MOST IMP QUESTIONS COST ACCOUNTING

[100% ASSURANCE]

UNIT -1 INTRODUCTION TO COST ACCOUNTING

5 MARKS QUESTION

Q.1[A]

1. **Explain the advantages of Cost Accounting. [5]**
2. **What is meant by Cost Accounting ? Discuss the objective of Cost accounting. [5]**
3. **Define different methods of costing and discuss any one. [5]**

Q. 1[B]

1. From the following information, find out : [5]

(1) Economic order Quantity
(2) Ordering level
(3) Minimum level
(4) Maximum level
Consumption for a 2 years 5000 units,
Per unit cost ₹ 10,
Cost of placing an order ₹ 200
Per unit carrying cost 10%
Delivery time 2 to 4 weeks
Weekly Consumption 60 to 120 units.

1. Answer

Particulars	Amount
1) Economic Order Quantity : $\frac{\sqrt{2AO}}{C} = \frac{\sqrt{2\,(2{,}500)(200)}}{1}$	1,000 Units
2) Reorder level = Maximum Consumption × Maximum L.T. = 120 × 4	480 units
3) Minimum Level = ROL – (Avg. Con. × Avg. LT) = 480 – (90 × 3)	210 units
4) Maximum level = ROL – (Minimum Con. × Minimum LT) + EOQ = 480 – (60 × 2) + 1,000	1,360 units

2. From the following information find out stock turnover rate : [5]

Opening Stock ₹ 80,000
Purchase ₹ 2,00,000
Closing Stock ₹ 40,000

2. Answer

(1) Average Stock = Opening + Closing / 2 = 80,000 + 40,000 / 2	60,000
2) COGS : COGS = Opening Stock + Purchase – Closing Stock = 80,000 + 2,00,000 – 40,000	2,40,000
(3) Material Turnover Rate = COGS / Avg. Stock = 2,40,000 / 60,000	4 Times

3. From the following information find out material turnover rate :

Opening Stock ₹ 1,20,000
Closing Stock ₹ 84,000
Purchase of materials ₹ 3,95,000
Generally stock are valued at cost price plus 20%.

3. Answer:

(1) Average Stock: Opening stock = 1,00,000 (1,20,000 × 100/120) Closing stock = 70,000 (84,000 × 100/120) Average stock = Opening stock + Closing stock / 2 = 1,00,000 + 70,000 / 2	85,000
2) COGS : Opening Stock + Purchase – Closing Stock = 1,00,000 + 3,95,000 – 70,000	4,25,000
(3) Material Turnover Rate = COGS / Avg. Stock = 4,25,000 / 85,000	5 Times

10 MARKS QUESTION

Q.1 From the following information calculate (1) Economic order quantity (2) Ordering level (3) Minimum level (4) Maximum level (5) Average level (6) Danger level [10]

(1) Bi Monthly Consumption	7,500 Units
(2) Cost per unit	₹ 100
(3) Cost of placing an order	₹ 500
(4) Storage carrying charges	25%
(5) Maximum time to get materials	45 days
(6) Average time to get materials	35 days
(7) Maximum time for immediate purchase	5 days
(8) Maximum daily consumption	120 units
(9) Minimum daily consumption	80 units

Answer:

Particulars	Amount
1) Economic Order Quantity : EOQ = $\frac{\sqrt{2AO}}{c}$	1,342 Units

$= \frac{\sqrt{2\,(45{,}000)(500)}}{25}$	
(3) Reorder level = Maximum Consumption × Maximum L.T. = 120 × 45	5,400 units
(5) Minimum Level = ROL – (Avg. Con. × Avg. LT) = 5,400 – (100 × 35) Average Consumption = Min. Cos + Max. Cos / 2 = 80 + 120 / 2 = 100	1,900 units
4) Maximum level = ROL – (Minimum Con. × Minimum LT) + EOQ = 5,400 – (80 × 25) + 1,341 Average Lead Time [L.T.] = [Min. LT + Max. LT] / 2 35 = [Min. LT + 45] / 2 Min. L.T. = 70 – 45 = 25	4,742 units
5) Average Level = Minimum Level + ½ (EOQ) = 1,900 + ½ (1,341)	2,571 Units
(6) Danger Level = Avg. Cos × Max. time to immediate purchase = 100 × 5	500 Units

Q.2 Ajit Ltd. had a stock of 15,000 kgs at ₹ 2 per kg in the beginning of September, 2017. Other purchases made during the month were as under :

September 6 4,500 kgs at ₹ 2.50 per kg
September 12 5,500 kgs at ₹ 3.00 per kg
September 19 12,000 kgs at ₹ 3.50 per kg

Issues for production were as under :

September 14 25,000 kgs
September 26 10,000 kgs

If the issues are priced on LIFO Method what would be the value of closing stock at the end of month ?

