(iv) Interior and tapestry	Rs. 87,500
(v) Sundry expenses	Rs. 95,400

(c) Annual depreciation is to be provided for building at 5% and on furniture and equipments at 15% on straight line basis.

(d) Room attendants are paid Rs. 5/- per room-day on the basis of occupancy of the rooms in a month.

(e) Monthly lighting charges are Rs. 120 per room, expect in four months of winter when it is Rs. 30 per room and this cost is on the basis of full occupancy for a month and

(f) Total investments in the home are Rs. 100 lakhs of which Rs. 80 lakhs relate to buildings and balance for furniture and equipments.

You are required to work out the room rent chargeable per day both during the season and the off-season months, on the basis of the foregoing information.

Solution:

Total estimated costs for the year ending 31.03.1996

Particulars	Total Rs.	Per room day (Rs.)
Salary	2,75,000	
Repairs	1,30,000	
Laundry and linen	40,000	
Interior decoration	87,500	
Depreciation: Building 5% on 80 lakhs = 4,00,000 Furniture 15 % on 20 lakhs = 3,00,000	7,00,000	
Miscellaneous expenses	95,400	
Attendant's salary	54,000*	
Lighting charges	36,000**	
Total cost	14,18,400 / 9000 *** full room days	157.60
Add : Profit margin at 20% on rent or 25% of cost		197.00

During season room rent is Rs. 197 and during off-season room rent is Rs. 98.50

* Attendant' salary

For 10,800 room days @ Rs. 5 per day = Rs. 54,000

** Total light bill

Light bill during 8 months at Rs. 120 per month or 120 ÷ 30 =

Rs. 4 Per room day.

Light bill during 4 months of winter at Rs. 30 per month or 30 ÷

30 = Re. 1 per Room day.

Total light bill for full one year

- During season @ Rs. 4 for 7,200 days 28,800

- During 2 months of off-season

@ Rs. 4 for 1,200 days (2 ÷ 6 x 3,600) 4,800

- During 4 months of winter at Re. 1

For 2,400 days (4 ÷ 6 x 3,600) 2,400

Total 36,000

*** Number of room days in a year:

Seasons occupancy for 6 months@80% (50 x 0.8 x 6 x 30) = 7,200 room days Off season's occupancy for 6 months @ 40 % (50 x 0.4 x 6 x 30) = 3,600 room days

Total room days during the Year 10,800

Total full room days in terms of rate

Season 7,200

Off Season (in terms of 50 % rate on 3,600 days) 1,800

Total Full room days 9,000 per annum

Q-20. Following are the information given by an owner of a hotel. You are requested to advice him that what rent should be charge from his customers per day so that he is able to earn 25 % on cost other than interest.

1) Staff salaries Rs. 80,000 per annum

2) Room attendant's salary Rs. 2 per day. The salary is paid on daily basis and services of room attendant are needed only when the room is occupied. There is one room attendant for one room.

3) Lighting, heating and power. The normal lighting expenses for a room if it is occupied for the whole month is Rs.50. Power is used only in winter and normal charge per month if occupied for a room is Rs. 20.

4) Repairs to building Rs. 10,000 per annum

5) Linen etc. Rs. 4,800 per annum

6) Sundries Rs. 6,600 per annum

7) Interior decoration and furnishing Rs. 10,000 annually

8) Cost of building Rs. 4,00,000; rate of depreciation 5 %

9) Other equipments Rs. 1,00,000; rate of depreciation 10 %

10) Interest @ 5% may be charged on its investment of Rs. 5,00,000 in the building and equipment

11) There are 100 rooms in the hotel and 80 % of the rooms are normally occupied in summer and 30 % of the rooms are busy in winter. You may assume that period of summer and winter is six month each. Normal days in a month may be assumed to be 30.

Solution:

Operating cost sheet

Rent per day

	Rs.	**Per annum Rs.**
1. Staff salaries		80,000
Room attendant's salaries		

Summer 2 x (100 x 80 ÷ 100) x 30 x 6	28,800	
Winter 2 x (100 x 30 ÷ 100) x 30 x 6	10,800	39,600
Lighting, heating and power		
Summer 50 x 6 x (100 x 80 ÷ 100)	24,000	
Winter 50 x 6 x 100 x (30 ÷ 100)	9,000	
Power 20 x 6 x 100 x (30 ÷ 100)	3,600	36,600
Repairs to building		10,000
Linen etc.		4,800
Sundries		6,600
Interior decoration and furnishing		10,000
Depreciation : Building	20,000	
Other equipments	10,000	30,000
Interest on investment (5% on Rs. 5,00,000)		25,000
		2,42,600
Add : 25 % profit on cost other than interest		
Rs. 2,42,600 – Rs. 25,000 interest = Rs. 2,17,600		
Rs. 2,17,600 x 25 ÷ 100		54,400
Total cost		**2,97,000**

Rent per room for one day = Total Cost ÷ No. of room days

= 2, 97,000 ÷ 19,800

= Rs. 15 per day

Working Notes: Calculation of room days

No. of Rooms x Percentage x days in a month x no. of months

Summer: 100 x (80 ÷100) x 30 x 6

80 x 30 x 6 = 14,400

Winter: 100 x (30 ÷ 100) x 30 x 6

30 x 300 x 6 = 5,400

Total room days = 19,800

Q-21 (Service costing – use own / company cars or hire cars)

A company is considering three alternative proposals for conveyance facilities for its sales personal who have to do considerable travelling, approximately 20,000 kilometers every year. The proposals are as follows:

(1) Purchase and maintain its own fleet of cars. The average cost of car is Rs. 1,00,000.

(2) Allow the executive use his own car and reimburse expenses at the rate of Rs. 1.60 paise per kilometer and also bear insurance costs.

(3) Hire cars from an agency at Rs. 20,000 per year per car. The company will have to bear costs of petrol, taxes and tyres.

The following further details are available:

Petrol Re. 0.60 per km.

Repairs and maintenance Re. 0.20 per km

Tyre Re. 0.12 per km

Insurance Rs. 1,200 per car annum;

Taxes Rs. 800 per car per annum

Life of a car: 5 years with Annual milage of 20,000 kms.

Resale value: Rs. 20,000 at the end of the fifth year.

Work out the relative costs of three proposals and rank them

Solution:

Alternative proposals

	I Use of concern car		II Use of own car	III Use of hired car
	Rs. Per annum	Rs. Per km	Rs. Per km	Rs. Per km
Reimbursement (A)	--	--	1.60	1.00 @
Fixed cost (B)				
Per car per annum				
Insurance	1,200			
Taxes	800			
Depreciation (Rs.1,00,000–20,000÷ 5)	16,000			
Total	18,000			
Fixed cost per km (Rs.18,000 ÷ 20,000 km)		0.90	-	-
Running and maintenance cost (C)				
Per car per km		0.60	--	0.60
Petrol		0.20	--	--
Tyre		0.12	--	0.12
Total cost per km (A+B+C)		1.82	1.66	1.76

Cost of 20,000 km		Rs. 36,400	33,200	35,200
Ranking of alternating proposals		III	I	II

Decision II alternating i.e., use of own car will be the best alternative from company's point of view. III alternative i.e. hiring the card is 2nd best alternative. I alternative i.e. maintaining the fleet will be costliest alternative.

Rs. 1,200 ÷ 20,000 kms = Re. 0.06; (Rs. 800 ÷ 20,000 kms) = Re. 0.04 @ Rs. 20,000 ÷ 20,000 kms = Re. 1/-

Q-22 The Union Transport Company has been given a twenty kilometer long route to ply a bus. The bus costs the company Rs. 1,00,000. It has been insured at 3 % per annum. The annual road tax amounts to Rs. 2,000. Garage rent is Rs. 400 per month. Annual repair is estimated to cost Rs. 2,360 and the bus is likely to last for five years.

The salary of the driver and conductor is Rs. 600 and Rs. 200 per month respectively in addition to 10% of the taking as commission to be shared equally by them. The managers salary is Rs. 1,400 per month and stationery will cost Rs. 100 per month. Petrol and oil will cost Rs. 50 per 100 kilometers. The bus will make three round trips per day carrying on an average 40 passengers in each trip. Assuming 15% profit on takings and that the bus will ply on an average 25 days in a month.

Prepare operating cost statement on a full year basis and also calculate the bus fare to be charged from each passenger per kilometre.

Solution:

Union Transport Company

Statement showing operating cost of the bus per annum

A. standing charges	
Managers salary (Rs. 1,400 x 12)	16,800
Driver's salary (Rs. 600 x 12)	7,200
Conductor's Salary (Rs. 200 x 12)	2,400
Road Tax	2,000
Insurance (3% of Rs. 1,00,000)	3,000
Garage rent (Rs. 400 x 12)	4,800
Stationery (Rs. 100 x 12)	1,200
Depreciation (Rs. 1,00,000 ÷ 5 years)	20,000
	57,400
B. Maintenance Cost – Repairs	2,360
C. Running charges	
Petrol and oil (36,000 km x Rs. 500) ÷ 100	18,000
Total costs (A + B + C)	77,760
Add : 10 % of takings for commission of driver & conductor	
15 % profit – desired on takings	25,920
25 % on total takings = 33 – 1/30 of cost	1,03,680

Calculation of bus fare to be charged:

Effective passenger kilometers:

(2 x 20 km x 3 trips x 40 passengers x 25 days x 12 months) = 14, 40,000

Rate to be charged per km from each passenger

Rs. 1, 03,680 ÷ 14,40,000 = Re. 0.072

Calculation of total distance covered

(20 km 2 x 3 x 25 x 12) = 36,000 km per annum

Q-23 Prakash Automobiles distributes its goods to a regional dealer using a single lorry. The dealers' premises are 40 kilometers away by road. The lorry has a capacity of 10 tons and makes the journey twice a day fully loaded on the outward journeys and empty on return journey. The following information is available for a four weekly period during the year 1990.

Petrol consumption	8 km per liter
Petrol Cost	Rs. 13 per liter
Oil	Rs. 100 per week
Driver's wages	Rs. 400 per week
Repairs	Rs. 100 per week
Garage Rent	Rs. 150 per week
Cost of Lorry (excluding tyres)	Rs. 4,50,000
Life of Lorry	80,000 kilometers
Insurance	Rs. 6,500 per annum
Cost of tyres	Rs. 6,250
Life of tyres	25,000 kilometers
Estimated sale value of lorry at end of its life	Rs. 50,000
Vehicle license cost	Rs. 1,300 per annum
The lorry operates on five day week	Rs. 41,600 per annum

Required:

(a) A statement to show the total cost of operating the vehicle for four-weekly period analyzed into running costs and fixed costs.

(b) Calculate the vehicle cost per kilometer and per ton kilometre

Solution:

(a) Before computing the total cost, it is necessary to find out the basic data s under :

1. Distance travelled in 4 week period; 40 km one way x 2 (return) x 2 trips x 5 days x 4 weeks = 3200 km

2. For tone km working = empty on return and as such for tone km = 3200 ÷ 2 = 1,600

3. Total consumption in weeks = 3,200 km ÷ 8 km = 400 lt

4. Tyre cost = (Rs. 6,250 ÷ 25,000 km) x 3,200 km = Rs. 800

5. Depreciation of lorry in 4 weeks = (Rs. 4, 50,000 – Rs. 50,000 km) ÷ 80,000 x 3,200 = Rs. 16,000

Operating cost statement f a lorry of M/s. Prakash Automobiles (for the 4 week period)

Running costs	**Rs.**
Cost of petrol (400 liters x Rs. 13)	5,200
Oil (Rs. 100 per week x 4)	400
Drivers wages (Rs. 400 per week x 4)	1,600
Repairs (Rs. 100 x 4)	400
Cost of tyers (as at 4 above)	800
Depreciation (as at 5 above)	16,000
Total running costs – (i)	24,400
Fixed costs	**Rs.**
Garage ret (Rs. 150 x 4)	600
Insurance (Rs. 6,500 ÷ 52) x 4	500
License cost (Rs. 1,300 ÷ 52) x 4	100
Other overheads (Rs. 41,600 ÷ 52) x 4	3,200
Total fixed cost - (ii)	4,400
Total (i) + (ii)	28,000

(b) Cost per tone – km = Rs. 28,800 ÷ (1600 x 10 tons) Rs. 1.80

Q24. The profit and Loss Account as shown in the financial books of a company for the year ended 30.09.2002 together with a statement of reconciliation between the profit as per financial and cost accounts is given below:

Profit and Loss Account for the year ended 30.09.2002

	Rs.	**Rs.**		**Rs.**	**Rs.**
Opening stock			Sale		15,00,000
Raw Material	90,000		Closing Stock		
Work-in progress	50,000		Raw Material	98,000	
Finished goods	70,000	2,10,000	Work-in Progress	53,000	
Raw material			Finished goods	72,000	2,23,000
		5,00,000			
Purchased					
Direct wages		2,00,000	Miscellaneous		
Factory overheads		2,00,000	Receipts		45,000
Administration Expenses		1,70,000			
Selling and Distribution Exp.		2,20,000			
Preliminary Exp.					
Written off		75,000			

Debenture					
Interest		30,000			
Net profit		1,63,000			
		17,68,000			17,68,000

Statement of Reconciliation of Profit as per Financial and Cost Accounts

	Rs.	**Rs.**
Profit as per financial accounts		1,63,000
(a) Difference in valuation of stock		
Add : Raw materials – closing stock	1,200	
Work in progress – opening stock	1,300	
Finished goods – opening stock	2,000	
Closing stock	1,000	
Total (A)	5,500	
Less: Raw materials – opening stocks	1,650	
Work in progress – closing stock	750	
Total (B)	2,400	
(b) Other items (A – B)		3,100
Add : Preliminary expenses written off	75,000	
Debenture interest	30,000	
	1,05,000	
Less : Miscellaneous receipts	45,000	60,000
Profit as per Cost Accounts		2,26,100

You are required to prepare the following accounts as they were appearing in the cost ledger:

(1) Raw Material Control A/c.

(2) Work-in-Progress Control A/c.

(3) Finished Goods Control A/c.

(4) Cost of Sale A/c. and

(5) Costing Profit and Loss A/c.

Solution:

Basis calculation

Computation of items as per Cost Accounts

Particulars	**As per financial accounts Rs.**	**Valuation difference Rs.**	**As per cost accountants Rs.**
Raw materials			
Opening Stock	90000	+ 1650	91650
Closing Stock	98000	+ 1200	99200
Work– in – Process			
Opening Stock	50000	- 1300	48700
Closing stock	53000	- 750	52250
Finished Goods			
Opening Stock	70000	- 2000	68000
Closing Stock	72000	+ 1000	73000

Raw Material Control Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To Balance b/d	91650	By WIP Control A/c (balance figure)	492450
To G. L. Adj. A/c.	500000	By Balance c/d.	99200

	591650		**591650**

WIP Control Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To Balance b/d.	48700	By Finished Goods To Raw Material Control A/c. (balancing figure)	888900
To Raw Material Control A/c.	492450	By Balance C/d.	52250
To Wages Control A/c.	200000		
To Factory			
Overheads			
Control A/c.	200000		
	941150		**941150**

Finished Goods Control Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To Balance b/d.	68000	By Costing Sales A/c. (balancing figure)	1053900
To WIP Control A/c.	888000	By Balance C/d.	73000
To Admin.			
Overheads			
Control A/c.	170000		
	1126900		**1126900**

Cost of Sales Account

Particulars	Rs.	Particulars	Rs.
To Finished goods Control A/c.		By General Ledger Adjustment A/c.	1500000
To Selling and Distribution Control A/c.	220000		
To Profit Taken to Costing P & L A/c.	226100		
	1500000		**1500000**

Costing Profit & Loss Account

Particulars	Rs.	Particulars	Rs.
To Balance Transferred		By Cost of Sales A/c.	**226100**
To General Ledger Adjustment A/c.	226100		
	226100		**226100**

Q-25 The following figures have been extracted from the cost records of a manufacturing unit:

	Rs.
Stores : Opening balance	30,000
Purchases	1,60,000
Transfers from Work-in-Progress	80,000
Issues to work-in-progress	1,60,000
Issues to repairs and maintenance	20,000
Deficiencies found in stock taking	6,000
Work-In-Progress :	

Opening Balances	60,000
Direct wages applied	60,000
Overheads applied	2,40,000
Closing balance	40,000

Finished products: Entire output is sold at a profit of 10% on actual cost from work-in-progress.

Other wages incurred Rs. 70,000; overheads incurred Rs. 2,50,000.

Items not included in cost records: Income from Investments Rs. 10,000; loss in sale of capital assets Rs. 20,000.

Draw up stores control account, Work-In-Progress Control Account, Costing Profit and Loss A/c., Profit and Loss Account and Reconciliation Statement.