(LIFO Method)

Date	Receipt			Issue			Balance		
	Quantity	Rate	Amount	Quantity	Rate	Amount	Quantity	Rate	Amount
1/9/17	15,000	2	30,000	-	-	-	15,000	2	30,000
6/9/17	4,500	2.50	11,250	-	-	-	15,000	2	30,000
							4,500	2.50	11,250
12/9/17	5,500	3	16,500	-	-	-	15,000	2	30,000
							4,500	2.50	11,250
							5,500	3	16,500
14/9/17	-	-	-	25,000					
				15,000	2	30,000	-	-	-

				4,500	2.50	11,250			
				5,500	3	16,500			
19/9/17	12,000	3.50	42,000	-	-	-	12,000	3.50	42,000
26/9/17	-	-	-	10,000	3.50	35,000	2,000	3.50	7,000
30/9/17	-	-	-	-	-	-	2,000	3.50	7,000

Closing stock = 2,000 × 3.50 = 7,000

Q.3 The following information of Samir Ltd. for the month of March 2016. Prepare stock Register using FIFO method. [10]

Date	Particulars	Units	Per Unit ₹
March – 1	Opening stock	200	5
3	Purchase	150	6
6	Issue	100	-
10	Purchase	250	4
13	Issue	200	-
15	Purchase	100	7
23	Issue	300	-

Answer

Stock Register of Samir Ltd. By FIFO Method									
Date	Receipt			Issue			Balance		
	Quantity	Rate	Amount	Quantity	Rate	Amount	Quantity	Rate	Amount
1/3/16	200	5	1000	-	-	-	200	5	1000
3/3/16	150	6	900	-	-	-	200	5	1000
							150	6	900
6/3/16	-	-	-	100	5	500	100	5	500
							150	6	900
10/3/16	250	4	1000	-	-	-	100	5	500
							150	6	900
							250	4	1000
13/3/16	-	-	-	200					
				100	5	500	50	6	300
				100	6	600	250	4	1000
15/3/16	100	7	700	-	-	-	50	6	300

							250	4	1000
							100	7	700
23/3/16	-	-	-	300					
				50	6	300	100	7	700
				250	4	1000			

Closing Stock = 100 × 7 = 700

Q.4 The following is a summary of receipts of Material "A" In a Factory during March, 2018 :

Date	Particulars	Quantity Kgs.	Total Amount
1-3-2018	Opening Balance	500	10,000
4-3-2018	Purchase	3,500	63,000
9-3-2018	Purchase	2,000	44,000
14-3-2018	Issued	2,400	-
16-3-2018	Purchase	400	10,000
20-3-2018	Issued	2,000	-
22-3-2018	Purchase	2,000	30,400
28-3-2018	Issued	3,000	-

The Material issued on 14-3-2018 and 20-3-2018 were priced on "FIFO" and "LIFO" basis respectively. It was decided to price issued by "Weighted Average Method" from 22-3-2018. Prepare Stock Register For Material.

ANSWER:

Stock Register as per First in First Out , Last in Last out and Weighted Average Method :

	Receipts			Issue			Balance		
Date	Quantity	Rate	Amount	Quantity	Rate	Amount	Quantity	Rate	Amount
1-3-18	500	20	10,000	-	-	-	500	20	10,000
4-3-18	3500	18	63,000	-	-	-	500	20	10,000
							3500	18	63,000
9-3-18	2000	22	44,000	-	-	-	500	20	10,000
							3500	18	63,000
							2000	22	44,000
14-3-18	-	-	-	500	20	10,000			
	-	-	-	1900	18	34,200	600	18	28,800
	-	-	-				2000	22	44,000
16-3-18	400	25	10,000	-	-	-	1600	18	28,800
							2000	22	44,000
							400	25	10,000

20-3-18	-	-	-	400	25	10,000	1600	18	28,800
				1600	22	35,200	400	22	8800
22-3-18	2000	15.2	30,400	-	-	-	4000	17	68,000
28-3-18				3000	17	51,000	1000	17	17,000

Closing Stock at the the end of the end of month

Quantity	Rate	Amount
1000	17	17,000

UNIT-2 LABOUR COSTING

Q.2 [A] & [B] [5 MARKER]

1. X, Y and Z are three workers in a factory. Standard time allowed for a job is 100 hours. Wage rate per hour is ₹ 5. To finish the job X takes 70 hours. Y takes 100 hours and Z takes 110 hours. [5]

Calculate :
(1) Time wage
(2) Piece wage
(3) Effective wage rate as per piece wage

Answer:
Time allowed [T.A] = 100
Time Taken [T.T.] = X = 70, Y = 100 & Z = 110
Rate = 5 Rs.

1. Time Wage = TT x R **X = 70 x 5** **Y = 100 x 5** **Z = 110 x5**	 **350 Rs.** **500 Rs.** **550 Rs.**
2. Piece Wages = TA x R **X = 100x 5** **Y = 100 x 5** **Z = 100 x 5**	 **500 Rs.** **500 Rs.** **500 Rs.**
3. Effective Wage Rate = Piece Wage / T.T. **X = 500 / 70** **Y = 500 / 100** **Z = 500 / 110**	 **7.14 Rs.** **5 Rs.** **4.55 Rs.**

2. A workman takes 9 hours to complete the job on daily wages and 8 hours on a scheme of payment by results. His day rate is ₹ 25 per hour. Calculate the wages payable to worker on (1) Time basis and (2) Piece basis.[5]

Answer:

Time allowed [T.A] = 9
Time Taken[T.T.]= 8
Time Saved[T.S]= 1
Rate = 25

(1) Time Basis = TT × R
= 8 × 25
= 200 Rs.
(2) Piece Wages = TA × R
= 9 × 25
= 225 Rs

3. A workman allowed 72 hours to complete a job on daily time wage and the complete the job in actual 48 hours. His time wages is ₹ 15 per hour. Calculate the wages payable to worker on (1) Halsey Premium Plan and (2) Rowan Premium Plan.

Answer (C)

Time allowed [T.A] = 72
Time Taken[T.T.]= 48
Time Saved[T.S]= 24
Rate = 15

(1) Halsey Premium Plan = (TT×R) + ½ (TS×R)
= (48×15) + ½ (24×15)
= 720 + 180
=900 Rs.
(2) Rowan Premium Plan = (TT×R) + (Wages × TS/TA)
= (48×15) + (720×24/72)
= 720 + 240
= 960 Rs

4. A worker has been allowed to complete a work in 120 hours, but he completes the work in 90 hours. Labour rate per hour is Rs.20 if cost of material is Rs.80 and factory overheads are 100% of direct labour . find out factory cost as per following methods :

[i] Piece Rate System
[ii] Time wage Plan
[iii] Halsey Premium Plan

[iv] Rowan Plan

[1] Piece Wage System = Time Allowed X Wage Rate
= 120 X 20
= 2400 Units

[2] Time Wage Plan = Actual time Taken X Wage Rate
= 90 X 20
= 1800 Units

[3] Halsey Premium Plan = (T.T X R) + ½ (T.S X R)
= (90 X 2) + ½ (30 X 20)
= 1800 + 300
= 2100

Time Save = 120 – 90 = 30

[4] Rowan Plan = (T.T X R) + (W X $\frac{T.S}{T.A}$)
= (90 X 20) + (1800 X $\frac{30}{120}$)
= 1800 + 450
= 2250

Factory Cost under 4 Plans :

Particulars	Time Wages	Piece Wages	Halsey Plan	Rowan Plan
Materials	80	80	80	80
Direct Wages	1800	2400	2100	2250
Prime Cost	1880	2480	2180	2330
Factory Overheads (at 100% on Wages)	1800	2400	2100	2256
Factory Cost	3680	4886	4286	4586

5. Atharv has taken 720 hours to complete a job. The wage rate per hour is Rs.10. If he has received Rs.8640 as total wages according to Rowan Plan , what would be the amount of wages earned by him according to Halsey Plan ?

Wages under Rowan = (T.T X R) + (W X T.S/T.A) 8640 = (720 X 10) + (7200 X T.S\T.A) 8640 = 7200 + (7200 X T.S.\T.A) 1440\7200 = T.S\T.A 1 / 5 = T.S/T.A.
Time Allowed = 5 Time Saved = 1 Total time Taken = 4 Hours If Time Taken 4 - 5 Time Allowed If Time Taken 720 - ? Time Alllowed 900 Total time 720 Time Allowed = 180 Time Saved Wages Under Halsey Plan = (T.T X R] + ½ (T.S X R) = (720 X10) + ½ (180 X 10) = 7200 + 900 = 8100

10 MARKS QUESTION

Q.2

Q.1 Following details are obtained from the books of Ayan Ltd. for the April 2016. [5 OR 10]

Workers at the beginning of April	1180
Workers at the end of April	820
Workers registered during the month	28
Workers suspended during the month	42
Workers newly recruited in place of workers left during the month	20
Newly appointed under expansion plan	45

Calculate Labour turnover rate :
(1) Separation Method
(2) Replacement Method
(3) Flex Method
(4) Equivalent Annual turnover Rate under all three methods (EAR).

Answer:

(1) Separation Method : = No. Of Separation / Average employee × 100 = [70 / 1,000] × 100	7%
(2) Replacement Method : = No. of Replacement / Average employee × 100 = [20 / 1,000] × 100	2%

(3) Flux Method : **= No. of Separation + No. of Replacement / Average employee × 100** **= [70 + 20 / 1,000] × 100**	**9%**
(4) Equivalent Annual Turnover Rate **= [Labour turnover rate/ no. of days in the month] x 365** **1. Separation Method : [7/30] x 365** **2. Replacement Method : [2/30] x 365** **3. Flux Method :[9/30] x 365**	 **85.17%** **24.33%** **109.5%**

2. On 31st March, 2017 following information was obtained from the books of a company. From this information find out the amount of net wages payable in cash and also find out the cost of monthly wages. [10]

(1) Basic pay	**₹ 1,00,000**
(2) Dearness allowance	**50% of basic Pay**
(3) Nightshift allowance	**₹ 12,000**
(4) Overtime allowance	**₹ 20,000**
(5) Provident fund deposited for the period	**₹ 16,000**
(6) ESI contribution for the period	**₹ 10,000**
(7) Recovery of staff quarters	**₹ 12,000**
(8) Recovery towards supply of provisions	**₹ 10,000**
(9) Expenses on amenities to employees	**₹ 6,000**

Provident fund is paid in equal share by the employer and the employees. The contribution to ESI is in proportion of 3 : 2 by the employer and the employees respectively.