Solution:

(a) Costing Book

(i) Stores Control Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To Balance b/d.	30000	By Work-in-Progress Control Account	160000
To General Ledger Adjustment A/c.	160000	By Work Overhead Control A/c.	20000
To Work – in – Progress Control A/c.	80000	By Stores Control A/c.	6000
		By Costing Profit & Loss c/d.	84000
	270000		**270000**

(ii) Work-in-progress Control Account

Particulars	Rs.	Particulars	Rs.
To Balance b/d.	60000	By Stores Control A/c.	80000
To Stores Control A/c.	160000	By Costing Profit and Loss A/c. (cost of sales)	400000
To Direct Wages Control A/c.	60000	By Balance c/d.	40000
To Work Overheads control A/c	240000		
	520000		**520000**

(iii) Costing Profit and Loss Account

Particulars	Rs.	Particulars	Rs.
To Work-in-Process Control A/c. (cost of sales)	400000	By General Ledger Adjustment A/c. (sales) = 400000	
To Works Overheads Control A/c.	30000	By Cost of Sales 10 % = 40000	440000
To Stores Control A/c. (shortage)	6000	Profit	
To Profit	4000		
	440000		**440000**

(iv) Works overheads control Account

Particulars	Rs.	Particulars	Rs.
To General ledger Adjustment A/c.	250000	By Work-in-progress Account	240000
To Stores Ledger Control A/c.	20000	By Costing Profit & Loss A/c. (under – recovery)	30000
	270000		270000

Note: It has been presumed that under recovery of overheads has been transferred to Costing Profit and Loss Account

(b) Financial Books

Profit & Loss Account

Particulars	Rs.	Rs.	Particulars	Rs.	Rs.
To Opening Stock			By Sales		440000
Stores	30000		By Closing Stock :		
Work-in progress	60000		Stores	84000	
To Purchases		160000	Work-in- Progress	40000	124000
To Wages Incurred		70000	By Income from Investments		10000
To Overheads Incurred		250000	By Loss		16000
To Loss on Sales of Capital Assets		20000			
		590000			590000

Reconciliation Statement

	(Rs. +)	(Rs. –)
Profit as per costing records	4000	
Less : Under absorption of wages		10000
Items not included in cost accounts	10000	
Add : Income from investment		20000

Less : Loss on sale of capital assets	14000	
Loss as per financial books	16000	
	30000	30000

Q26. A company operates separate cost accounting and financial system. The following is the list of opening balances as on 1-4-2009 in the cost ledger:

Particulars	**Debit Rs.**	**Credit Rs.**
Stores Ledger Control Account	53,375	
WIP Control Account	1,04,595	
Finished Goods Control Account	30,780	
General Leger Adjustment Account	--	1,88,750

Transactions for the quarter ended 30-6-2009 are as under:

	Rs.
Material purchased	26,700
Material issued to production	40,000
Materials issued for factory repairs	900
Factory wages paid(including indirect wages Rs. 23,000)	77,500
Production overheads incurred	95,200
Production overheads under – absorbed and written – off	3,200
Sales	2,56,000

The company's gross profit is 25% on factory cost at the end of the quarter, WIP stocks increased by Rs. 7,500/-.

Prepare the relevant Control Account, Costing Profit and Loss Account and General Ledger Adjustment Account to record the above transactions for the quarter ended 30-6-2009.

Solution:

General Ledger Adjustment A/c.

Particulars	Rs	Particulars	Rs.
To Sales	2,56,000	By Balance b/d	1,88,750
To Balance C/d.	1,80,150	By Stores Ledger Control A/c.	26,700
		By Wages Control A/c.	77,500
		By Overheads Control A/c.	95,200
		By Costing Profit & Loss A/c.	48,000
	436150		**436150**

Stores Ledger Control A/c

Particulars	Rs.	Particulars	Rs.
To Balance b/d.	53,375	By WIP Control A/c.	40,000
To General Ledger Adjustment A/c.	26,700	By Factory Overheads Control A/c.	900
		By Balance C/d.	39,175
	80,075		80,075

WIP Control A/c

Particulars	Rs.	Particulars	Rs.
To Balance b/d.	1,04,595	By Finished Goods Control A/c.	2,02,900
To Stores Ledger Control A/c.	40,000	By Balance c/d	1,12,095

To Wages Control A/c.	54,000		
To Factory overheads Control A/c.	1,15,900		
	3,14,995		**3,14,995**

Finished Goods Control A/c.

Particulars	**Rs.**	**Particulars**	**Rs.**
To Stores Ledger Control A/c.	900	By Costing Profit & Loss A/c	3200
To Wages Control A/c.	23,000	By WIP Control A/c.	1,15,900
To General Ledger Adjustment A/c.	95000		
	1,19,100		**1,19,100**

Cost of Sales A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
To Finished Goods Control A/c.	2,04,800	By General ledger Adjustment A/c.	2,04,800

Sales A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
To Costing Profit & Loss A/c.	2,56,000	By General Ledger Adjustment A/c.	2,56,000

Wages Control A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
To General Ledger Adjustment A/c.	77,500	By Factory Overheads Control A/c.	23,000
		By WIP Control A/c.	54,500
	77,500		**77,500**

Closing Profit & Loss A/c

Particulars	Rs.	Particulars	Rs.
To Factory O.H. Control A/c.	3,200	By Sales A/c.	2,56,000
To Cost of sales A/c.	2,04,800		
To General Ledger Adj. A/c.	48,000		
	256000		**256000**

Trial Balance (as on 30-6-2009)

Particulars	Dr.	Cr.
Stores Ledger Control A/c.	39,175	
WIP Control A/c.	1,12,095	
Finished Goods Control A/c.	28,880	
General Ledger Adjustment A/c.		1,80,150
	1,80,150	1,80,150

Q-27 As of 31st March, 2008 the following balances existed in a firm's cost ledger, which is maintained separately on a double entry basis:

Particulars	Debit	Credit
Stores Ledger Control A/c.	3,00,000	
Work – in – Progress Control A/c.	1,50,000	
Finished Goods Control A/c.	2,50,000	
Manufacturing overheads Control A/c.		15,000
Cost Ledger Control		6,85,000
	7,00,000	7,00,000

During the next quarter, the following items arose:

Particulars	Rs.
Finished product (at cost)	2,25,000
Manufacturing overhead incurred	85,000
Raw material purchased	1,25,000
Factory wages	40,000
Indirect Labour	20,000
Cost of sales	1,75,000
Materials issued to production	1,35,000
Sales returned (at cost)	9,000
Materials returned to suppliers	13,000
Manufacturing overhead charged to production	85,000

You are required to prepare the cost ledger control A/c., Stores Ledger Control A/c., Work-in-Progress Control A/c., Finished Stock Ledger Control A/c. Manufacturing Overheads Control A/c. Wages Control A/c. Cost of Sales A/c. and the Trial Balance at the end of the quarter.

Solution:

Cost Ledger Control A/c

Particulars	Rs.	Particulars	Rs.
To Stores Ledger Control A/c.	13,000	By Opening Balance	6,85,000
To Balance c/d	9,42,000	By Stores Ledger Control A/c	1,25,000
		By Mfg. Overheads Control A/c.	85,000
		By Wages Control A/c.	60,000
	9,55,000		**9,55,000**

Stores Ledger Control A/c

Particulars	Rs.	Particulars	Rs.
To Opening Balance	3,00,000	By WIP Control A/c.	1,35,000
To Cost Ledger Control A/c.	1,25,000	By Cost Ledger Control A/c. (returns)	13,000
		By Balance c/d	2,77,000
	4,25,000		**4,25,000**

WIP Control A/c

Particulars	Rs.	Particulars	Rs.
To Opening Balance	1,50,000	By Finished Stock Ledger Control A/c	2,25,000
To Wages Control A/c.	40,000	By Balance c/d.	1,85,000
To Stores Ledger Control A/c.	1,35,000		
To Mfg. Overheads Control A/c.	85,000		
	4,10,000		**4,10,000**

Finished Stock Ledger Control A/c

Particulars	Rs.	Particulars	Rs.
To Opening Balance	2,50,000	By Costs of Sales	1,75,000
To WIP Control A/c.	2,25,000	By Balance c/d.	3,09,000
To Cost of Sales A/c. (Sales returns)	9,000		
	4,84,000		**4,84,000**

Manufacturing Overhead Control A/c

Particulars	Rs.	Particulars	Rs.
To Cost Ledger Control A/c.	85,000	By Opening Balance	15,000

To Wages Control A/c.	20,000	By WIP Control A/c.	85,000
		By Under Recovery C/d.	5,000
	1,05,000		**1,05,000**

Wages Control A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
To Cost Ledger Control A/c. (transfer)	60,000	By WIP Control A/c	40,000
		By Mfg. Overheads Control A/c.	20,000
	60,000		**60,000**

Cost of Sales A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
To Finished Stock Ledger Control A/c.	1,75,000	By Finished stock Ledger Control A/c. (sales return)	9,000
		By Balance c/d.	1,66,000
	1,75,000		**1,75,000**

Trial Balance

Particulars	**Rs.**	**Particulars**	**Rs.**
To Stores Ledger Control A/c.	2,77,000	By Cost Ledger Control A/c.	9,42,000
To WIP Control A/c.	1,85,000		
To Finished Goods Ledger Control A/c.	3,09,000		
To Mfg. Overheads Control A/c.	5000		
To Cost of Sales A/c.	166000		
	942000		**942000**

Q-28 X Ltd; operates batch costing system fully integrated with financial accounts. The information is furnished to you:

Balance at beginning of the month:

Particulars	**Rs.**
Stores Ledger Control A/c.	24,175
Work – in – Progress Control A/c.	19,210
Finished goods Control A/c.	34,170
Pre-payment of factory overheads brought from the last month	2,100
Transactions during the month :	
Materials purchased	76,150
Issued to production	26,350
Issued for maintenance	3,280
Transferred between batches	1,450

Particulars	**Debit**	**Credit**
Total wages paid – net	17,600	3,300
Employees deduction	4,400	825
Direct wages charged to batches from work tickets	15,400	
Recorded non-productive time of direct workers	6,600	
Wages paid to workers engaged in production of capital equipment	2,670	
Selling and distribution overheads incurred	5,240	
Other production overheads incurred	12,200	
Sales	75,400	
Cost of finished goods sold	59,830	
Cost of goods completed and transferred to finished goods store during the month	62,130	

The production overhead absorption rate is 150 % of direct wages. This overhead absorption orate would also be charged to cost of production of capital equipment in the factory.

Required:

1) Stores ledger control account

2) Work-in-progress control account

3) Finished goods control account

4) Production overhead control account

5) Profit and Loss Account

Solution:

Stores Ledger Control A/c.

Particulars	**Rs.**	**Particulars**	**Rs.**
Balance b/d	24175	Work-in-progress control A/c.	26350
Creditors – material Purchased	76150	Production overheads Control A/c.	3280
		Balance c/d.	70695
	100325		**100325**

Work-in-Progress Control A/c.

Particulars	**Rs.**	**Particulars**	**Rs.**
Balance b/d.	19210	Finished goods Control A/c.	62130
Stores Ledger Control A/c.	26350	Balance c/d.	21930
Wages Control A/c.			

- Direct Wages	15400		
Production Overheads Control A/c. (Rs. 15400 x 15 %)	23100		
	84060		**84060**

Finished Goods Control A/c

Particulars	**Rs.**	**Particulars**	**Rs.**
Balance b/d.	34170	Profit & Loss A/c. cost of sales	59830
Work-in-Progress Control a/c.	62130	Balance c/d.	36470
	96300		**96300**

Production Overhead Control Account

Particulars	**Rs.**	**Particulars**	**Rs.**
Payment B/d.	2100	Work-in-progress Control A/c. (15% of Rs. 15400) Capital equipment – under	23100
Stores Ledger Control A/c.	3280	Absorbed production Overheads (150 % of Rs. 15400)	4005
Wages Control A/c. - Indirect Wages	4125	Profit and Loss A/c. (under Absorbed overheads – balance Figure)	1200
Wages Control A/c.			
Idle time of direct workers	6600		
Cash creditors – other Production overheads incurred	12200		

Profit and Loss A/c

Particulars	Rs.	Particulars	Rs.
Cost of goods sold	59830	Sales	75400
Gross profit c/d	15570		
	75400		**75400**
Selling and Distribution Overheads	5240	Gross Profit b/d	15570
Production Overheads Control A/c.	1200		
Unabsorbed			
Overheads			
Net profit c/d	9130		
	15570		**15570**

Q-29 Following transactions took place in Willu & Co. during the month of March, 1993 :

1	**Raw material purchased on credit Rs.**	40,000
2	Direct material issued to production	30,000
3	Wage paid (30% indirect)	24,000
4	Manufacturing expenses incurred (cash)	16,800
5	Manufacturing overhead charged to production	16,000
6	Selling and distribution cost (cash)	4,000
7	Finished goods at cost	40,000
8	Sales	58,000
9	Receipts from debtors	13,800
10	Payments to creditors	22,000

You are required to journalize the above transactions presuming that integrated system of accounting is followed by Willu & Co.

Solution:-

Willu & Co.

Journal (Integral Accounting System)

			Dr.	Cr.
1.	Stores Control A/c	Dr.	40,000	
	To Creditors A/c			40,000
	(Being the raw material purchased on credit)			
2.	Work-in-progress A/c	Dr.	30,000	
	To Stores Control A/c			30,000
	(Being the material issued to jobs)			
3. (a)	Wages Control A/c	Dr.	24,000	
	To Cash			24,000
	(Being the entry for direct and indirect wages paid)			
(b)	Work-in-progress A/c	Dr.	16,800	
	Production overhead A/c	Dr.	7,200	
	To Wages Control A/c			24,000
	(Being the entry for direct and indirect wages)			
4.	Production overhead A/c	Dr.	16,800	
	To Cash			16,800
	(Being the production overhead incurred)			
5.	Work-in-progrees A/c	Dr.	16,000	
	To Production overhead A/c			16,000
	(Being the ovrehead charged to production)			

6.	Selling and Distribution overhead A/c	Dr.	4,000	
	To Cash			4,000
	(Being the selling and distribution expenses Incurred)			
7.	Finished goods A/c	Dr.	40,000	
	To work-in-progress A/c			40,000
	(Being the cost of production of finished goods)			
8.	Debtors A/c	Dr.	58,000	
	To Sale A/c			58,000
	(Being the amount of sale)			
9.	Bank A/c	Dr.	13,800	
	To Debtors A/c			13,800
	(Being the receipt from debtors)			
10.	Sundry Creditors A/c	Dr.	22,000	
	To Cash			22,000
	(Being the amount paid to creditors)			

Q-30 ABC Manufacturing Company has the following balances in its integrated ledger as on 1st January, 1993 :

	Rs.
Share Capital	2,00,000
Reserves	50,000
Sundry debtors	40,000
Plant and machinery	2,50,000
Sundry creditors	60,000
Bank overdraft	80,000
Raw materials	1,00,000

Transactions during the year ended 31st December, 1993 were as follows :

Raw material purchased on credit	1,60,000
Raw material issued to production	2,00,000
Raw materials on hand on 31/12/93	52,000
Direct wages – incurred	1,90,000
- charged production	1,86,000
Manufacturing expenses – incurred	1,75,000
- charged to production	1,86,000
Selling and distribution expenses	20,000
Finished Stock - Production (at cost)	3,82,000
- Sales (at selling price)	5,72,000
Payment to creditors	1,70,000
Receipts from debtors	6,00,000

You are required to –

(a) Write up and close off the ledger accounts.

(b) Prepare a trial balance of the closing balances, and

(c) Prepare profit and loss account and a balance sheet.

Solutions:-

Intergral Ledger

Dr. **Store Control A/c.** **Cr.**

	Rs.		Rs.
To Balance b/d	1,00,000	By Work-in-progress A/c	2,00,000
To Creditors A/c	1,60,000	By Inventory Adj. A/c	8,000
		By Balance c/d	52,000
	2,60,000		**2,60,000**

Dr. **Work-in-progress A/c** **Cr.**

	Rs.		Rs.
To Stores Control A/c	2,00,000	By Finished stock A/c	3,82,000
To Wages Control A/c	1,86,000	By Balance c/d	1,90,000
To Production overhead A/c	1,86,000		
	5,72,000		**5,72,000**

Dr. **Finished Goods A/c** **Cr.**

	Rs.		Rs.
To Work-in-progress A/c	3,82,000	By Cost of sales A/c	3,82,000
	3,82,000		**3,82,000**

Dr. **Wages Control A/c** **Cr.**

	Rs.		Rs.
To Bank	1,90,000	By W.I.P. A/c	1,86,000
		By Balance c/d	4,000
	1,90,000		**1,90,000**

Dr. **Production Overhead A/c** **Cr.**

	Rs.		Rs.
To Bank	1,75,000	By W.I.P. A/c	1,86,000
To Balance c/d	11,000		
	1,86,000		**1,86,000**

Dr. **Selling and Distribution Expenses A/c** **Cr.**

	Rs.		Rs.
To Bank	20,000	By cost of Sales A/c	20,000
	20,000		**20,000**

Dr. **Cost of Sales A/c** **Cr.**

	Rs.		Rs.
To Finished stock A/c	3,82,000	By Balance c/d	4,02,000
To Selling and Distribution Overhead A/c	20,000		
	4,02,000		**4,02,000**

Dr. **Sales A/c** **Cr.**

	Rs.		Rs.
To Balance c/d	5,72,000	By Debtors A/c	5,72,000
	5,72,000	By Balance b/d	**5,72,000**

Dr. **Share Capital A/c** **Cr.**

	Rs.		Rs.
		By Balance b/d	2,00,000

Dr. **Reserve A/c** **Cr.**

	Rs.		Rs.
		By Balance b/d	50,000

Dr. **Plant and Machinery A/c** **Cr.**

	Rs.		Rs.
To Balance b/d	2,50,000		

Dr. **Sundry Debtors A/c** **Cr.**

	Rs.		Rs.
To Balance	40,000	By Bank A/c	6,00,000
To Sales	5,72,000	By Balance c/d	12,000
	6,12,000		**6,12,000**

Dr. **Sundry Creditors A/c** **Cr.**

	Rs.		Rs.
To Bank	1,70,000	By Balance b/d	60,000
To Balance c/d	50,000	By Stroes Control A/c	1,60,000
	2,20,000		**2,20,000**

Dr. **Bank Account** **Cr.**

	Rs.		Rs.
To Sundry Debtor's A/c	6,00,000	By Balance b/d	80,000
To Balance c/d	35,000	By Wages control A/c	1,90,000
		By Wages Control A/c	1,75,000
		By Wages Control A/c	20,000
		By Sundry Creditor's A/c	1,70,000

	6,35,000		**6,35,000**

Dr. **Inventory Adjustment A/c** **Cr.**

	Rs.		**Rs.**
To Store Ledger control A/c	8,000	By Balance c/d	8,000
	8,000		**8,000**

Trial balance as on 31st December, 1993

		Dr.	**Cr.**
1.	Share Capital		2,00,000
2.	Reserve Account		50,000
3.	Sundry Debtors	12,000	
4.	Sundry Creditors		50,000
5.	Plaint and Machinery A/c	2,50,000	
6.	Bank Account		35,000
7.	Stores Ledger Control A/c	52,000	
8.	Work-in-progress A/c	1,90,000	
9.	Wages Control Account	4,000	
10.	Production Overhead A/c		11,000
11.	Inventory Adjustment A/c	8,000	
12.	Cost of Sales Account	4,02,000	
13.	Sales Account	-	5,72,000
		9,18,000	**9,18,000**

Dr. **Cr.**

	Rs.		**Rs.**
To Cost of Sales A/c	4,02,000	By Sales A/c	5,72,000

To Inventory Adjustment A/c	8,000	By Production overhead A/c	11,000
To Wages control A/c	4,000		
To Net profit	1,69,000		
	5,83,000		**5,83,000**

Balance Sheet

As at 31st December, 1993

Liabilities	**Amount**	**Assets**	**Amount**
Share Capital	2,00,000	Plant and machinery	2,50,000
Reserve	50,000	**Stock of :**	
Profit	1,69,00	Finished good	52,000
Sundry Creditors	50,000	W.I.P.	1,90,000
Bank overdraft	35,000	Sundry Debtors	12,000
	5,04,000		**5,04,000**

Q-31. Journalise the following transactions assuming that cost and financial accounts are integrated.

Particulars	**Rs.**
Raw material purchased	1,50,000
Direct materials issued to production	1,12,500
Wages paid (30% Indirect)	90,000
Wages charged to production	75,000
Manufacturing expenses incurred	63,000
Manufacturing overhead charged to production	69,000
Selling and Distribution costs	15,000

Finished Product at cost	1,50,000
Sales	2,25,000
Receipts from customers	52,500
Paid to creditors	82,500
Closing Stock	NIL

Solution:

Sr. No	Particulars	Amount	Amount
1	Stores Ledger Control A/c	1,50,000	
	To Bought Ledger Control A/c (Being raw materials bought)		1,50,000
2	Work-in-progress Ledger Control A/c	1,12,500	
	To Stores Ledger Control A/c (Being materials issued for production)		1,12,500
3	Wages Control A/c	63,000	
	Factory Overhead Control A/c	27,000	
	To Bank A/c (Being wages paid)		90,000
4	Work-in-progress Ledger Control A/c	75,000	
	To Wages Control A/c		52,500
	To Factory Overhead Control A/c (Being allocation of wages to production)		22,500
5	Factory Overhead Control A/c	63,000	
	To Bank A/c (Being the manufacturing expenses incurred		63,000
6	Work-in-progress Ledger Control A/c	69,000	
	To Factory Overhead Control A/c (Being overheads charged to production)		69,000

7	Selling & Distribution overhead Control A/c	15,000	
	To Bank A/c (Being selling and distribution cost incurred)		15,000
8	Finished Stores Ledger Control A/c	1,50,000	
	To Work-in-progress Ledger Control A/c (Being cost of production of completed jobs)		1,50,000
9	Cost of Sales A/c	1,65,000	
	To Finished Stock Ledger Control A/c		1,50,000
	To selling & Distribution overhead Control A/c (Being the cost of production sold)		15,000
10	Sales Ledger Control A/c	2,25,000	
	To Sales (Being the amount of sales)		2,25,000
11	Bank A/c	52,500	
	To Sales Ledger Control A/c (Being amount received from customers)		52,500
12	Bought Ledger Control A/c	82,500	
	To Bank A/c (Being amount paid to Creditors)		82,500

Q-32. From the following information you are requested to pass journal entries and prepare necessary accounts under the system of integrated accounts.

particular	**Rs.**
Material purchased on credit	1,48,000
Wages paid	1,68,000
Wages productive	1,48,000
Wages unproductive	20,000
Material issued to production	1,28,000

Works expenses incurred	65,000
Works expenses charged to production	86,000
Office and administration expenses paid	44,000
Office and administration expenses charged to production	43,500
Selling overhead paid	45,000
Selling overheads charged to sales	45,000
Sales Credit	3,90,000

Solution:

Journal

Particulars	**Rs.**	**Rs.**
Stores ledger control A/c	1,48,000	
To Creditors (Being the stores purchased on credit)		1,48,000
Wages control A/c	1,68,000	
To cash (Being wages paid)		1,68,000
Work-in-progress control A/c	1,48,000	
To Wages control A/c (Being the wages charged to production)		1,48,000
Works expenses control A/c	20,000	
To Wages control A/c (Being the wages charged to work expenses Since these are indirect payments)		20,000
Work-in-progress control A/c	1,28,000	
To Stores ledger control A/c (Being materials issued to production)		1,28,000

Works expenses control A/c	65,000	
To cash (Being works expenses paid during the year		65,000
Work-in-progress control A/c	86,000	
To works expenses control A/c (Being the works expenses charged to production)		86,000
Office and adm. Expenses control A/c	44,000	
To cash (Being amount paid for office expenses)		44,000
Work-in-progress control A/c	43,500	
To office and Adm. Expenses control A/c (Being office and adm. Exp. charged to production)		43,500
Cost of sales A/c	3,00,000	
To work-in-progress control A/c (Being the finished product transferred)		3,00,000
Selling expenses control A/c	45,000	
To cash (Being the selling expenses incurred)		45,000
Cost of sales A/c	45,000	
To Selling expenses control A/c (Being selling expenses charged to sales)		45,000
Debtors A/c	3,90,000	
To Sales A/c (Being sales made on credit)		3,90,000

Stores Ledger Control A/c

Particulars	Rs.	Particulars	Rs.
To Creditors	1,48,000	By Work-in-progress control A/c	1,28,000
		By Balance c/d	20,000
	1,48,000		**1,48,000**

Wages Control A/c

Particulars	Rs.	Particulars	Rs.
To Creditors	1,68,000	By Work-in-progress control A/c	1,48,000
		By work expense control A/c	20,000
	1,68,000		**1,68,000**

Works Expenses Control A/c

Particulars	Rs.	Particulars	Rs.
To Wages control A/c	20,000	By work-in-progress control A/c	86,000
To Cash	65,000		
To Balance c/d	1,000		
	86,000		**86,000**

Office & Administrative Expenses Control A/c

Particulars	Rs	Particulars	Rs
To Cash A/c	44,000	By work-in-progress control A/c	43,500
		By Balance c/d	500
	44,000		**44,000**

Selling Expenses Control A/c

Particulars	Rs	Particulars	Rs
To Cash A/c	45,000	By Cost of Sales A/c	45,000

Work – in- Progress Control A/c

Particulars	Rs	Particulars	Rs
To Wages control A/c	1,48,000	By cost of sales A/c	3,00,000
To Stores ledger A/c	1,28,000	By Balance c/d	1,05,500
To Works expenses A/c	86,000		
To office & adm. Expenses	43,500		
	4,05,500		**4,05,500**

Q-33 From the following particulars, pass journal entries in an integrated system of accounting in the books of Big `B' Ltd.

Particulars	Rs.
Raw materials purchased (80% on credit)	5,90,000
Materials issued to production	4,45,000
Tools wages paid	2,50,000
Wages charged to production	1,80,000
Factory overheads incurred	1,90,000
Factory overheads charged to production	1,60,000
Office overhead incurred	1,10,000
Office overheads applied to Finished Goods	85,000
Selling and Distribution overheads incurred	48,000
Selling and Distribution overheads applied to cost of sales	36,000
Finished goods produced	5,00,000
Materials lost by fire	10,000
Materials issued for construction of building	40,000

Solution:

Journal Entries in the books of Big B Ltd.

Sr. No.	Particulars	Dr. Rs.	Cr. Rs.
1	Stores Ledger Control A/c	5,90,000	
	To Creditors A/c		4,72,000
	To Bank A/c (Being raw materials purchased)		1,18,000
2	WIP Control A/c	4,45,000	
	To Stores Ledger Control A/c (Being direct materials issued for production)		4,45,000
3	Wages Control A/c	2,50,000	
	To Cash / Bank / A/c (Being payment of wages)		2,50,000
4	WIP Control A/c	1,80,000	
	To Wages Control A/c (Being wages charged to production)		1,80,000
5	Factory Overhead Control A/c	1,90,000	
	To Cash / Bank A/c (Being factory overhead incurred)		1,90,000
6	WIP Control A/c	1,60,000	
	To Factory Overhead Control A/c (Being factory overhead charged to production)		1,60,000
7	Office Overhead Control	1,10,000	
	To Cash / Bank A/c (Being administrative overhead incurred)		1,10,000
8	Finished Goods Control A/c	85,000	

	To office overhead Control A/c (Being office overhead applied to finished goods)		85,000
9	Selling and Distribution Control A/c	48,000	
	To Cash / Bank A/c (Being selling and distribution overhead paid)		48,000
10	Cost of Sales A/c Dr.	36,000	
	To Selling and Distribution overhead control A/c (Being cost selling overhead charged to cost of sales A/c)		36,000
11	Finished Goods Control A/c	5,00,000	
	To WIP Control A/c (Being production cost of finished goods transferred to finished stock A/c)		5,00,000
12	Costing P & L A/c	10,000	
	To Stores Ledger Control A/c (Being material lost by fire)		10,000
13	Building A/c	40,000	
	To Stores Ledger Control A/c (Being material issued for construction of building)		40,000

Q-34 Prepare Income statements under Absorption Costing and under Marginal costing from the following information relating to the year 2001-02:

Opening Stock = 1,000 units valued at Rs. 70,000 including variable cost of Rs. 50 per unit.

Fixed cost = Rs. 1, 20,000

Variable cost = Rs. 60 per unit

Production = 10,000 units

Sales = 7,000 units @ Rs. 100 unit

Stock is valued on the basis of FIFO

Solution:-

INCOME STATEMENT (Under Absorption Costing)

		Rs.	Rs.
	Sales (7,000 units @ Rs. 100 per unit)		7,00,000
Less :	Cost of Goods Manufactured :		
	Variable cost (10,000 unit @ Rs. 60 per unit)	6,00,000	
	(Rs. 1,20,000)	1,20,000	
	Fixed cost (10,000 units = Rs. 12 per unit)	7,20,000	
		70,000	
Add :	Value of Opening Stock	7,90,000	
Less :	Value of Closing Stock (4,000 units @ Rs. 72 per unit)	2,88,000	
			5,02,000
	Profit		**1,98,000**

INCOME STATEMENT (Under Marginal Costing)

		Rs.	Rs.
	Sales		7,00,000
	Variable cost	6,00,000	
Add:	Value of Opening Stock (1,000 units @ Rs. 50 per unit)	50,000	
		6,50,000	
Less :	Value of Closing Stock (4,000 units @ Rs. 60 per unit)	2,40,000	
			4,10,000

	Contribution		2,90,000
Less :	Fixed Cost		1,20,000
	Profit		**1,98,000**

Q-35 Your Company has a production capacity of 12,500 units and normal capacity utilisation is 80%. Opening inventory of finished goods on 1-1-1999 was 1,000 units. During the year ending 31-12-1999, it produced 11,000 units while it sold only 10,000 units.

Standard variable cost per unit is Rs, 6.50 and standard fixed factory cost per unit is Rs. 1.50. Total fixed selling and administration overhead amounted to Rs. 10,000. The company sells its product at Rs. 10 per unit.

Prepare Income Statements under Absorption Costing and Marginal Costing. Explain the reasons for difference in profit, if any.

Solution:-

INCOME STATEMENT (Absorption Costing)

		Rs.	**Rs.**
	Sales (10,000 units @ Rs. 10)		1,00,000
	Variable factory cost (11,000 units @ Rs. 6.50)	71,500	
	Fixed factory cost (11,000 units @ Rs. 1.50)	16,500	
		88,000	
		8,000	
Add :	Opening stock (1,000 units @ Rs. 8)	96,000	
Less :	Closing stok (2,000 units @ Rs. 8)	80,000	
Less :	Over-absorption (1,000 units @ Rs. 1.50)	1,500	

		78,500	
Add :	Selling and administration overhead	10,000	
	Total cost		88,500
	Profit		**11,500**

INCOME STATEMENT (Marginal Costing)

		Rs.	**Rs.**
	Sales (10,000 units @ Rs. 10)		1,00,000
	Variable cost (11,000 units @ Rs. 6.50)	71,500	
Add :	Opening Stock (1,000 units @ Rs. 6.50)	6,500	
		78,000	
Less :	Closing Stok (2,000 units @ Rs. 6.50)	13,000	
	Variable cost of Manufacture		65,000
	Contribution		35,000
Less :	Fixed cost – Factory (10,000 x Rs. 1.50)	15,000	
	Selling and Administration	10,000	
			25,000
	Profit		**10,000**

The difference in profits Rs. 1,500 (i.e. Rs. 11,500 – Rs. 10,000) as arrived at under absorption costing and marginal costing is due to the element of fixed factory cost included in the valuation of opening stock and closing stock as shown below :

	Opening Stock Rs	**Closing Stock Rs**
Absorption Costing	8,000	16,000
Marginal Costing	6,500	13,000
	1,500	3,000

Net Difference = Rs. 3,000 – Rs. 1,500

Q-36 If the Budgeted output is 80,000 units, Fixed cost is Rs. 4,00,000, Selling price per unit is Rs. 20 and variable cost per unit is Rs. 10, find out BEP sales, BEP in units, P/V ratio and indicate the margin of safety.

Solution:-

	Rs. Per Unit
Selling Price	20
Less: Variable Cost	10
Contribution	10

P/V Ratio $= \frac{\textbf{\textit{Contribution}}}{\textbf{\textit{Sales}}} = \frac{10}{20} = 0.5$

Break Even Sales (Rs.) $= \frac{\textbf{\textit{Fixed Cost}}}{\textbf{\textit{P/V Ratio}}} = \frac{Rs.4,00,000}{0.5} = Rs.8,00,000$

Break Even Sales (Units) $= \frac{\textbf{\textit{Fixed Cost}}}{\textbf{\textit{Contribution Per Unit}}} = \frac{\text{Rs.4,00,000}}{\text{Rs.10}} = 40{,}000 \text{ Units}$

Margin of Safety Sales = Budgeted Output– Break Even Sales

Margin of Safety (Units) = 80,000 – 40,000 = 40,000 Units

Margin of Safety Sales (Rs.) = Margin of Safety Units x Selling Price Unit

= 40,000 x 10

= Rs. 4,00,000

Q-37 From the following information calculate:

(a) Break – Even Point.

(b) P/V Ration

(c) Profit

(d) Profit at 75% capacity,

(e) Profit at 100% capacity

(1) Budgeted Sales Rs. 2,00,000 (80% capacity)

(2) Direct Materials 30% of Sales.

(3) Direct labor 20% on sales.

(4) Variable Overheads (Factory) 10% on sales.