Answer:

Calculation of net cash wages payable to Employees	
Salary	**1,00,000**
Dearness allowance	**50,000**
Night shift allowance	**12,000**
Overtime allowance	**20,000**
Total	**1,82,000**
Less: deductions: **1. Provident fund 8,000** **2. ESIS 4,000 [10,000 x 2/5]** **3. Staff quarters 12,000** **4. Supply 10,000**	 **(34,000)**
Net wages payable in cash	**1,48,000**

Calculation of Total cost of Monthly wages	
Salary	**1,00,000**
Dearness allowance	**50,000**
Night shift allowance	**12,000**

Overtime allowance	20,000
Total	1,82,000
Add: Perquisites 1. Provident fund 8,000 2. ESIS 6,000 [10,000 x 3/5] 3. Amenities 6,000	20,000
Net wages payable in cash	2,02,000
÷ Months	12
Monthly wages	16,833

3.Following particulars has been obtained of March-2017 from the labour department of Riddhi Manufacturing Company. Find out the labour turnover rate and the equivalent turnover rate according to Separation Method and Replacement method. [10]

Workers as on 1-3-2017	6,360
Workers as on 31-3-2017	5,640
During the month of March, 2017	
No. of workers discharged	900
No. of workers retired	1,140
No. of workers resigned	560
No. of workers newly appointed	1,000
(Of which 40% workers were taken under expansion plan)	

Answer:

(1) Separation Method : = No. Of Separation / Average employee × 100 = 2,600/6,000 × 100	43.33%
(2) Replacement Method : = No. of Replacement / Average employee × 100 = 600/6,000 × 100	10%
(3) Equivalent Annual Turnover Rate = [Labour turnover rate/ no. of days in the month] x 365 1. Separation Method : [43.33 / 31] × 365 = 2. Replacement Method : 10 / 31 × 365 =	 510.18% 117.74%

UNIT-3 OVERHEADS

10 MARKS QUESTION :

Q.3[A] OR

1. Rimsha Ltd. has three production departments A, B and C and two service departments X and Y. Following information are available for May 2016. [10]

Particulars	₹

Rent and Taxes	12,500
Power expenses	5,500
Lighting expenses	6,000
Repairs of Machines	3,600
Insurance of Machines	8,400
Depreciation of other Machines	6,500
Canteen Expenses	8,000

Other Information :

Particulars	A	B	C	X	Y
(1) Space occupied (sq. feet)	400	300	200	50	50
(2) Actual power expenses	1200	1800	1700	400	400
(3) Light points	4	4	2	1	1
(4) Price of machines	2,50,000	2,50,000	1,00,000	50,000	50,000
(5) Price of other machines	40,000	40,000	20,000	20,000	10,000
(6) No. of workers	3	3	2	1	1
(7) Working hours	6,920	8,822	11,595	-	-

Allocation of Service Departments Expenses are as under :

Service Departments	A	B	C	X	Y
X	40	30	20	-	10
Y	30	30	20	20	-

If an item is costing ₹ 200 for raw material, ₹ 100 for wages and if it takes 5, 4 and 2 house each of department A, B and C for completion.

From the above information, Calculate :

(1) Distribution of over heads to various departments.

(2) Distribution of expenses of service departments to production departments.

(3) Find out production rate per hour.

(4) Per unit cost of production.

Answer:

Statement showing allocation of Overheads to All departments of Rimisha Ltd.								
No.	Particulars	Exp.	Basis	A	B	C	D	E
1.	Rent & taxes	12,000	Area occupied (8:6:4:1:1)	4,800	3,600	2,400	600	600
2.	Power Expenses	5,500	As given	1,200	1,800	1,700	400	400
3.	Lighting Expenses	6,000	Light Points (4:4:2:1:1)	2,000	2,000	1,000	500	500
4.	Repairs of Machines	3,600	Price of Machines (5:5:2:1:1)	1,286	1,286	514	257	257
5.	Insurance	8,400	Price of Machines (5:5:2:1:1)	3,000	3,000	1,200	600	600
6.	Depreciation	6,500	Price of Other Machines	2,000	2,000	1,000	1,000	500

			(4:4:2:2:1)					
7.	Canteen expenses	8,000	Number of worker (3:3:2:1:1)	2,400	2,400	1,600	800	800
Total overheads				16,686	16,086	9,414	4,157	3,657