(5) Variable Overheads (Administration) 15% of sales**.**

(6) Fixed Cost Rs. 30,000

Solution:-

		Activity Level	
Particulars	**75% Rs.**	**80% Rs.**	**100% Rs.**
Sales	1,87,5000	2,00,000	2,50,000
Less : Variable Cost :			
Direct Material (30%)	56,250	60,000	75,000
Direct Labour (20%)	37,500	40,000	50,000
Factory Overheads (10%)	18,750	20,000	25,000
Administration Overheads (15%)	28,125	30,000	37,500
Total Variable Expenses	**1,40,625**	**1,50,000**	**1,87,500**
Contribution	46,875	50,000	62,500
Less : Fixed Cost	30,000	30,000	30,000

(3) Profit	**16,875**	**20,000**	**32,500**
(1) BEP $\frac{Fixed\ Cost}{P/V\ Ratio}$	**30,000** 0.25	**30,000** 0.25	**30,000** 0.25
	1,20,000	1,20,000	1,20,000
(2) P/V Ratio $\frac{Contribution}{Sales}$	$\frac{46,875}{1,87,500}$	$\frac{50,000}{2,00,000}$	$\frac{62,500}{2,50,000}$
	= 0.25	= 0.25	= 0.25

Q-38 Company X and Company Y, both under the same management, makes and sells the same type of product. This budgeted Profit and Loss Accounts for January – June, 2005, are as under:

	Company `X'		**Company `Y'**	
Particulars	**Rs.**	**Rs.**	**Rs.**	**Rs.**
Sales		6,00,000		6,00,000
Less : Variable Cost	4,80,000		4,00,000	
Fixed Cost	60,000	5,40,000	1,40,000	5,40,000
Profit		60,000		60,000

You are required to:

(i) Calculate the Break-Even Point for each company.

(ii) Calculate the sales volume at which each of the two companies with profit of Rs. 20,000.

(iii) Calculate margin of Safety for both the companies.

Solution:

Marginal Cost Sheet

Particulars	X	Y
Sales	6,00,000	6,00,000
Less : Variable Cost	4,80,000	4,00,000
Contribution	1,20,000	2,00,000
Less : Fixed Cost	60,000	1,40,000
Profit	60,000	60,000

(1) P/V Ration $= \frac{Contribution}{Sales}$

X Y

$\frac{1,20,000}{6,00,000}$ $\frac{1,20,000}{6,00,000}$

= 0.2 = 0.33

(2) BEP (Rs.) $= \frac{Fixed\ Cost}{P/V\ Ratio}$

X Y

$\frac{60,000}{0.2}$ $\frac{1,40,000}{0.33}$

= Rs. 3,00,000 = Rs. 4,20,000

(3) Sales requited to earn a desired profit = $\frac{Fixed\ cost + Target\ Profit}{P\ /\ V\ Ratio}$

X Y

$\frac{60,000 + 20,000}{0.2}$ $\frac{1,40,000 + 20,000}{0.33}$

= Rs. 4,00,000 = Rs 4,80,000

(4) MOS (Rs.) $= \frac{Profit}{P\ /\ V\ Ratio}$

X	Y
$\frac{60,000}{0.2}$	$\frac{60,000}{0.33}$
= Rs. 3,00,000	= Rs 1,80,000

Q-39 A company has annual fixed costs of Rs. 14,00,000. In 2001 sales amounted to Rs, 60,00,000 as company red with Rs. 45,00,000 in 2000 and profit in 2001 was Rs. 4,20,000 higher than in 2000 :

(i) At what level of sales does the company break-even?

(ii) Determine profit or loss on a present sales volume of Rs. 80,00,000.

(iii) If there is reduction in selling price in 2002 by 10% and the company desires to earn the same profit as in 2001, what would be the required sales volume?

Solution:-

$\frac{\text{Change in profit}}{\text{Change in sales}} \times 100$ $\frac{\text{Rs.4,20,000}}{\text{Rs.15,00,000}} \times 100$ =28%

(i) Break Even Point =$\frac{\text{Fixed Cost}}{\text{P/V Ratio}}$ $\frac{\text{Rs.14,00,000}}{\text{Rs.28}}$ x 100 = **Rs. 50,00,000**

(ii) Profit = (Sales x P/V ratio) – Fixed cost

(Rs. 80,00,000 x 28%) – Rs. 14,00,000

= Rs. 8,40,000

(iii) Contribution in 2001 = 28% x Rs. 60,00,000 = Rs. 16,80,000

This has to be maintained.

In 2002, the sales volume and contribution consequent upon 10% reduction in price are:

Sales (Rs. 60,00,000 – 10%) Rs. 54,00,000

Contribution Rs. 10,80,000

(Rs. 16,80,000 – 10% of Rs. 60,00,000)

P/V ratio $\frac{Rs.10,80,000}{Rs.54,00,000}$ x 100 = 20%

Required Sales Volume = $\frac{Contribution}{P/V\ Ratio}$ = $\frac{Rs.16,80,000}{20\%}$ **= Rs. 84,00,0**

Q-40 Yes Ltd manufacture a single product the standard cost of which is as follows:

Material A 60% @ Rs20/ per Kg.

Material B 40% @ Rs10/ per Kg.

Normal lost is 20% of input. Due to shortage of material A the standard mix was changed. Actual result for January 2011 were as follows :

Material A – 105 Kg. @ Rs20/ per kg.

Material B – 95 Kg @ Rs9/ per Kg.

Input 200 kg

Loss 35 Kg

Output 165 Kg

Calculate A Material cost variance B Material price variance C Material usage variance D material mix variance E material yield variance.

Solution:

A Material Cost Variance is = Standard cost of Material used – Actual cost of material

Rs 3300 – Rs2955 = Rs345F

Actual cost of material used

A -105kg @ Rs20 = Rs2100

B – 95 kg @ Rs9 = Rs 855

Total = Rs2955

Standard cost of material = A 123.75 @ Rs20 = Rs2475

B 82.5 @ Rs 10 = Rs825

Total = Rs3300

123.75 = 120 X 165/160 82.5 = 80X 165/160

B Material price variance = Actual quantity (Standard price – Actual price)

A = 105(20-20) = 0

B = 95 (10-9) = 95F

Total = 95F

C Material usage variance = standard price (standard quantity – actual quantity)

A = 20X (495/4-105) = 375 F

B = 10 (165/2-95) = 125 A

Total = 250 F

D Material Mix variance =standard price (revised standard quantity-actual quantity)

A = 20(120-105) = 300 F

B = 10 (80-95) = 150 A

Total = 150 F

E Material yield variance = standard price (actual output – standard output) .

20 (165-160) = 100 F

Standard price of output

Material A= 60 x 20 = Rs. 1200

Material B= 40 x 10 = Rs. 400

Total = 100 = Rs. 1600

Loss 20

Output 80

Standard Cost Price = Rs. 1600/80 = Rs. 20

Q-41 Standard labour hours and rate for production of one unit of article A is given below:

Particulars	**Per unit Hours**	**Rate per Hours**	**Total Rs**
Skilled workers	5	1.50	7.50
Unskilled workers	8	.50	4.00
Semi – skilled workers	4	.75	3
		Total	**14.50**

Actual Data

Articles Produces 1000 units

Particulars	**Hours**	**Rate per Hours**	**Total Rs**

Skilled workers	4500	2	9000
Unskilled workers	10000	.45	4500
Semi – skilled workers	4200	0.75	3150
		Total	**16650**

Calculated

1 Labour cost variance

2. Labour rate variance

3. Labour efficiency variance

4. labour mix variance

5. labour yield variance

Solution:

1. Labour cost variance = Standard labour cost – Actual labour cost

Skilled = STD Hours X STD Rate – Actual Hours X Actual rate.

5000 X1.5 – 4500 X 2 = 7500-9000= Rs 1500 A

Unskilled = 8000 X 0.5 – 10000 X 0.45 = 4000-4500 = Rs500 A

Semi Skilled = 4000 X 0.75- 4200 X0.75 = 3000-3150 = Rs 150 A

1500 + 500 + 150 = Rs2150 A

2. Labour rate variance = Actual hours (standard rate – Actual rate)

Skilled = 4500 (1.50-2) = 2250 A

Unskilled = 10000(0.50-0.45) = 500 F

Semi skilled = 4200(0.75-0.75) = 0

2250A + 500 F= 1750 A

3. Labour efficiency variance = standard rate (standard hours – actual hours)

Skilled = 1.5 (5000-4500) = Rs750 F

Unskilled = 0.5 (8000-10000) = Rs1000 A

Semi Skilled = 0.75(4000-4200) = Rs150 A

Total 400

4. Labour mix variance = standard rate (actual labour mix – revised standard labour mix)

Skilled = 1.5 (5500 – 4500) = Rs.1500 F

Unskilled = 0.5 (8800 – 10000) = Rs.600 A

Semi skilled = 0.75 (4400 – 4200) = Rs.150 F

Total Rs.1050 F

5. Labour yield variance = average standard labour hour rate (actual production – standard production on actual hours)

14.50 (1000-1100) = Rs1450 A

Note: Standard production of actual hours = 18700 / 17000 X 1000 = 1100 units

Average std rate = Rs7.5 + 4 + 3 = Rs.14.50

Q-42 Following information is obtained from Wise Ltd:

Budgeted production for the period 600 units

Budgeted variable overhead Rs 15600/-

Standard Time for one unit 20 hours

Actual Production for the period 500 units

Actual Variable overhead Rs 14000/-

Actual Hours Worked 9000 Hrs.

Calculate:

A Variable overhead expenditure variance

B variable overhead efficiency variance

C Variable Overhead variance

Solution:

A: **VO Expenditure variance = standard variable overhead at actual level – actual variable overhead**

= 11700-14000 = 2300 A

SVOH = 15000/12000 X 9000 = 11700

B: **VO Efficiency Variance = standard variable overhead – actual variable overhead for production.**

= 13000-11700 = 1300 F

C: **Variable overhead cost variance = Standard variable overhead cost – actual variable overhead cost.**

= 13000-14000 = 1000 A

Q-43 From the following data calculate overhead variance:

Particulars	Budget	Actual
Output	15000 units	16000 units
No. of working days	25	27
Fixed overhead	Rs 30000	Rs 30500
Variable overhead	Rs 45000	Rs 47000

There was an increase of 5% in capacity.

Solution:

1. **Total overhead variance = Actual output in standard rate – Actual overhead**

16000 X 5 – (30500 + 47000)

Rs 2500 F

2. **Variable Overhead Variance = Standard rate X Actual output – Actual Overhead**

3 X 16000 – 47000 = 1000F

3. **Fixed Overhead Variance = Standard rate X Actual Output – Actual Overhead**

2 X 16000 – 30500 = Rs 1500F

4. **Fixed overhead volume Variance = Standard Rate X Actual Output – Budgeted Overhead**

2 X 16000 -30000 = 2000 F

5. **Fixed overhead Expenditure Variance = Budgeted Fixed – Actual Fixed overhead**

Rs 30000- Rs 30500 = Rs 500A

6. **Fixed Overhead Capacity Variance = Standard Rate (Revised Budgeted Units – Budgeted Units)**

Rs 2 (15750- 15000) = 2 X 750

Rs 1500 F

7. **Fixed overhead calendar variance = Standard Rate (Actual Quantity – Standard Quantity)**

2 (15750/25 X 2) = Rs1260 X 2

Rs 2520 F

8. **Fixed overhead efficiency variance = Standard Rate (Actual Production – Standard Production)**

= 2 (16000-17010) = Rs 2020 A

Note: Standard production = 15000 units

+ Increase Due Capacity increase = 750

+_ Increased production for 2 days = 1260

Total = 17010

Q-44 Z Ltd. has prepared the following sales Budget for first five months of 2011.

Month	Sales Budget (units)
January	10,800
February	15,600
March	12,200
April	10,400
May	9,800

Inventory finished goods at the end of every month is to be equal to 25 % of sales estimate for the next month. On 1st January 2011, there were 2,700 units of product on hand. There is no work in progress at the end of any month.

Every unit product requires two types of materials in the following quantities;

Material A: 4 Kg.

Material B: 5 Kg.

Materials equal to one half of the requirements of the next month's production are to be in hand at the end of every month. This requirement was met on 1st January 2011.

Prepare the following budgets for the quarter ending on 31st marsh 2011

I) Production Budget- Quantity Wise.

II) Materials Purchase Budget- Quantity wise.

Solution:-

Z Ltd.

Production Budget [In units] January – March 2011

Particulars	**January**	**February**	**March**
I] Sales	10,800	15,600	12,200
II] Estimated Closing Stock	3,900	3,050	2,600
III] Gross Requirements[I+II]	14,700	18,650	14,800
IV] Opening Stock	2,700	3,900	3,050
V] Net Requirements [III-IV]	12,000	14,750	11,750

Materials Requirement Budget [Quantitative]

Material A- January –March 2011

Particulars	January	February	March
Production [As per Production Budget-units]	12,000	14,750	11,750
Requirement for Production: 4 kg per unit	48,000	59,000	47,000
Add: Desired Closing Stock	29,500	23,500	20,500
Gross requirements	77,500	82,500	67,500
Less: Opening Stock	24,000	29,500	23,500
Net Requirements	53,500	53,000	44,000

Materials Requirement Budget [Quantitative]

Material B- January –March 2011

Particulars	January	February	March
Production [As per Production Budget-units]	12,000	14,750	11,750
Requirement for Production: 5 kg per unit	60,000	73,750	58,750
Add: Desired Closing Stock	36,875	29,375	25,625
Gross requirements	96,875	1,03,125	84,375
Less: Opening Stock	30,000	36,875	29,375
Net Requirements	66,875	66,250	55,000

Working Notes:

1) Production for April. Sales 10,400 [units] + Closing Stock 2,450 [units]

= 12,850 [units] – Opening Sock 2,600 [units] = 10,250 [units].

2) Material required for production in April: A: 10,250 X 4 = 41,000 kg.

B: 10,250 X 5 = 51,250 kg.

Q-45 A Ltd. manufactures a single product P with a single grade of labor. The sales budget and finished goods stock budget for the 1st Quarter ending on 30th June 2011 are as follows:

Sales: 1400 units

Opening finished units: 100 units

Closing finished units: 140 units

The goods are imported only when the production work is complete and it is budgeted that 10% of finished work will be scrapped.

The standard direct labor content of the product P is 3 hours. The budgeted productivity ratio for direct is 80% only.

The company employs 36 direct operatives who are expected to average 144 working hour each in the 1st quarter.

You are required to prepare,

I] Production Budget

II] Direct Labor Budget

III] Comment on the problem that your direct labor budget reveals and suggest how this problem might be overcome.

Solution:

A Ltd.

Production Budget

Particulars	No. of units

I] Sales Forecast	1,400
II] Estimated Closing Stock	140
III] Gross Requirement [I + II]	1,540
IV] Opening Stock	100
V] Net Production Requirement [III – IV] Good Production	1,440
VI] Wastage [10% of total production – assumed]	160
VII] Total Production Requirement[V + VI]	1,600

Direct Labor Budget

Particulars	No. of units
Total Standard Hours Required: 1,600 units X 3	4,800
Productivity Ratio: 80%	
Actual Hours Required: 4,800/ .80	6,000
Budgeted Hours Available 36 men X 144 hours	5,184
Shortfall	816

Comments: From the Direct Labor Budget it can be seen that the direct labor hours available are not sufficient and hence there is shortage of 816 Hours. Therefore it will be necessary to work overtime, as well as improvement in the efficiency.

Q-46 Summarized below are the Income and Expenditure forecast for the month March to August 2011.

Month	Credit Sales	Credit Purchases	Wages Rs.	Mfg. Expenses	Office Expenses	Selling Expenses

	Rs.	Rs.		Rs.	Rs.	Rs.
March	60,000	36,000	9,000	4,000	2,000	4,000
April	62,000	38,000	8,000	3,000	1,500	5,000
May	64,000	33,000	10,000	4,500	2,500	4,500
June	58,000	35,000	8,500	3,500	2,000	3,500
July	56,000	39,000	9,000	4,000	1,000	4,500
August	60,000	34,000	8,000	3,000	1,500	4,500

You are given following further information

i. Plant Costing Rs. 16,000 due for delivery in June. 10% on delivery and balance after three months

ii. Advance Tax Rs. 8,000 is payable in March and June

iii. Period of credit allowed, Suppliers 2 months and Customers 1 month

iv. Lag in payment of manufacturing expenses half month

v. Lag in payment of all others expenses one month

vi. Cash balance on 1st May 2008 is Rs. 8,000

vii. Prepare Cash Budget for three months starting from 1st May 2010

Solution:-

Cash Budget

May-August 2010

Particulars	May	June	July
I] Opening Cash Balance	8,000	15,750	12,750

II] Expected Cash Receipts:			
A] Collections from Debtors [Credit 1 month]	62,000	64,000	58,000
III] Total Expected Receipts	62,000	64,000	58,000
IV] Total Cash Available [I+III]	70,000	79,750	70,750
V] Expected Payment			
A] Purchases [2 months credit]	36,000	38,000	33,000
B] Manufacturing Expenses [Half month credit]*	3,750	4,000	3,750
C] Wages [Half month credit]	8,000	10,000	8,500
D] Office Expenses [one month credit]	1,500	2,500	2,000
E] Selling Expenses [one month credit]	5,000	4,500	3,500
F] Purchase of Machine			1,600
G] Advance Tax		8,000	
VI] Total Payment [A+B+C+D+E+F+G]	54,250	67,000	52,350
VII] Closing Balance	15,750	12,750	18,400

There is delay of half a month for payment of Manufacturing Expenses and wages and hence current month's 50% and previous month's 50% are paid in the current month.