Statement showing allocation of service department O/H to Production Department					
Particulars	A	B	C	X	Y
Total Overheads	16,686	16,086	9,414	4,157	3,657
X's allocation	1,663	1,247	831	(4,157)	418
Total	18,349	17,333	10,245	0	4,075
Y's allocation	1,223	1,223	815	815	(4,075)
Total	19,572	18,556	11,060	815	0
X's allocation	326	245	163	(815)	82
Total	19,898	18,801	11,223	0	82
Y's allocation	29	33	20	0	(82)
Final allocated overheads	19,927	18,834	11,243	0	0
÷ Working Hours	6,920	8,822	11,595		
Rate per hour	2.88	2.14	0.97		

Calculation of cost of production of Job	
Direct material	200
Direct wages	100
Overheads	
A = 5 x 2.88	14.4
B= 4 x 2.14	8.56
C = 2 x 0.97	1.94
Total cost	324.9

2. In a factory there are three production departments A, B and C and two service departments D & E. The details of the expenses during March, 2017 are as under :

	₹
Indirect wages	7,800
Insurance	19,800
Canteen expenses	36,000
Lighting	12,000
Rent and rates	30,000
Contribution to ESI	3,900
Depreciation	99,000
Power	54,000
Factory manager's salary	1,08,000

Other Information :

Particulars	A	B	C	D	E

Lighting points	6	5	4	3	2
Direct Wages (₹)	27,000	24,000	17,400	7,200	2,400
Cost of Machine (₹)	4,32,000	2,88,000	2,16,000	7,200	7,200
Horse power of machine	4	6	2	-	-
Space occupied (sq. feet)	600	400	500	300	200
Proportion of time devoted by factory manager	5	4	3	2	1
Number of workers	5	6	4	3	2

The benefit of service departments D and E is derived by the other departments in the following proportion :

Particulars	A	B	C	D	E
Department D	20%	30%	40%	-	10%
Department E	30%	40%	30%	-	-

Prepare (1) Distribution of overheads to various departments and (2) Distribution of expenses of service department to production departments.

Statement showing allocation of Overheads to All departments							
			Production dep.			Service dep.	
Particulars	Balance	Basis	A	B	C	D	E
Indirect wages	7,800	Direct wages (270:240:174:72:24)	2,700	2,400	1,740	720	240
Insurance	19,800	Cost of machine (4320:2880:2160:72:72)	9,000	6,000	4,500	150	150
Canteen Exp.	36,000	Number of workers (5:6:4:3:2)	9,000	10,800	7,200	5,400	3,600
Lighting	12,000	Light Point (6:5:4:3:2)	3,600	3,000	2,400	1,800	1,200
Rent & Taxes	30,000	Space Occupied (6:4:5:3:2)	9,000	6,000	7,500	4,500	3,000
Contribution ESI	3,900	Direct wages (270:240:174:72:24)	1,350	1,200	870	360	120
Depreciation	99,000	Cost of machine	45,000	30,000	22,500	750	750
Power	54,000	Hours power of machine. (4:6:2)	18,000	27,000	9,000	-	-
Factory M. Sales	1,08,000	Given (5:4:3:2:1)	36,000	28,800	21,600	14,400	7,200
+ Direct wages		-	-	-	-	7,200	2,400
+ Direct mat.		-	-	-	-	-	-
Total Overheads			1,33,650	1,15,200	77,310	35,280	18,660

Statement showing allocation of service department O/H to Production Department					
Particulars	A	B	C	D	E
Total O/H	1,33,650	1,15,200	77,310	35,280	18,660
'D's allocation	7,056	10,584	14,112	(35,280)	3,528
	1,40,706	1,25,784	91,422	0	22,188
'E's allocation	6,656	8,876	6,656	0	(22,188)
	1,47,362	1,34,660	98,078	0	0

3. Following information is obtained from the books of Sarim Ltd. Calculate Machine Hour Rate [10]

(1) Cost of Machine ₹ 40,000, Books value ₹ 26,000, scrap value ₹ 1000 and Estimated Life 15,000 hours.

(2) Cost of repairs during estimated life ₹ 22,500.

(3) Salary of two supervisors ₹ 300 p.m. for each supervisor (They also look after three other machines)

(4) Canteen Expenses ₹ 2400 p.a.

(5) Consumption of steam and water ₹ 0.10 per hour.

(6) Chemical Expenses ₹ 200 p.m.

(7) Overheads allocated to a Machine ₹ 400 p.m.

(8) Power consumption 20 units per hour, rate per hour ₹ 0.14.

(9) Annual Insurance Premium 1% on cost value.

(10) Working hours of a machine 2300 p.a. out of which 200 hours are for maintenance and 100 hours are for installation.

Answer:

Computation of Machine Hour Rate	
Particulars	Amt.(₹)
(A) Fixed :	
Salary Supervisor (300×12/2)	1,800
Canteen expense	2,400
Overhead allowance (400×12)	4,800
Insurance Premium (40,000×1%)	400
Total Fixed Expenses [A]	9,400
(B) Variable :	
Depreciation [40,000 – 1,000] / 15,000 = 2.6 per hour x 2,000	5,200
Repairs (22,500/15,000) = 1.5 per hour x 2000	3,000
Power [1 hour = 20 units] so 2,000 x 20 = 40,000 x 0.14	5,600
Steam Water [0.10 x 2000]	200
Chemical expense [200 x12]	2,400
Total Variable Expenses [B]	16,400
Total Expenses [A + B]	25,800
÷ Effective Machine hour [2,300 – 3,00] = 2,000	÷2,000

Machine hour rate	12.9

4. Production is carried out by four identical machines in a factory. The annual expenses of the factory are as under :

	₹
(1) Rent and rates – yearly	60,000
(2) Annual consumption of power at the rate of 10 paisa per unit	48,000
(3) Repairs and maintenance of machines – annual	9,600
(4) Lighting for the factory – yearly	8,000
(5) Salary of two workers looking after the machines – monthly per worker	6,000
(6) Supervisor's salary – monthly	12,000
(7) Sundry materials – yearly	1,000
(8) Depreciation of each machine – monthly	500
(9) Hire purchase instalment of machines – yearly (including Interest ₹ 3000)	12,000
(10) Consumption of power is 10 units per hour for each machine.	

From the above information calculate the machine hour rate.

ANSWER

Computation of machine hour rate of 4 machines	
Particulars	Amount. (₹)
(A) Fixed :	
Rent & Taxes	60,000
Lighting	8,000
Salary [6,000 x 2 x12]	1,44,000
Supervisor Salary [12,000 x 12]	1,44,000
Sundry materials	1,000
Interest	3,000
(A) Total Fixed expenses	3,60,000
(B) Variable :	
Depreciation [500 x12x4]	24,000
Power	48,000
Repairs & Maintenance	9,600
(B) Total Variable Expenses	81,600
Total (A+B)	4,41,600
÷ Machine hours [W.N. 1]	48,000
Machine hour rate	9.2

Working Notes:
Calculation of machine hours:

1 unit = 0.10 Rs. So for power expenses is 48,000 so units are 48,000/0.10 = 4,80,000 units
10 units = 1 hours so for 4,80,000 units hours are = 4,80,000/10 = 48,000 hours

Note :
This above sum is calculated for 4 machines , if you want to calculate for 1 machines all expenses and hours will be divided by 4.

5. Find out Machine hour rate from the following details :

Cost of Machine	14,30,000
Useful life – 27 years. During which repairing expenses	3,24,000
Scrap Value at the end	80,000
Other fixed expenses yearly	1,28,000
Expenses of Power consumption for a machine yearly [including surcharge)	3,30,000

The Machine uses 15 units of power pr hour and the rate per unit being Rs.3. Surcharge is to be calculated at 10% on expenses of power consumption.

ANSWER:

Computation of Machine Hour Rate	
Particulars	Amount
Fixed Expenses [A] Other fixed expenses yearly	1,28,000
Total Fixed Expenses [A]	1,28,000
Variable Expenses [B] Depreciations = 14,30,000 – 80,000 \ 27 Repairing Expenses Power Expenses	 50,000 12,000 3,30,000
Total Variable Expenses [B]	3,92,000
Total (A + B)	5,20,000
÷ Machine Hour	10,000
Machine Hour Rate	52

Equation 1. =
2 rs. Power cost = 1 unit
3,00,000 rs. Power cost = 3,00,000/2 = 1,50,000 units

Equation 2 =
15 units = 1 hours
1,50,000 units = 1,50,000 / 15 = 10,000 hours

Power cost is inclusive of surcharge
So if power is 100 than surcharge is 10
Than including surcharge is 110
So if expenses are 110 than only power is 100
So if expenses are 3,30,000 than only power is [3,30,000 x 100/110] = 3,00,000

UNIT-4 COST SHEET

[10 MARK QUESTION]

Q.4 [A] AND OR

1. Following is the Trading and Profit & Loss Account of Sajan Ltd. for the year ended on 31-3-2014

Particulars	₹	Particulars	₹
To Direct Raw Material	6,00,000	By Sales (6000 units at 60% Capacity)	20,01,600
To Direct Labour	3,60,000		
To Direct Expenses	1,20,000		
To Factory Overheads			
Fixed 1,20,000			
Variable 1,80,000	3,00,000		
To Gross Profit	6,21,000		
	20,01,600		20,01,600
To Office Overheads (fixed)	1,80,000	By Gross Profit	6,21,600
To Selling Overheads		By Dividend received	4,000
Fixed 60,000			
Variable 48,000	1,08,000		
To Loss on sale of profit	20,000		
To Discount on Debentures	1,000		
To Net profit	3,16,000		
	6,25,000		6,25,600

For the year 2014-15 it is estimated that :

(1) Production will be done at 100% capacity and 80% of production will be sold.

(2) Price of material per unit will increased by 20% and labour rate will also increase by ₹ 6.

(3) There will be an increase of ₹ 2 in variable selling overheads per unit.