Q-47 A manufacturing company is currently working at 50% capacity and produce 10,000 units at a cost of Rs. 180 per unit as per the following details.

Materials: Rs.100

Labor: Rs.30

Factory Overheads: Rs.30 [40% fixed]

Administrative Overheads: Rs.20 [50% fixed]

Total Cost Per Unit: Rs.180

The selling price per unit at present is Rs.200. At 60% working, material cost per unit increases by 2% and selling price per unit falls by 2%. At 80% working, material cost per unit increases by 5% and selling price per unit falls by 5%.

Prepare a Flexible Budget to show the profits/ losses at 50%, 60% and 80% capacity utilization.

Solution:-

Flexible Budget

Particulars	Capacity Utilization 50%	Capacity Utilization 60%	Capacity Utilization 80%
A] Number of Units	10,000	12,000	16,000
B] Selling Price Per Unit	Rs.200	Rs.196	Rs.190
C] Variable Cost Per Unit			
Direct Material	Rs.100	Rs.102	Rs.105
Direct Labor	Rs.30	Rs.30	Rs.30
Factory Overheads[60%]	Rs.18	Rs.18	Rs.18
Administrative Overheads[50%]	Rs.10	Rs.10	Rs.10
D] Total Variable Cost Per Unit	Rs.158	Rs.160	Rs.163
E] Total Variable Cost [A X D]	Rs.15,80,000	Rs.19,20,000	Rs.26,08,000
F] Fixed Costs [Rs.12 + Rs.10 = Rs.22 per unit at existing level 10,000 units.]	Rs.2,20,000	Rs.2,20,000	Rs.2,20,000
G] Total Cost[E + F]	Rs.18,00,000	Rs.21,40,000	Rs.28,28,000
H] Sales Revenue [A X V]	Rs.20,00,000	Rs.23,52,000	Rs.30,40,000
I] Profits/ Losses [H – G]	Rs.2,00,000	Rs.2,12,000	Rs.2,12,000

Q48 You are required to calculate a suggested fare per passenger – km from the following information for a mini bus.

(i) Length of route 30 km

(ii) Purchase price Rs. 4,00,000.

(iii) Part of above cost meet by loan, annual interest Rs. 10,000 p.a.

(iv) Other annual charges: Insurance Rs. 15,000, Garage Rent Rs. 9,000, Road Taxes Rs. 3,000, Repairs and Maintenance Rs.5,000. Administrative charges Rs. 5000.

(v) Running expenses : Driver & Conductor Rs. 5000 p.m., Repairs / Replacement of tyre tube Rs. 3600 p.a. Diesel and Oil cost per Km Rs. 5/-

(vi) Effective life of vehicle is estimated at 5 years at the end of which it will have a scrap value of Rs. 10,000.

(vii) Mini Bus has 20 seats and is planned to make six two way trips for 25 days / p.m.

(viii) Provide profit @ 20 % of total revenue.

Solution:

Particulars	**Cost per Annum Rs.**	**Cost Per Month Rs.**
Fixed Expenses :		
Insurance	15,000	
Garage Rent	9,000	
Road Tax	3,000	
Administrative charges	5,000	
Depreciation (4,00,000–10,000÷ 5 years)	78,000	
Interest on Loan	10,000	

Total	1,20,000	10,000
Running Expenses :		
Repairs & Maintenance	15,000	1,250
Replacement of tyre tube	3,600	300
Diesel and oil cost (9000 km x Rs. 5/-)		45,000
Driver & Conductor's Salary		5,000
Total Cost per month		61,550
Add : Profit 20 % of total Revenue 25 % Total cost		15,387.50
Total Revenue		**76,937.50**

Rate per passenger km:

Rs. 36937.50 / 1,80,000 passenger km = 0.4274305 or 0.43 paise.

Workings

Total distance travelled by mini bus in 25 days = 60 km x 6 trips x 25 days = 9000 km

Total passenger km = 9000 km x 20 seats = 1,80,000 passengers km

Q-49 (a) X Ltd. has earned contribution of Rs. 2,00,000 and net profit of Rs. 1,50,000 on sales of Rs. 8,00,000. What is its margin of safety?

(b) If margin of safety is Rs. 2,40,000 (40% of sales) and P/V Ratio is 30% of AB Ltd., calculate its

(i) Break even sales and (ii) Amount of profit on sales of Rs. 9,00,000.

(c) A company sells its product at Rs. 15 per unit. In a period, if it produces and sells 8,000 units, in incurs a loss of Rs. 5 per unit. If the volume is raised to 20,000 units, it earns a profit of Rs. 4 per unit. Calculate breakeven point both in terms of rupees as well as in units.

(d) A company earned a profit of Rs. 30,000 during the year 1994-95. If the marginal cost and selling price of a product are Rs. 8 and Rs. 10 per unit respectively, find out the amount of `Margin of Safety'.

(e) The profit volume (P/V) ration of B B & Co. dealing in precision instruments is 50% and the margin of safety is 40%.

You are required to work out the break-even point and the net profit if the sale volume is Rs. 50 lakhs.

(f) Comment on the economic soundness of the following firms :

	Firm A	**Firm B**
Current Sales Volume	3,00,000	3,00,000
Break Even Sales Volume	2,00,000	2,00,000
Margin of Safety	1,00,000	1,00,000
Fixed Cost	1,00,000	60,000

(g) A company has a P/V Ratio of 40 per cent. By what percentage must sales be increased to offset:

(i) 10 per cent reduction in selling price and

(ii) 20 per cent reduction in selling price

Solution:-

(a) P/V Ratio $\frac{Contribution}{Sales} \times 100$ $\frac{Rs.2,00,000}{Rs.8,00,000} \times 100 = 25\%$

Margin of Safety $\frac{Profit}{P/V\ Ratio}$ $\frac{Rs.1,50,000}{25\%} = Rs.6,00,000$

(b) Margin of Safety $\frac{Profit}{P/V\ Ratio}$

or Profit= Margin of Safety x P/V Ratio = Rs. 2,40,000 x 30% = **Rs. 72,000**

$\frac{Margin\ of\ Safety}{40\%}$ $\frac{Rs.2,40,000}{40\%}$ **Rs. 6,00,000**

Contribution = Sales x P/V Ratio = Rs. 6,00,000 x 30% = **Rs. 1,80,000**

Fixed cost = Contribution – Profit = Rs. 1,80,000 – Rs. 72,000 = **Rs. 1,08,000**

(i) Break Even Sales P/V Ratio 30% **Rs. 3,60,000**

(ii) Profit = (Sales x P/V Ratio)–Fixed Cost= (Rs. 9,00,000 x 30%) – Rs. 1,08,000

= Rs. 2,70,000 – Rs. 1,08,000 = **Rs. 1,62,000**

(c) Average cost at 8,000 units volume

= Selling price per unit + loss component per unit = Rs. 15 + Rs. 5 = Rs. 20

Average cost at 20,000 units volume = Rs. 15 – Rs. 4 = Rs. 11

Total cost at 8,000 units volume = Rs. 8,000 x Rs. 20 = Rs. 1,60,000

Total cost at 20,000 units volume = Rs. 11 x 20,000 = Rs. 2,20,000

$$\frac{Change\ in\ total\ cost}{Variable\ cost\ per\ unit\ Change\ in\ volume\ of\ production}$$

$\frac{Rs.60,000}{12,000}$ = Rs. 5

Fixed cost= Total cost – Variable cost = Rs. 1,60,000 – Rs. 40,000 = Rs. 1,20,000

P/V Ratio $\frac{Contribution}{Sales} \times 100$ $\frac{Rs.10}{Rs.15} \times 100 = 66\ \frac{2}{3}\ \%$

Break Even Point (Rupees) $\frac{Fixed\ Cost}{P/V\ Ratio} = \frac{Rs.1,20,000}{66\ 2\ /\ 3\ \%} = \boldsymbol{Rs.1,80,000}$

Break Even Point (in units) $\frac{Fixed\ Cost}{Contribution\ per\ unit}$ $\frac{Rs.1,20,000}{Rs.10}$ = **12,000 units**

Q-50 What do you mean by process costing?

Ans- Process costing is a method of costing under which all costs are accumulated for each stage of production or process, and the cost per unit of product is ascertained at each stage of production by dividing the cost of each process by the normal output of that process.

Definition:

CIMA London defines process costing as "that form of operation costing which applies where standardize goods are produced"

Q-51 Write short note on normal loss?

Ans- Normal loss is an unavoidable loss which occurs due to the inherent nature of the materials and production process under normal conditions. It is normally estimated on the basis of past experience of the industry. It may be in the form of normal wastage, normal scrap, normal spoilage, and normal defectiveness. It may occur at any time of the process.

No of units of normal loss: Input x Expected percentage of Normal Loss.

The cost of normal loss is a process. If the normal loss units can be sold as a crap then the sale value is credited with process account. If some rectification is required before the sale of the normal loss, then debit that cost in the process account. **After adjusting the normal loss the cost per unit is calculates with the help of the following formula:**

Cost of good unit: $\frac{Total\ cost\ increased - Sale\ Value\ of\ Scrap}{Input - Normal\ Loss\ units}$

Q-52 Define abnormal loss?

Ans- Any loss caused by unexpected abnormal conditions such as plant breakdown, substandard material, carelessness, accident etc. such losses are in excess of pre-determined normal losses. This loss is basically avoidable. Thus abnormal losses arrive when actual losses are more than expected losses. The units of abnormal losses in calculated as under:

Abnormal Losses = Actual Loss – Normal Loss

The value of abnormal loss is done with the help of following formula:

Value of Abnormal Loss: $\frac{Total\ Cost\ increase - Scrap\ Value\ of\ normal\ Loss\ x\ Units\ of\ abnormal\ loss}{Input\ units - Normal\ Loss\ Units}$

Q-53 Distinction between job costing and process costing?

Ans-

	Basis of Distinction	**Job order costing**	**Process costing**
1.	Specific order	Performed against specific orders	Production is contentious
	Nature	Each job many be different.	Product is homogeneous and standardized.
	Cost determination	Cost is determined for each job separately.	Costs are complied for each process for department on time basis i.e. for a given accounting period.
	Cost calculations	Cost is complied when a job is completed.	Cost is calculated at the end of the cost period.
	Control	Proper control is comparatively difficult as each product unit is different and the production is not continuous.	Proper control is comparatively easier as the production is standardized and is more suitable.
	Transfer	There is usually not transfer from one job to another unless there is some surplus work.	The output of one process is transferred to another process as input.
	Work-in-Progress	There may or may not be work-	There is always some work-in-

		in-progress.	progress because of continuous production.
	Suitability	Suitable to industries where production is intermittent and customer orders can be identified in the value of production.	Suitable, where goods are made for stock and productions is continuous.

Q-54 How would you treat abnormal gain?

Ans- The margin allowed for normal loss is an estimate (i.e. on the basis of expectation in process industries in normal conditions) and slight differences are bound to occur between the actual output of a process and that anticipates. This difference may be positive or negative. If it is negative it is called ad abnormal Loss and if it is positive it is Abnormal gain i.e. if the actual loss is less than the normal loss then it is called as abnormal gain. The value of the abnormal gain calculated in the similar manner of abnormal loss. **The formula used for abnormal gain is:**

Abnormal Gain $\frac{Total\ Cost\ incurred - Scrap\ Value\ of\ Normal\ Loss\ x\ Abnormal\ Gain\ Unites}{Input\ units - Normal\ Loss\ Units}$

Q-55 Define operating costing?

Ans- Operating costing is a method of ascertaining the cost of providing or operating a service. It is also known as service costing CIMA London, defines Operating Costing as "that form of operation costing which applies where standardized services are rendered either by an undertaking or by a service cost renter with in an undertaking".

Q-56 Write short notes on `Integrated Accounts?

Ans- The reconciliation of cost and financial accounts is frequently a task calling for considerable expenditure of tie and effort, much of which can be avoided if books are suitable designed and the concept of separate Profit and loss accounts for financial and costing purposes discarded in favour of a unified account which will serve both financial and costing purposes. Such a system of accounting is referred to as integral or integrated. Thus ,integral accounting is a system of recording financial and costing transactions in one self contained ledger, called the integrated Ledger.

Q-57 What are the advantages of integrated accounting?

Ans The following are the main advantages of integral accounting:

1. There is no need to reconcile the profit ascertained by the cost accounts with that of financial accounts since only one profit and loss account is prepared from the information recorded in the cost accounts.

2. There is no duplication of recording and effort as in non integral system and as such this system is simple and economical.

3. This system tends to coordinate the functions of differentselections of the accounts department since all efforts are integrated and directed towards achievement of one aim that is providing a high level of efficiency.

4. The accounting procedures can be simplified and the system can be centralised with the object of achieving a greater control over the organization.

5. The system creates conditions which are eminently suitable for the introduction of mechanized accounting.

6. There is no possibility of overlooking any expense under the system .

7. As cost accounts are posted straight from the books of original entry, there is no delay in obtaining the data.

8. There is automatic check on the correctness of the cost data. It ensures that all legitimate expenditure is included in Cost accounts and reliable and proved data is provided to the management for its decisions'.

9. Integrated accounting widens the outlook of the accountant and his staff ad they can take broader view of things.

10. From psychological point of view, it shows the complimentary status of cost and financial accountant which need to be considered as separate water light compartments.

Q-58 What do you mean by non-integrated or cost ledger accounting system?

Ans There are two systems of maintaining cost records viz., interlocking system and integral accounting system. Under interlocking system cost records are maintained in a separate set of books independent of financial accounts. The ICMA terminology defines interlocking system of accounting as "a system in which the cost accounts are distinct from the financial accounts, the two sets of accounts being kept continuously in agreement or readily recognizable"

The following are some of the advantages of interlocking accounting system:

a) When separate set of costing books are maintained it facilitates ready accomplishment of its objectives') If avoids the complications or recording the entries if it is integrated with financial accounts.

b) It can be maintained according to convenience as it need not be statutorily maintained

The following are some of the limitations01

a) When cost accounts are independently maintained, it amounts to duplication of expenses along with financial accounts.

b) The profit shown by cost books may vary with that shown by financial accounts. This requires reconciliation which involves time and effort

Q-59 Which ledgers have been maintained under Non-integral Accounting system?

Ans The following are some of the subsidiary books maintained under interlocking system of accounting:

1) Stores ledger; this ledger is used to record both the quantity and amount of receipts, issues and balance of materials and supplies. The basis for recording the transactions are (a) Materials received note (b) Material transfer note, and (d) Material returned note.

2) Payroll and wage analysis book; this ledger is used to record the wages. The basis for recording the transactions are (a) clock cards,(b)time tickets, and (c)piece work tickets

3) Job ledger: this ledger is used to record the material cost, wages, and overheads incurred in respect of a job.

4) Finished goods stock ledger: This ledger is used to record the receipt of finished goods from production department, the sale and stock of finished goods both in terms of quantity and value. The basis for recording the transactions is delivery note issued by the production departments, sales returns note and sales order requisitions.

5) Standing order ledger: This ledger is used to record overheads incurred.

Q-60 Write short note on absorption costing?

Ans Absorption costing is principles whereby fixed as well as variable costs are allocated to cost units and total overheads are absorbed according to activity level. It is the practice of charging all costs irrespective of fixed and variable and direct and indirect expenses are charged. It is a simple and fundamental method of asserting the cost of a product or service. This method is familiar since many companies still follow this approach for pricing decisions. This the oldest and widely used system. This method is also called as 'cost plus' costing

Q-61 Define marginal costing?

Ans The term' Marginal Cost' is defined as the amount at any given volume of output by which aggregate costs are changed if the volume of output is increased or decreased by one unit. It is a variable cost of one unit of a product or a service i.e. a cost which would be avoided if that unit was not produced or provided.

Definition and Meaning:

Marginal costing is a principle whereby variable costs are charged to cost units and fixed costs attributable to the relevant period is written off in full against the contribution for that period. Marginal Costing is the ascertainment of marginal cost and the effect on profit of changes in volume or type of output by differentiating between fixed costs and variable cost.

CIMA defines marginal as "the accounting system in which variable cost are charged to the cost units and fixed costs of the period are written off in full against the aggregate contribution.

Marginal Costing is not a distinct method of costing like job costing or process costing. It is a technique which provides presentation of cost data in such a way that true cost volume profit relationship is revealed. Under this technique, it is presumed that costs can be divided in two categories, i.e., fixed cost and variable cost. Fixed cost is charged to contribution of the period in which it is incurred and is considered period cost.

Q-62 Write advantages and disadvantages of marginal costing?

Ans Advantages of Marginal costing

a. It avoids the complications of over or under absorption of fixed cost by excluding it from cost of production.

b. The technique provides useful data for managerial decision making.

c. By not carrying forward fixed cost from period to period, it facilitates cost comparison.

d. The impact of profit on sales fluctuations are clearly shown under marginal costing.

e. The technique is flexible in the sense it can be used along with other techniques such as budgetary control and standard costing.

f. It establishes a clear relationship between cost, sales and volume of put and break even analysis which shows the effect of increasing an decreasing production activity on the profitability of the company.

g. It provides useful data for the management in determination of policies regarding future

h. The production and sales.

i. Stock of work in progress and finished goods are valued at marginal cost, which is uniform.

disadvantages of Marginal costing

a. The segregation of semi variable costs often poses a problem

b. Closing stock of work in progress and finished goods are understated which is not acceptable to tax authorities.

c. With the change technology and owing to automation of industries, it results in more fixed cost. Marginal costing fails to reflect the exact change because of adoption of new technology.

d. It does not provide any yardstick to exercise control. So an effective means of control cannot be exercised.

e. The technique is not suitable under cost plus contract because of technique ignores fixed cost in calculating total cost.

f. Variable cost per unit remains constant only in the short run but not in the long run.

g. Cost comparison of two jobs will be difficult. Though marginal costing may be same for both the jobs.

h. When sales are based on marginal cost or marginal cost

Q-63 Write difference between marginal costing and absorption costing?

Ans

Absorption Costing	Marginal costing
1.All costs are charged to the cost of production	1. Only variable cost is charged to cost of production. Fixed costs are recovered from contribution.
2. Stock of work in-progress and finished goods are valued at full or total cost. Fixed cost is carried over from one period to another period which distorts cost comparison.	2. Stock of work in progress and finished goods are valued at marginal cost. This facilitates cost comparison.
3. The difference between sales and total cost constitute profit	3. The excess of sales revenue over variable cost is known as contribution when fixed cost is deducted from contribution, it results in profit.
4. The apportionment of fixed costs on an arbitrary basis gives rise to under or over absorption of overheads.	4. As only variable costs are charged to products, it does not give rise to over or under absorption of overheads
5. Costs are classified according to functional basis such as production cost, administration cost, selling and distribution cost.	5. Costs are classified according to variability.

Q-64 Define contribution analysis with formula?

Ans Contribution is the excess of selling price over variable costs. It is known as contribution because it contributes towards recovery of the fixed costs and profits. B y equation, the concept of contribution can be stated as follows:

Contribution= Sales-Variable cost

Or

Contribution= F+P

Q-65 What is breakeven point?

Ans The point which breaks the total cost and the selling price evenly to show the level of output or sales at which there shall be neither profit nor loss, is regarded as break even point. At this point, the income of the business exactly equals its expenditure. If production is enhanced beyond this level, profit shall accrue to the business, and it is decreased from this level, loss shall be suffered by the business.

Breakeven point (in units) $= \frac{Fixed\ cost}{Contribution\ per\ unit}$

Break–even Point (in Rs.) $= \frac{Fixed\ cost\ x\ sales}{Contribution\ per\ unit}$

Q-66 Explain Margin of safety?

Ans Total sales minus the sales at breakeven point is known as the margin of safety

Thus, the formula is:

Margin of Safety = Total Sales-Break even sales

Margin of Safety can also be computed according to the following formula:

Margin of safety = $\frac{Net\ profit}{P/V\ Ratio}$

Margin of safety can also be expressed as a percentage of sales:

= $\frac{Margin\ of\ Safety \times 100}{Total\ Sales}$

Q-67 What standard costing. Explain the advantages and limitations of costing?

Ans- Standard costing is a control technique which compares standard costs and revenues with actual result to obtain variances which are used to stimulate improved performance. Use of standard costing is not confined to industries having repetitive processes and homogeneous product only. This technique has established the advantages of its use in industries having non repetitive processes like manufacture of automobile, turbines, boilers and heavy electrical equipment.

Advantages of Standard Costing:

Cost Control: Standard costing provides a benchmark for comparing actual performance, enabling effective cost control by identifying and addressing deviations promptly.

Performance Evaluation: Enables performance evaluation at various levels, highlighting efficiency or inefficiency through variances between actual and standard costs.

Budgeting and Planning: Aids in the budgeting process by offering predetermined cost benchmarks, facilitating realistic budgets and improved resource allocation. Price Determination: Useful in setting selling prices, ensuring they cover expected costs and contribute to profitability.

Inventory Valuation: Assists in valuing inventory with predetermined costs per unit, especially beneficial in industries with high inventory turnover.

Motivation and Performance Incentives: Motivates employees to surpass set standards, fostering a goal-oriented environment and providing positive performance incentives.

Benchmarking: Allows benchmarking against industry standards, aiding businesses in comparing performance with industry norms and identifying areas for improvement.

limitations of Standard Costing:

Rigidity: May become inflexible and outdated in dynamic industries that experience rapid changes.

Time and Cost: Setting up and maintaining a standard costing system can be time- consuming and costly, particularly for small businesses**.**

Overemphasis on Cost Control: The focus on cost control may lead to neglecting other crucial aspects of the business, such as quality improvement, innovation, and customer satisfaction.

Variances may not always be Meaningful: Variances between actual and standard costs may not always offer meaningful insights, as some may be influenced by factors beyond control.

Complexity: Standard costing systems can become complex, especially in larger organizations, potentially leading to confusion and errors in cost allocation.

Inflexibility in Changing Conditions: May lack flexibility to adapt to changes in production methods, technology, or other factors, limiting its usefulness in evolving business environments.

Focus on Quantity, not Quality: Employees might prioritize meeting quantity targets to achieve standard costs, potentially compromising product or service quality.

Q-68 Explain the terms and give formulas.

a) Labour Rate Variance

b) Labour Yield Variance

c) Labour Cost Variance

d) Variable overhead efficiently variances.

e) Fixed overhead volume variances

f) Fixed overhead calendar variances

Ans a) Labour Rate Variance: It is that portion of labour cost variance which due to the different between the actual labour rate and standard labour rate specific. It determined has follows:

Labour rate variance = Actual hours (standard rate – Actual rate)

b) Labour Yield Variance: It is that part of labour efficiency variance which is due to different between actual output and standard output of workers specific . It is determined as follows: - **Labour yield variance = average standard labour hours rate (actual production – standard production on actual hour)**

c) Labour Cost Variance: Labour cost variance is different between the actual wages paid and standard wages specific wages for the production. It is calculated as follows:

Labour cost variance = Standard labour cost – Actual labour cost STD Hours X STD Rate – Actual Hours X Actual rate.

d) Variable overhead efficiently variances: It is the difference between actual hours work at standard variable overhead rate and standard variable overhead for production. It is determined as follows :

Variable Overhead Efficiency Variance = standard variable overhead – actual variable overhead for production.

e) Fixed overhead volume variances: It that part of fixed overhead variance which due different between actual fixed overhead incurred and standard allowance for fixed overhead.

Fixed overhead volume variance = standard rate X actual output - budgeted overhead

f) Fixed overhead calendar variances: It is that part of fixed overhead volume variance which is due to different between budgeted fixed overhead and fixed overhead for dates available during the period at standard rate.

Fixed Overhead Calendar variance = standard rate (actual quantity – Standard quantity)

Q-69 What do you mean by budgetary control?

Ans- Budgetary control is actually a means of control in which the actual results are compared with the budgeted results so that appropriate action may be taken with regard to any deviations between the two. **Budgetary control has the following stages.**

A. Developing Budgets:

The first stage in budgetary control is developing various budgets. It will be necessary to identify the budget centers in the organization and budgets will have to develop for each one of them. Thus budgets are developed for functions like purchase, sale, production, manpower planning as well as for cash, capital expenditure, machine hours, labor hours and so on. Utmost care should be taken while developing the budgets. The factors affecting the planning should be studied carefully and budgets should be developed after a thorough study of the same.

B. Recording Actual Performance:

There should be a proper system of recording the actual performance achieved. This will facilitate the comparison between the budget and the actual. An efficient accounting and cost accounting system will help to record the actual performance effectively.

C. Comparison of Budgeted and Actual Performance:

One of the most important aspects of budgetary control is the comparison between the budgeted and the actual performance. The objective of such comparison is to find out the deviation between the two and provide the base for taking corrective action.

D. Corrective Action:

Taking appropriate corrective action on the basis of the comparison between the budgeted and actual results is the essence of budgeting. A budget is always prepared for future and hence there may be a variation between the budgeted results and actual results. There is a need for investigation of the same and take appropriate action so that the deviations will not repeat in the future. Responsibilities can be fixed on proper persons so that they can be held responsible for any such deviations.

Q-70 Write short note on Zero Base Budget?

Ans- Zero Base Budgeting is method of budgeting whereby all activities are revaluated each time budget is formulated and every item of expenditure in the budget is fully justified. Thus the Zero Base Budgeting involves from scratch or zero.

Applications of Zero Base Budgeting:

The following stages/ steps are involved in the application of Zero Base Budgeting.

1. Each separate activity of the organization is identified and is called as a decision package. Decision package is actually nothing but a document that identifies and describes an activity in such a manner that it can be evaluated by the management and rank against other activities competing for limited resources and decide whether to sanction the same or not.

2. It should be ensured that each decision package is justified in the sense it should be ascertained whether the package is consisted with the goal of the organization or not.

3. If the package is consisted with the overall objectives of the organization, the cost of minimum efforts required to sustain the decision should be determined.

4. Alternatives for each decision package are considered in order to select better and cheaper options.

5. Based on the cost and benefit analysis a particular decision package should be selected and resources are allocated to the selected package.

Q-71 What are the main objectives of budgetary control system?

Ans- Budgetary control serves as a multifaceted management tool with several key purposes:

Setting Clear Business Aims and Performance Targets: Precisely portraying the overall aims of the business and establishing performance targets for each section or department.

Defining Responsibilities and Facilitating Objective Assessment: Laying down the responsibilities of executives and personnel to ensure clarity and enable objective assessments. Budgetary control provides an objective basis for evaluating the performance of executives and departments.

Facilitating Performance Comparison and Deviation Analysis: Providing a foundation for comparing actual performance with predetermined targets and investigating any deviations in performance and expenses from budgeted figures. This analysis supports the adoption of corrective measures.

Optimizing Resource Utilization: Ensuring the optimum use of available resources to maximize profit or production, considering limiting factors. The comprehensive nature of budgeting promotes effective coordination. Coordinating Business Activities and Balancing Control: Coordinating various business activities and centralizing control while enabling management to decentralize responsibility and delegate authority in the overall interest of the business.

Promoting Careful Forethought and Dynamism: Cultivating a spirit of careful forethought, assessment of possibilities, and proactive attempts. It fosters dynamism without being reckless, depending on the firm& objectives and the dynamism of its management.

Basis for Policy Revision: Providing a basis for the revision of current and future business policies.

Facilitating Long-Range Planning: Assisting in the formulation of long-range plans with a fair measure of accuracy.

Performance Measurement Yardstick: Supplying a yardstick against which actual results can be compared, serving as a valuable tool for performance evaluation and continuous improvement.

Q-72 Describes the main types of budgetary control system?

Ans- Budgetary control systems are essential tools for organizations to manage their financial resources effectively. The two main types of budgetary control systems are Feedback Control and Feed forward Control.

Feedback Control: Feedback Control operates as an Ex-post Corrective system, wherein actual results for the budgeted period are collected and compared with the budgeted figures after the completion of the budget period. Variance identification occurs post facto, leading to corrective actions based on the analysis. This system is common in organizations with less robust Management Information Systems (MIS), where data is obtained only after finalizing the books of accounts. While less expensive to maintain, it may have limitations, particularly in the current era of data warfare.

Feed forward Control: Feed forward Control functions as an Ex-Ante Preventive mechanism. Budgets are set at the beginning of the period, and continuous monitoring of actual results takes place, allowing for timely adjustments to targets. This system requires a robust MIS supported by an integrated ERP system for real-time data access. While more expensive, Feed forward Control proves beneficial in dynamic business environments where information plays a crucial role in gaining a competitive edge.

Q-73 Write short note on joint products and by products?

Ans- Joint Products: Joint products are two or more products that are produced simultaneously from a single production process, and it is not feasible to separate their production until a certain point in the manufacturing process. These products typically have significant sales value, and the decision to continue processing them together or to split them into distinct products depends on the economic feasibility of separation.

For example, in the oil industry, the refining process may yield various joint products like gasoline, diesel, and jet fuel. These products share a common production process until a certain stage where they can be separated.

By-Products: By-products, on the other hand, are additional products generated during the production of the main product, and they usually have a lower sales value compared to the main product. By-products are incidental and not the primary focus of the production process. Companies may choose to sell by- products to generate additional revenue or find alternative uses for them.

An example is in the meat processing industry where the main product might be prime cuts of meat, while by-products could include items like bones or organs. These by-products can be sold for additional income or used for other purposes such as animal feed or fertilizer.

Q-74 Discuss the treatment of By-product cost in cost accounting?

Ans- The treatment of by-product costs in cost accounting varies based on their total value and whether further processing is required. Here are the ways to handle by- product costs:

(a) When They are of Small Total Value:

Option 1: Credit the sales value of by-products to the Costing Profit and Loss Account, with no credit given in the Cost Accounts. This credit is treated as miscellaneous income or additional sales revenue.

Option 2: Treat the sale proceeds of by-products as deductions from total costs, either from production costs or cost of sales.

(b) When They are of Considerable Total Value:

If by-products have significant total value, they might be considered joint products rather than by-products.

To determine the exact cost of by-products, costs incurred up to the point of separation should be apportioned over by-products and joint products using a logical basis.

Joint costs may be divided over joint products and by-products using relative market values, physical output method (at the point of split-off), or ultimate selling prices if sold.

(c) Where They Require Further Processing:

If by-products require further processing, determine the net realizable value at the split-off point by subtracting the further processing cost from the realizable value of by-products.

If the total sales value at the split-off point is small, treat it as discussed under option (a).

If the amount realized from by-product sales is considerable, treat it as discussed under option (b).

Q- 75 Write the various methods of apportionment of joint cost to by product?

Ans- The methods for accounting for by-products and determining the cost of production of the main product can be summarized as follows:

Net Realizable Value Method: This method involves deducting the realized value from the sale of the by-product from the total cost of production to ascertain the cost of the main product. Any additional expenses incurred for making the by- product saleable are deducted separately. For example, in a sugar factory, the amount realized from selling molasses is subtracted from the total cost of sugar production.

Standard Cost in Technical Estimates: By-products are valued at standard costs, which are determined by averaging historical costs and making technical estimates about the units of raw material going into both the main product and the by-product. This method is suitable when the by-product is not saleable in its original condition or when comparative prices for similar products are unavailable.

Comparative Price: Under this method, the value of the by-product is determined by referencing the price of a similar or alternative material. For instance, the gas produced in an automobile plant may be valued based on the price the factory would pay if purchasing it from an external source.

Re-use Basis: By-products that can be reprocessed as part of the input in the same process are valued at the same rate as the materials introduced into the process. If the by-product can only be put into an earlier process, its value is the same as the materials introduced into that process. For example, a by-product reprocessed within the same process is valued at the same rate as the materials introduced into the process.

Q- 76 What is service costing? Discuss its applications??

Ans- Service costing is a costing method used to determine the cost of providing a particular service within an organization. This method is especially relevant in service-oriented industries where the primary output is a service rather than a tangible product. The goal of service costing is to accurately allocate and assign costs to various services offered by the organization, helping management make informed decisions about pricing, resource allocation, and performance evaluation.

Application of Service Costing:

Internal Application of Service Costing:

Support Services to Other Responsibility Centers: In-house service costing is used for services provided by cost centers to other departments, such as canteen and hospital services, boiler

house for steam supply, captive power generation, fleet operation, IT support, research & development, quality assurance, and laboratory services.

External Application of Service Costing:

Profit Centers Offering Services to External Customers: External service costing is applied when organizations offer services as profit centers to external customers. Examples include transport services, hospitality services in hotels, and services provided by financial institutions, insurance companies, and IT firms.

Q- 77 Discuss the various methods of valuation of work-in-progress??

Ans- (a) FIFO Method: The FIFO method of costing is based on the assumption of that the opening work-in-progress units are the first to be completed. Equivalent production of opening work-in-progress can be calculated as follows:

Equivalent Production = Units of Opening WIP x Percentage of work needed to finish the units

(b) Average Cost Method: This method is useful when price fluctuate from period to period. The closing valuation of work-in-progress in the old period is added to the cost of new period and an average rate obtained. In calculating the equivalent production opening units will not be shown separately as units of work-in- progress but included in the units completed and transferred.

(c) Weighted Average Cost Method: In this method no distinction is made between completed units from opening inventory and completed units from new production. All units finished during the current accounting period are treated as if they were started and finished during that period. The weighted average cost per unit is determined by dividing the total cost (opening work-in-progress cost + current cost) by equivalent production.

(d) LIFO Method: In LIFO method the assumption is that the units entering into the process is the last one first to be completed. The cost of opening work-in- progress is charged to the

closing work-in-progress and thus the closing work-in progress appears cost of opening work-in-progress. The completed units are at their current cost.