(4) Fixed overheads will increase as under :

(i) Factory Overheads ₹ 60,000

(ii) Selling Overheads 33 1/3%

(iii) Office Overheads upto ₹ 2,00,000

(5) Rate of profit on cost will increase by 100%.

From the above particulars, prepare :

(i) Cost sheet showing total cost and per unit cost for the year 2013-14.

(ii) Estimated cost sheet showing total cost and per unit cost for the year 2014-15 :

ANSWER

Production =6,000 Sales = 6,000		
Particulars	P.U.	Amt.
Direct material	100	6,00,000
Direct exp.	20	1,20,000
Direct wages	60	3,60,000
Prime cost	180	10,80,000
+ Factory overheads	50	3,00,000
Work cost	230	13,80,000
+ Adm. Overheads	30	1,80,000
Cost of production	260	15,60,000
+ Selling distribution	18	1,08,000
Cost of sales	278	16,68,000
+ Profit	55.6	3,33,600
Sales	333.6	20,01,600

Working note:1

% of profit on cost = [Profit / cost] x100
=3,33,600/16,68,000×100
= 20%

Estimated cost sheet

O= NIL P = 10,000 S= 8,000 C= 2,000		
Particulars	P.U.	Amt.
Direct materials (100 + 20%)	120	12,00,000
Direct wages (60 + 6)	66	6,60,000
Direct expense	20	2,00,000
P.C.	206	20,60,000
+ F. O/H		
Fixed (1,20,000 + 60,000)	18	1,80,000
Variable	30	3,00,000
W.C.	254	25,40,000
+ A. O.H		
Fixed	20	2,00,000
C.O.P.	274	27,40,000
- Cl. St. F.G. (2,000 × 274)		5,48,000
COGS	274	21,92,000
+ S & D O/H		
Fixed	10	80,000
Variable	10	80,000
COS	294	23,52,000
+ Profit [40% on COS]	117.6	9,40,800
Sales	411.6	32,92,800

Working note: 2

At 60% capacity the production is 6,000
At 100% capacity the production is 10,000
So sales will be 10,000 x 80% = 8,000
And closing stock will be = 10,000 – 8,000 = 2,000

2. Nirmi Ltd. produced and sold 5,000 units of clocks at its 50% production capacity in the year 2013-14. Selling price per unit is ₹ 492 : [14]

Particulars	₹
Materials	5,00,000
Direct Wages	2,50,000
Direct expenses	1,00,000
Factory Overheads (40% variable)	5,00,000
Office Overheads (fixed)	4,00,000
Selling Overheads Expense (30% variable)	3,00,000
Total cost	20,50,000

For the year 2014-15 it is estimated that :
(1) Production will be 10,000 units and sales will be 6,000 units.
(2) Price of materials will go up by 20%.
(3) In additions to be proportionate increase in number of workers, another additional wages of ₹ 1,00,000 are to be paid.
(4) Factory Expenses (variable and fixed) will increased by 10%.
(5) Administrative overheads expenses will increase upto ₹ 5,00,000.
(6) Selling expense per unit will go up by ₹ 2.00
(7) Fixed selling expenses will go up by ₹ 30,000
(8) The percentage of profit on cost is to be maintained according to previous year.
From the above information, prepare the following statements :
(1) A cost statement for the year 2013-14.
(2) A statement of cost showing estimated profit for the year 2014-15.

ANSWER:

P=5,000 S=5,000			
Particulars		P.U.	Amt.
Materials		100	5,00,000
Wages		50	2,50,000
Expenses		20	1,00,000
	P.C.	170	8,50,000
+ F. O/H	F (60%) 3,00,000	60	3,00,000
	V (40%) 2,00,000	40	2,00,000
	W.C.	270	13,50,000
+ A. O/H (fixed)		80	4,00,000
	COGS	350	17,50,000
+ S & D O/H	V (30%)	18	90,000
	F (70%)	42	2,10,000

COS	410	20,50,000
+ Profit	82	4,10,000
Sales (5,000 × 492)	492	24,60,000

Working notes:

Profit % On Cost = [Profit/cost] x 100
=4,10,000/20,50,000×100
= 20%

Estimated cost sheet

P = 10,000, S = 6,000, C = 4,000		
Particulars	P.U.	Amt.
Materials (100 + 20%)	120	12,00,000
Labour (50 × 10,000 = 5,00,000 + 1,00,000)	60	6,00,000
Expenses	20	2,00,000
P.C.	200	20,00,000
+ F. O/H		
F (3,00,000 + 30,000)	33	3,30,000
V (40 + 10% = 44 × 10,000)	44	4,40,000
W.C.	277	27,70,000
+ A. O/H	50	5,00,000
C.O.P.	327	32,70,000
- Cl. St. (4,000 × 327)		(13,08,000)
COGS	327	19,62,000
+ S & D O/H		
V = 18 + 2	20	1,20,000
F = 2,10,000 + 30,000	40	2,40,000
COS	387	23,22,000
+ Profit	77.40	4,64,400
Sales	464.40	27,86,400

Working notes:
Profit is 20% on cost = 23,22,000 x 20% = 4,64,000

3. NEIL Ltd. has produced and sold 1000 units at 50% capacity during the year 2015. The costing details for 31-12-2015 are as under :

Particulars	Amt. (₹)
Materials	5,00,000
Direct wages	3,00,000
Direct expense	1,00,000

Factory overheads (50% variable)	2,00,000
Office overheads (fixed)	1,50,000
Selling-distribution overheads (40% variable)	1,00,000
Sales	16,20,000

Estimate for the year 2016 are as under :

(1) Output will be at its full production capacity of which 80% units will be sold.