Q-78 What is activity based costing?? Discuss the requirements in activity based costing implementation?

Ans- Activity-Based Costing (ABC) is a costing method that assigns costs to products, services, or business activities based on the resources consumed by each. Unlike traditional costing methods that often use a single cost driver such as direct labor hours or machine hours to allocate overhead costs, ABC considers multiple cost drivers, especially the various activities that consume resources. **Here are the main requirements for ABC implementation:**

Clear Understanding of Processes: A comprehensive understanding of the organization's processes is crucial. This includes identifying all activities and tasks involved in delivering products or services.

Identification of Activities: Detailed identification and documentation of all activities that contribute to the production of goods or services. This involves recognizing both primary and support activities.

Cost Pool Definition: Establishing clear and distinct cost pools that group similar types of costs associated with specific activities. This helps in allocating costs more accurately to products or services.

Resource Drivers Identification: Determining the appropriate resource drivers that accurately measure the consumption of resources by activities. Resource drivers could be based on factors like time, machine usage, or volume of transactions.

Activity Drivers Determination: Identifying activity drivers that measure the frequency or intensity of activities. Activity drivers are used to allocate costs from cost pools to specific products or services.

Data Collection and Accuracy: Ensuring the accuracy and reliability of data used in the ABC system. This involves collecting data on resource usage, activity levels, and costs associated with each activity.

Integration with Information Systems: Integrating the ABC system with existing information systems, such as accounting software and enterprise resource planning (ERP) systems. This facilitates a smooth flow of data and ensures consistency across different systems.

Staff Training and Awareness: Providing training to staff at various levels to ensure they understand the principles of ABC and how it affects their roles. Awareness among employees helps in the successful adoption of the new costing method.

Management Support: Gaining support from top management is crucial. Management should understand the benefits of ABC and be willing to invest time and resources in its implementation.

Continuous Improvement Culture: Fostering a culture of continuous improvement. ABC is not a one-time project but an ongoing process. Organizations should be prepared to revisit and update the ABC system as needed.

Pilot Testing: Conducting pilot tests or small-scale implementations before fully rolling out ABC across the entire organization. This helps identify and address any issues or challenges before widespread implementation.

Communication Strategy: Developing a communication strategy to inform employees about the reasons for implementing ABC, its benefits, and how it will impact their work.

Performance Measurement and Evaluation: Establishing a system for regularly measuring and evaluating the performance of the ABC system. This includes assessing its accuracy, relevance, and contribution to decision-making.

Q- 79 Write difference between cost allocation and cost absorption?

Ans-

Aspect	Cost Absorption	Cost Absorption
Definition	The process of assigning indirect costs to various cost objects or departments.	The process of allocating both direct and indirect costs to units of production.
Objective	To distribute indirect costs to cost centers for management or accounting purposes.	To assign all manufacturing costs, both variable and fixed, to individual units of output.
Scope	Primarily concerns indirect costs and is used for internal reporting and decision-making.	Encompasses both direct and indirect manufacturing costs and is essential for inventory valuation and external reporting.
Nature of Costs	Involves indirect costs, which may include overhead expenses, administrative costs, etc.	Involves all manufacturing costs, including direct materials, direct labor, and both variable and fixed manufacturing overhead.
Application	Commonly used in service industries or non-manufacturing settings.	Primarily applied in manufacturing environments where the entire production cost needs to be assigned to each unit produced.
Units of Measurement	Cost allocation may not be tied directly to a specific unit of production.	Cost absorption is directly related to the units produced, linking costs to each unit of output.
Calculation	Allocation is based on	Absorption involves spreading

	predetermined methods or cost drivers.	all manufacturing costs over the total units produced during a specific period.
Regulatory Compliance	Not typically subject to specific accounting regulations.	Adheres to accounting standards and is essential for external financial reporting, such as under Generally Accepted Accounting Principles (GAAP).

Q- 80 what is cost sheet? Describe how costs are classified on the basis of function.

Ans- Cost sheet: A Cost Sheet or Cost Statement is a document that offers comprehensive and detailed information about the costs associated with the production of goods or services within a specific time period. Here's a brief explanation of the functional classification of elements of cost:

1. Production/Manufacturing Cost:

Definition: These costs are directly associated with the manufacturing or production of goods. They include direct materials, direct labor, and manufacturing overhead costs.

Examples: Raw materials, labor wages for production workers, factory utilities.

2. Administration Cost:

Definition: Costs incurred in the general administration and management of the organization. These costs are not directly tied to the production process but support overall management activities.

Examples: Salaries of management, office supplies, office utilities.

3. Selling Cost:

Definition: Costs related to selling and marketing activities. These costs are incurred to promote and distribute the products to customers.

Examples: Sales salaries, advertising expenses, sales commissions.

4. Distribution Cost:

Definition: Costs associated with the distribution of finished goods to customers. These costs occur after the production phase and involve getting products to the market.

Examples: Warehousing expenses, transportation costs, packaging.

5. Research and Development Costs:

Definition: Costs incurred for the development and improvement of new products or processes. These costs are associated with innovation and future growth.

Examples: Research facility expenses, salaries of R&D personnel, prototype development.

Functional classification allows businesses to analyze and manage costs based on the specific functions or activities they support. This breakdown aids in better cost control, decision-making, and performance evaluation for each functional area within an organization.

Q-81 Distinguish between

(i) Profit Centres and Investment Centres.

(ii) Product Cost and Period Cost.

Ans: - (i) Profit Centres and investment centres

A profit centre is a centre where the manager has the responsibility of generating and maximizing profits. In such centres, the manager is responsible for revenue and cost.

Investment centres are those centres which are concerned with earning an adequate ROI. In such centres, the manager is responsible for investment, revenue and cost.

(ii) Product costs and period costs

Product costs are costs which are associated with purchase and sale of goods. These are costs are used for inventory valuation and incurred up to factory stage. Period costs are costs, which are not assigned to the products but are charged as expenses against revenues of the period in which they are incurred e.g. Selling, General Administrative and Distribution overheads.

Q-82 IPL Limited uses a small casting in one of its finished products. The castings are purchased from a foundry. IPL Limited purchases 54,000 castings per year at a cost of Rs. 800 per casting.

The castings are used evenly throughout the year in the production process on a 360-day-per-year basis. The company estimates that it costs Rs. 9,000 to place a single purchase order and about Rs300 to carry one casting in inventory for a year. The high carrying costs result from the need to keep the castings in carefully controlled temperature and humidity conditions, and from the high cost of insurance.

Delivery from the foundry generally takes 6 days, but it can take as much as 10 days. The days of delivery time and percentage of their occurrence are shown in the following tabulation:

Delivery time (days):	6	7	8	9	10
Percentage of occurrence:	75	10	5	5	5

Required:

(i) Compute the economic order quantity (EOQ).

(ii) Assume the company is willing to assume a 15% risk of being out of stock. What would be the safety stock? The re-order point?

(iii) Assume the company is willing to assume a 5% risk of being out of stock. What would be the safety stock? The re-order point?

(iv) Assume 5% stock-out risk. What would be the total cost of ordering and carrying inventory for one year?

(v) Refer to the original data. Assume that using process re-engineering the company reduce sits cost of placing a purchase order to only Rs600. In addition, company estimates that when the waste and inefficiency caused by inventories are considered, the true cost of carrying a unit in stock is Rs720 per year.

(a) Compute the new EOQ.

How frequently would the company be placing an order, as compared to the old purchasing policy?

Ans-: (i) Computation of economic order quantity (EOQ):

(A)	Annual requirement	=	54,000 castings
(C)	Cost per casting	=	Rs800
(O)	Ordering cost	=	Rs. 9,000 / order

(ci)Carrying cost per casting p.a. = Rs. 300

EOQ = $\sqrt{\frac{2AO}{c \times i}}$ = $\sqrt{\frac{2 \times 54000 \times 900}{300}}$ = 1800 castings

(ii) Safety stock

(Assuming a 15% risk of being out of stock)

Safety stock for one day = 54,000/360 days = 150 castings

Re-order point = Minimum stock level + Average lead time X Average consumption

= 150 + 6 x 150 = 1,050 castings

(iii) Safety stocks:

(Assuming a 5% risk of being out of stock)

Safety stock for three days = 150 x 3 days = 450 castings

Re-order point = 450 castings + 900 castings = 1,350 castings

(iv) Total cost of ordering = (54,000/1,800) x Rs 9,000 = Rs 2,70,000

Total cost of carrying = (450 + 1⁄2 x 1,800) Rs 300 = Rs 4,05,000

(v) (a) Computation of new EOQ:

EOQ = $\sqrt{\frac{2 \times 54000 \times 600}{720}}$ = 300 castings

(b) Total number of orders to be placed in a year are180. Each order is to be placed after 2 days (1 year = 360 days). Under old purchasing policy each order is placed after 12 days.

Q-83 MST Limited has collected the following data for its two activities. It calculates activity cost rates based on cost driver capacity.

Activity	Cost Driver	Capacity	Cost (Rs.)
Power	Kilowatt hours	50,000 Kilowatt hours	40,00,000
Quality Inspections	Number of inspections	10,000 Inspections	60,00,000

The company makes three products M, S and T. For the year ended March 31, 2017, the following consumption of cost drivers was reported:

Product	Kilowatt hours	Quality Inspections
M	10,000	3,500

S	20,000	2,500
T	15,000	3,000

Required:

(i) PREPARE a statement showing cost allocation to each product from each activity.

(ii) CALCULATE the cost of unused capacity for each activity.

(iii) STATE the factors the management considers in choosing a capacity level to compute the budgeted fixed overhead cost rate.

Ans:- (i) Statement of cost allocation to each product from each activity

	Product			
	M (Rs)	**S (Rs)**	**T (Rs)**	**Total (Rs)**
Power (Refer to working note)	8,00,000 (10,000 kWh×Rs80)	16,00,000 (20,000 kWh×Rs80)	12,00,000 (15,000 kWh×Rs80)	36,00,000
Quality Inspections (Refer to working note)	21,00,000 (3,500 inspections × Rs 600)	15,00,000 (2,500 inspections × Rs 600)	18,00,000 (3,000 inspections × Rs 600)	54,00,000

Working Note:

Rate per unit of cost driver:

Power :(Rs. 40,00,000 ÷ 50,000 kWh) = Rs. 80/kWh

Quality Inspection :(Rs. 60,00,000 ÷ 10,000 inspections) = Rs. 600 per inspection

(ii) Calculation of cost of unused capacity for each activity:

	(Rs)
Power (Rs40,00,000 – Rs36,00,000)	4,00,000
Quality Inspections (Rs60,00,000 – Rs54,00,000)	6,00,000
Total cost of unused capacity	10,00,000

(iii) Factors management consider in choosing a capacity level to compute the budgeted fixed overhead cost rate:

- Effect on product costing & capacity management

- Effect on pricing decisions.

- Effect on performance evaluation

- Effect on financial statements

- Regulatory requirements.

- Difficulties in forecasting for any capacity level.

Q-84 What is the impact of information technology on cost accounting system?

Ans:- ❖ Information technology has led to integration of different functional activities and as a consequence a single entry into the cost accounting system provide custom made reports for every purpose and saves an organization from preparing different sets of documents

❖Move towards paperless environment with all documents like Bill of material, Material requisition note, Goods received note being made in system

❖ Information technology with the help of internet can help in resource procurement and mobilization

❖Cost information is ascertained with accuracy in timely manner. Cost centre and cost object is codified and all related costs are assigned using the codes

❖Uniformity in preparation of report, budgets and standards can be achieved with the help of IT

❖ Cost and revenue variance reports can be prepared in real time basis

❖ IT enables an entity to monitor and analyse each process closely to eliminate non-value-added activities

Q-85 State with a brief reason whether you would recommend an activity based system of costing in each of the following independent situations:

❖ Company K produces one product. The overhead costs mainly consist of depreciation.

❖ Company L produces 5 different products using different production facilities.

❖ A consultancy firm consisting of lawyers, accountants and computer engineers provides management consultancy services to clients.

❖ Company S produces two different labour intensive products. The contribution per unit in both products is very high. The BEP is very low. All the work is carried on efficiently to meet the target costs.

Ans:-

S.No	Description	Recommended ABC (Yes/No)	Reasons
(a)	K produces one product. Overhead is mainly depreciation	No	❖ One product situation. For allocation of overhead, ABC is not required

			❖ ABC for cost reduction is not beneficial since most of the overhead is depreciation
(b)	L produces five different products with different facilities	Yes	❖ Multi product situation. ABC is required for allocation of overhead ❖ ABC is necessary for pricing ❖ Cost drivers are likely to be different ❖ Cost reduction may be possible ❖ Production facilities are different
(c)	Professional services – lawyers/ accountants/ computer engineers	Yes	❖ Variety of services. Hence ABC is required for cost allocation ❖ Services are very different ❖ ABC is necessary for pricing ❖ Cost reduction possible
(d)	S produces 2 different labour intensive products. High unit contribution and efficient operations	No	❖ Different products, but labour intensive. Hence, overhead allocation based on readily traceable direct labour cost will be accurate. Hence ABC not required for cost allocation ❖ Low BEP level implies low level of fixed cost as a % of sale price or as a % of total cost

			❖ Many fixed cost activity drivers are likely to be aligned with the direct labour costs. Hence not required for cost allocation ❖ Efficient operation. Hence ABC not required even for cost reduction or ABC management

Q-86 Following information relate to a manufacturing concern for the year ended 31st March 2019:

Particulars	**Amount**
Raw material (opening)	2,28,000
Raw material (closing)	3,05,000
Purchases of raw material	42,25,000
Freight inwards	1,00,000
Direct wages paid	12,56,000
Direct wages – outstanding at the end of the year	1,50,000
Factory overheads	20% of prime cost
Work-in-progress (opening)	1,92,500
Work-in-progress (closing)	1,40,700
Administrative overheads relating to production	1,73,000
Distribution expenses	Rs.16 per unit
Finished stock (opening) – 1,217 units	6,08,500
Sale of scrap of material	8,000

The firm produced 14,000 units of output during the year. The stock of finished goods at the end of year is valued at cost of production. The firm sold 14,153 units at a price of Rs.618 per unit during the year. Prepare the cost sheet of the firm

Ans:- Cost sheet of _____ for the year ended March 2019:

Particulars	**Amount**	**Amount**
Direct Material		
Opening stock of Raw Material	2,28,000	
Purchases of raw material	42,25,000	
Freight inwards	1,00,000	
Less: Scrap of material	(8,000)	
Less: Closing stock of raw material	(3,05,000)	42,40,000
Direct Labour (including outstanding)		14,06,000
Direct expenses		0
Prime Cost		56,46,000
Factory Overheads (20% of prime cost)		11,29,200
Gross Works Cost		67,75,200
Add: Opening Work in Progress		1,92,500
Less: Closing Work in Progress		(1,40,700)
Net Works Cost/Factory Cost		68,27,000
Primary Packing Cost		0
Research and Development		0
Quality Control Cost		0
Administrative Overheads relating to Production		1,73,000
Less: Credit for recoveries/scrap		0
Cost of Production		70,00,000
Add: Opening stock of Finished Goods		6,08,500
Less: Closing stock of Finished Goods (Note 1)		(5,32,000)
Cost of Goods Sold		70,76,500

General and Administrative Overheads		0
Selling and distribution Overheads (16 x 14,153)		2,26,448
Cost of Sales		73,02,948
Profit (balancing figure)		14,43,606
Sales (618 x 14,153)		87,46,554

Note 1: Computation of value of closing stock:

Particulars	**Calculation**	**Amount**
Opening stock of FG (units)		1,217
Production during the year		14,000
Less: Closing stock of FG (units)		(14,153)
Closing stock in units		1,064
Cost per unit #	70,00,000/14,000	500
Value of closing stock	1,064 x 500	5,32,000

It is assumed that the company is following FIFO method of accounting and hence cost per unit has been calculated based on current year production cost.

Q-87: A company has an annual demand from a single customer of 50,000 litres of a paint product. The total demand can be made up of a range of colour to be produced in a continuous production run after which a set-up of the machinery will be required to accommodate the colour change. The total output of each colour will be stored and then delivered to the customer as a single load immediately before the production of the next colour commences.

The set up costs are Rs.100 per set up. The service is supplied by an outside company as required. The holding costs are incurred on rented storage space which costs Rs.50 per square metre per annum. Each square meter can hold 250 litres suitably stacked.