(2) Cost of raw materials and wages per unit will increase by 20% and 10% respectively.

(3) Fixed expenses will increase as under :

	₹
Factory	50,000
Office	40,000
Selling-distribution	20,000

(4) Variable selling expenses will increase by 25% per unit.

(5) Profit on cost will remain unchanged.

Prepare a current year cost sheet and a Tendered Cost Sheet of 2016 from the following information :

ANSWER:

Cost sheet of Neel Ltd. Production = 1,000 Sales = 1,000		
Particulars	P.U.	Amt.
Direct Material	500	5,00,000
Direct Wages	300	3,00,000
Direct Exp.	100	1,00,000
Prime cost	900	9,00,000
+ Factory o/h: Fixed	100	1,00,000
Variable	100	1,00,000
Work cost	1100	11,00,000
+ Admin o/h	150	1,50,000
Cost of production	1250	12,50,000
+ Selling/distribution		
Fixed	60	60,000
Variable	40	40,000
Cost of sales	1350	13,50,000
+ Profit	270	2,70,000
Sales	1620	16,20,000

📖 Working notes:

% Profit on cost = [2,70,000/13,50,000] x 100 = 20%

Estimated cost sheet 2016

Production : 2,000 Sales 1600 closing 400		
Particulars	P.U.	Amt.
Direct Materials + 20%	600	12,00,000
Direct Wages + 10%	330	6,60,000
Direct Exp.	100	2,00,000
Prime cost	1030	20,60,000
+ Factory o/h Fixed 50,000	75	1,50,000

Variable (100 × 2000)	100	2,00,000
Work cost	1205	24,10,000
+ Admin o/h	95	1,90,000
Cost of production	1300	26,00,000
+ op. of goods	-	-
cl. of goods (1300 × 400)	-	(5,20,000)
Cost of goods sales	1300	20,80,000
+ Selling/Dist. Fixed	50	80,000
Variable	50	10,800
Cost of sales	1400	22,40,000
+ Profit	280	4,48,000
Sales	1680	26,88,000

4. Utsav Limited sold all its production for ₹ 7,20,000 during the year 2015. The cost per unit of the company for the first year was as under :

Particulars	Amt. (₹)
Materials expense	60
Wage expense	50
Direct expense	10
Factory overheads :	
Fixed	8
Variable	7
Office overheads :	
Fixed	15
Sales overheads :	
Fixed	7
Variable	8
COST	165
+ Profit	15
Sales	180

Out of the total production capacity 80% of production was done in 2015.

(1) During the first half of next year the production will be 80% of capacity and for the later half of next year production will be 100%.

(2) There will be 10% increase in all variable expenses and 20% increase in all fixed expenses.

Prepare a Tendered Cost Sheet estimating 33 1/3% profit on sales price.

ANSWER:

Cost sheet of Utsav Ltd. Production = 4,000 Sales = 4,000		
Particulars	P.U.	Unit
Direct Materials	60	2,40,000
Direct Wages	50	2,00,000

Direct Exp.	10		40,000
P.C.	120		4,80,000
+ Factory o/h F	8		32,000
V	7		28,000
W.C.	135		5,40,000
+ Admin. o/h F	15		60,000
C.O.P.	150		6,00,000
+ Selling & Dist. o/h F	7		28,000
V	8		32,000
COS	165		6,60,000
+ Profit			60,000
Sales	180		7,20,000

📖Working Units = 4000 units

notes : 7,20,000/180 =

Estimated cost sheet 2016 Production = 4,500 Sales = 4,500		
Particulars	Per unit	Unit
Direct Materials (60+10%)	66	2,97,000
Direct Wages (50+10%)	55	2,47,500
Direct Exp. (10+10%)	11	49,500
P.C.	132	5,94,000
+ Factory o/h F	8.53	38,400
V	7.7	34,850
W.C.	148.23	6,67,050
+ Adm. o/h (60,000+20%)	16	72,000
C.O.P.	164.23	1,39,050
+ Selling & Dist. o/h F (28,000+20%)	7.47	33,600
V (8+10%)	8.8	39,600
COS	180.5	8,12,250
+ Profit	33.33	4,06,064
Sales		12,19,314

📖Calculation of units :
At 80% capacity production is 4000
So At 100% capacity = 5000

📖Working notes:
6 month @ 80% capacity = 4000 × 6/12 = 2000
6 month @ 100% capacity = 5000 × 6/12 = 2500
Total unit = 4500