You are required to calculate:

❖ Calculate the total cost per year where batches may range from 4,000 to 10,000 litres in multiples of 1,000 litres and hence choose the production batch size which will minimize the cost

❖ Use the economic batch size formula to calculate the batch size which will minimize the total cost

Ans:-WN 1: Total cost computation for different batch quantity:

Cost calculation at difference quantity:

Particulars	**4,000**	**5,000**	**6,000**	**7,000**	**8,000**	**9,000**	**10,000**
1.Annual Production	50,000	50,000	50,000	50,000	50,000	50,000	50,000
2. Quantity per production run	4,000	5,000	6,000	7,000	8,000	9,000	10,000
3.Number of production runs (1/2)	12.50	10.00	8.33	7.14	6.25	5.55	5.00
4. Set-up cost per production run	100	100	100	100	100	100	100
5. Total set-up cost (3 x 4)	1,250	1,000	833	714	625	555	500
6. Average inventory (QPD/2)	2,000	2,500	3,000	3,500	4,000	4,500	5,000
7. Carrying cost per unit per annum	0.20	0.20	0.20	0.20	0.20	0.20	0.20
8. Total carrying cost (6 x 7)	400	500	600	700	800	900	1,000

9. Total of Set-up cost and carrying cost (5+8)	1,650	1,500	1,433	1,414	1,425	1,455	1,455

Most economical quantity per production run = 7,000 litres

WN 2: Computation of EBQ through formula:

Base data:

Annual production	50,000 litres
Set-up cost per run	Rs.100
Carrying cost per unit per annum	Rs. 50 per square metre 1 square metre = 250 litres Rs. 50 per 250 litres Rs.0.20 per litre

EBQ Calculation:

EBQ	=	√2 x Annual production x Set – up cost per run/ Carrying cost per unit per annum
EBQ	=	√2 x 50,000 x 100/0 .20
EBQ	=	7,071 litres

Q-88: Discuss the treatment of spoilage and defectives in cost accounting?

Ans:- Normal spoilage (which is inherent in the operation) costs are included in costs either by charging the loss due to spoilage to the production order or charging it to production overhead so that it is spread over all the products. Any value realized from the sale of spoilage is credited to production order or production overhead accounts, as the case may be. The cost of

abnormal spoilage is charged to Costing P/L A/C. When spoiled work is the result of rigid specification, the cost of spoiled work is absorbed by good production while the cost of disposal is charged to production overhead.

Defectives that are considered inherent in the process and are identified as normal can be recovered by using the following method.

* Charged to goods products

* Charged to general overheads

*Charged to departmental overheads

If defectives are abnormal, they are charged to Costing Profit and Loss Account.

Q-89: Enumerate the causes of labour turnover.

Ans:- Causes of Labour Turnover : The main causes of labour turnover in an organisation/ industry can be broadly classified under the following three heads :

(a) Personal Causes;

(b) Unavoidable Causes; and

(c) Avoidable Causes.

Personal causes are those which induce or compel workers to leave their jobs; such causes include the following:

(i) Change of jobs for betterment.

(ii) Premature retirement due to ill health or old age.

(iii) Domestic problems and family responsibilities.

(iv) Discontent over the jobs and working environment.

causes are those under which it becomes obligatory on the part of management to ask one or more of their employees to leave the organisation; such causes are summed up as listed below:

(i) Seasonal nature of the business;

(ii) Shortage of raw material, power, slack market for the product etc.;

(iii) Change in the plant location;

(iv) Disability, making a worker unfit for work;

(v) Disciplinary measures;

(vi) Marriage (generally in the case of women).

Avoidable causes are those which require the attention of management on a continuous basis so as to keep the labour turnover ratio as low as possible. The main causes under this case are indicated below:

(i) Dissatisfaction with job, remuneration, hours of work, working conditions, etc.,

(ii) Strained relationship with management, supervisors or fellow workers;

(iii) Lack of training facilities and promotional avenues;

(iv) Lack of recreational and medical facilities;

(v) Low wages and allowances.

Q-90: Pokemon Chocolates manufactures and distributes chocolate products. It purchases Cocoa beans and processes them into two intermediate products:

* Chocolate powder liquor base

* Milk-chocolate liquor base.

These two intermediate products become separately identifiable at a single split off point. Every 500 pounds of cocoa beans yields 20 gallons of chocolate - powder liquor base and 30 gallons of milk-chocolate liquor base.

The chocolate powder liquor base is further processed into chocolate powder. Every 20gallons of chocolate-powder liquor base yields 200 pounds of chocolate powder. The milk- chocolate liquor base is further processed into milk-chocolate. Every 30 gallons of milk- chocolate liquor base yields 340 pounds of milk chocolate.

Production and sales data for October, 2004 are:

*Cocoa beans processed	7,500 pounds
* Costs of processing Cocoa beans to split off point (including purchase of beans)	= Rs. 7,12,500

	Production	Sales	Selling price
Chocolate powder	3,000 pounds	3,000 pounds	Rs. 190 per pound
Milk chocolate	5,100	5,100	Rs. 237.50 per pound

The October, 2004 separable costs of processing chocolate-powder liquor into chocolate powder are Rs. 3,02,812.50. The October 2004 separable costs of processing milk-chocolate liquor base into milk-chocolate are Rs. 6,23,437.50.

Pokemon fully processes both of its intermediate products into chocolate powder or milk-chocolate. There is an active market for these intermediate products. In October, 2004, Pokemon could have sold the chocolate powder liquor base for Rs. 997.50 a gallon and the milk-chocolate liquor base for Rs1,235 a gallon.

Required:

(i) Calculate how the joint cost of Rs7,12,500 would be allocated between the chocolate powder and milk-chocolate liquor bases under the following methods:

(a) Sales value at split off point

(b) Physical measure (gallons)

(c) Estimated net realisable value, (NRV) and

(d) Constant gross-margin percentage NRV.

(ii) What is the gross-margin percentage of the chocolate powder and milk-chocolate liquor bases under each of the methods in requirements (i)?

(iii) Could Pokemon have increased its operating income by a change in its decision to fully process both of its intermediate products? Show your computations.

Ans:- (i) Comparison of alternative joint-cost allocation methods

Sales value at split-off point method

	Chocolate powder liquor Base	Milk chocolate liquor base	Total
*Sales value of products at split off	Rs 2,99,250	Rs 5,55,750	Rs 8,55,000

Weights	0.35	0.65	1.00
Joint cost allocated	Rs. 7,12,500 0.35 =Rs2,49,375	Rs. 7,12,500 0.65 =Rs4,63,125	

* 300 x 997.50 = Rs2,99,250; 450 x 1,235 = Rs. 5,55,750

Physical measure method

	Chocolate powder Liquor base	**Milk chocolate liquor Base**	**Total**
Output	300 gallons	450 gallons	750 gallons
Weight	300÷750= 0.40	450÷750 = 0.60	1.00
Joint cost allocated	Rs7,12,500 x 0.40	Rs7,12,500 x 0.60	Rs 7,12,500
	=Rs 2,85,000	= Rs4,27,500	

Net realisable value method

	Chocolate powder Liquor base	**Milk chocolate liquor Base**	**Total**
Final sales value of production	3,000 lbs x Rs190 = Rs5,70,000	5,100 lbs x Rs237.50 = Rs12,11,250	Rs 17,81,250
Less separable costs	Rs 3,02,812.50	Rs 6,23,437.50	Rs 9,26,250
Net realisable value at split off point	Rs 2,67,187.50	Rs 5,87,812.50	Rs 8,55,000
Weight	2,67,187.50/8,55,000	5,87,812.5/8,55,000	
	= 0.3125	= 0.6875	
Joint cost allocated	Rs 7,12,500 x 0.3125	Rs 7,12,500 x 0.6875	
	= Rs 2,22,656.25	= Rs 4,89,843.75	Rs 7,12,500

Constant gross margin % NRV method

	Chocolate powder Liquor base	Milk chocolate liquor base	Total
Final sales value of production	Rs 5,70,000 (Chocolate Powder)	Rs 12,11,250 (Milk Chocolate)	Rs 17,81,250
*Less Gross Margin 8%	Rs 45,600	Rs 96,900	Rs 1,42,500
Cost of goods for available sale	Rs 5,24,400	Rs 11,14,350	Rs 16,38,750
Less Separable costs	Rs 3,02,812.50	Rs 6,23,437.50	Rs 9,26,250
Joint cost allocated	Rs 2,21,587.50	Rs 4,90,912.50	Rs 7,12,500

*Final sales value of total production = Rs. 17,81,250

Deduct joint and separable cost = Rs7,12,500 + Rs9,26,250

= Rs16,38,750

Gross Margin = Rs. 1,42,500

Gross margin% =Rs. 1,42,500 / Rs. 17,81,250 = 8%

(i) Chocolate powder liquor base (calculations in Rs)

	Sales value at Split off	Physical Measure	Estimated net realisable value	Constant gross – margin NRV
Final sale value of Chocolate powder.	5,70,000	5,70,000	5,70,000	5,70,000
Less: separable costs	3,02,812.50	3,02,812.50	3,02,812.50	3,02,812.50
Less: Joint costs	2,49,375	2,85,000	2,22,656.25	2,21,587.50
Gross Margin	17,812.50	(17,812.50)	44,531.25	45,600

Gross Margin %	3.125%	(3.125%)	7.8125%	8%

Milk chocolate liquor base (calculations in Rs)

	Sales value at Split off	**Physical Measure**	**Estimated net realisable value**	**Constant gross – margin NRV**
Final sale value of milk chocolate.	12,11,250	12,11,250	12,11,250	12,11,250
Less: separable costs	6,23,437.50	6,23,437.50	6,23,437.50	6,23,437.50
Less: Joint costs	4,63,125	4,27,500	4,89,843.75	4,90,912
Gross Margin	1,24,687.50	1,60,312.50	97,968.75	96,900.50
Gross Margin %	10.29%	13.23%	8.08%	8%

(i) Further processing of Chocolate powder liquor base into Chocolate powder (calculations in Rs)

Incremental revenue (5,70,000 – (997.50 300))	2,70,750
Incremental costs	3,02,812.50
Incremental operating income	(32,062.50)
Further processing of Milk chocolate liquor base into milk chocolate (calculations in Rs)	
Incremental revenue(12,11,250 – 5,55,750)	6,55,500
Incremental cost	6,23,437.50
Incremental operating income	32,062.50

The above computations show that Pokemon	Chocolates could increase operating

Income by Rs. 32,062.50 if chocolate liquor base is sold at split off point and milk chocolate liquor base is processed further.

Q-91 What are the methods to segregate semi-variable costs into fixed and variable costs?

Ans:- Method 1: Graphical Method:

❖ Large number of observations regarding the total costs at different levels of output are plottedon a graph with output on x-axis and total cost on y-axis

❖A line of "best fit" which passes through all or most of the points is drawn

❖ The point at which this line cuts the y-axis indicates total fixed cost component in the total cost

❖Variable cost is computed by deducting the fixed cost from the overall cost

Method 2: High points and Low points method:

❖Under this method the difference between the total cost at highest and lowest sales volume is divided by the difference between the sales value at these two points

❖Variable cost ratio = Change in cost / Change in sales

Method 3: Analytical Method:

❖ Experienced cost accountant tries to judge what proportion of semi-variable cost would be variable and what would be fixed

Method 4: Comparison by period or level of activity method:

❖ Variable overhead may be determined by comparing two levels of output with the amount of expenses at those levels

❖Variable cost per unit = Change in cost / Change in output

Method 5: Least squares method:

❖ This is a statistical method and is based on finding out a line of best fit for a number of observations

❖Y = mx + c

Where Y = Total cost

m = Variable cost per unit

c = Total fixed cost

x = Volume of output

Q-92 Discuss the essentials of a good Cost Accounting system.

Ans- Essentials of a good Cost Accounting System: The essential features, which a good Cost Accounting System should possess, are as follows:

(a) Informative and Simple: Cost Accounting System should be tailor-made, practical, simple and capable of meeting the requirements of a business concern.

(b) Accuracy: The data to be used by the Cost Accounting System should be accurate; otherwise it may distort the output of the system.

(c) Support from Management: Necessary cooperation and participation of executives from various departments of the concern is essential for developing a good system of Cost Accounting.

(d) Cost- Benefit: The Cost of installing and operating the system should justify the results.

(e) Precise Information: The system of costing should not sacrifice the utility by introducingmeticulous and unnecessary details.

(f) Procedure: A carefully phased programme should be prepared by using network analysis for the introduction of the system.

(g) Trust: Management should have faith in the Costing System and should also provide a helping hand for its development and success.

Q-93 Explain controllable and non-controllable cost with examples.

Ans- Controllable costs are those which can be influenced by the action of a specified member of an undertaking. A business organization is usually divided into a number of responsibility centres and each such centre is headed by an executive. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre. Direct costs comprising direct labour, direct materials, direct expenses and some of the overhead are generally controllable by the shop level management.

Non-controllable costs are those which cannot be influenced by the action of a specified member of an undertaking. For example, expenditure incurred by the tool room is controllable by the tool room manager but the share of the tool room expense which is apportioned to the machine shop cannot be controlled by the machine shop manager. It is only in relation to a particular individual that a cost may be specified as controllable or not.

Note: **1.** A supervisor may be unable to control the amount of managerial remuneration allocated to his department but for the top management this would be a controllable cost.

2. Depreciation would be a non-controllable cost in the short-term but controllable in the long terms.

Q-94 Difference between Cost Accounting and Management Accounting

Ans-

	Basis	**Cost Accounting**	**Management Accounting**
(i)	Nature	It records the quantitative aspect only.	It records both qualitative and quantitative aspect.
(ii)	Objective	It records the cost of producing a product and providing a service.	It Provides information to management for planning and co-ordination.
(iii)	Area	It only deals with cost Ascertainment.	It is wider in scope as it includes financial accounting, budgeting, taxation, planning etc.
(iv)	Recording of data	It uses both past and present figures.	It is focused with the projection of figures for future.
(v)	Development	Its development is related to industrial revolution.	It develops in accordance to the need of modern business world.
(vi)	Rules and Regulation	It follows certain principles and procedures for recording costs of different products.	It does not follow any specific rules and regulations.

Q-95 Discuss the treatment of Idle time and Overtime premium in Cost Accounting.

Ans- Treatment of Idle time and Overtime Premium in Cost Accounting

- Normal idle time is treated as a part of the cost of production. Thus, in the case of direct workers, an allowance for normal idle time is built into labour cost rates. In case of indirect workers, normal idle time is spread over all the products or jobs through the process of absorption of factory overheads.

- Abnormal idle time cost is not included as a part of production cost and is shown as a separate item in costing Profit and Loss Account.
- Management should aim at eliminating controllable idle time and on a long-term basis reduce even the normal idle time.
- If overtime is resorted to at the desire of the customer, then overtime premium may b charged to the job directly.
- If overtime is required to cope with general production programme or for meeting urgent orders, the overtime premium should be treated as overhead cost of the particular department/cost centre.

Q-96 Discuss the treatment of under-absorbed and over-absorbed factory overheads in cost accounting.

Ans- Treatment of under absorbed and over absorbed factory overheads in cost accounting: Factory overheads are usually applied to production on the basis of pre-determined rate = Estimated normal overheads for the period / Budgeted No. of units during the period

The possible options for treating under / over absorbed overheads are

- Use supplementary rate in the case of substantial amount of under / over absorption
- Write it off to the costing profit & loss account in the event of insignificant amount / or abnormal reasons.
- Carry forward to next accounting period if operating cycle exceeds one year.

Q-97 Explain: Single and multiple overhead rate.

Ans- Single and multiple overhead rate: A single overhead rate, when computed for the entire factory is known as the blanket rate.

Blanket rate = Overhead cost of entire factory / total quantum of the base selected

The blanket rates can be utilised in the following cases;

✓ Where only one major product is being produced.

✓ Where several products are produced but: (a) all products pass through all departments and (b) all products require the same length of time in each department.

When the above conditions are not applicable, separate departmental rates should be used. Multiple rates involve computation of separate rates for each production department, service department, cost-centre, each product or line and each production factor.

Q-98 Discuss the accounting of Selling and Distribution overheads.

Ans- Accounting of Selling and Distribution Overheads

It is difficult to determine an entirely satisfactory basis for computing the overhead rate for absorbing selling and distribution overheads. The basis usually adopted is:

- Sales value of goods
- Cost of goods sold
- Gross profit on sales
- Number of orders or units sold

Expenses	**Basis for allocation**
Salaries in Sales Department.	Estimated time devoted to the sale of various products.
Advertisements Show room expenses Rent of finished goods, go downs and expenses on own delivery vans.	Actual amount incurred for each product Average space occupied by each product Average quantities delivered during a period

Q-99 "Operation costing is defined as refinement of Process costing." Explain it.

Ans- Operation costing is concerned with the determination of the cost of each operation rather than the process:

❖ In the industries where process consists of distinct operations, the operation costing method is applied.

It offers better control and facilitates the computation of unit operation cost at the end of each operation.

Q-100 What is inter-process profit? State its advantages and disadvantages.

Ans- Definition of Inter-Process Profit and Its advantages and disadvantages In some process industries the output of one process is transferred to the next process not at cost but at market value or cost plus a percentage of profit. The difference between cost and the transfer price is known as inter-process profits.

The advantages and disadvantages of using inter-process profit, in the case of process type industries are as follows:

Advantages:

1. Comparison between the cost of output and its market price at the stage of completion is facilitated.

2. Each process is made to stand by itself as to the profitability.

Disadvantages:

1. The use of inter-process profits involves complication.

2. The system shows profits which are not realized because of stock not sold out

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