BASE STOCK METHOD:

17 From the following particulars prepare the stores ledger under FIFO method, base stock of 1000 units. 2020 dec 01 opening stock 1000 units @ ₹ 2 each.
3 purchased 800 units @ ₹ 2.10
5 issued 800 units
12 purchased 1600 units @ ₹ 2.10
17 issued 1500 units
20 purchased 900 units @ ₹ 2.50
25 issued 600 units

Stores ledger under FIFO Method based on stock method - 1000 units

Date 2020	Particulars	Receipts qty	Rate ₹	Value	Issues qty	Rate ₹	Value	Balance qty	Rate ₹	Value
Dec 1	To stock b/d							1000	2	2000
3	To purchase	800	2.10	1680				1000	2	2000
								800	2.10	1680
5	Issued				800	2	1600			
					200	2.10	420	800	2	800
								600	2.10	1260
12	purchase	1600	2.10	3360				800	2	800
								600	2.10	1260
								1600	2.10	3360
14	Issued				800	2.10	1260			
					700	2.10	1890	800	2	800
								700	2.10	1470
20	purchased	900	2.50	2250				800	2	800
								700	2.10	1470
								900	2.50	2250
25	Issued				600	2.10	1260			

{ 800 @ 800
100 @ 2.10 210
900 @ 2.50 2250
Closing balance: 1400 units
₹ 3960

Stores ledger under LIFO method based on stock method - 400 units.

Date 2020	Particulars	Receipts qty	Rate ₹	Value	Issues qty	Rate ₹	Value	Balance qty	Rate ₹	Value
Dec 1	To stock b/d							1000	2	2000
3	To purchase	800	2.10	1680				1000	2	2000
								800	2.10	1680
5	To issued				800	2.10	1680	1000	2	2000
12	To purchase	1600	2.10	3360				1000	2	2000
								1600	2.10	3360
14	To issued				1500	2.10	3150	1000	2	2000
								100	2.10	210
20	To purchased	900	2.50	2250				1000	2	2000
								100	2.10	210
								900	2.50	2250
25	To issued				600	2.50	1500	1000	2	2000
								100	2.10	210
								800	2.50	1750

Closing balance: 1400 units
= ₹ 3960

Simple Average price Method:

2) From the below information prepare simple average price method & weighted average Method.

2005 May 1 opening balance 800 units @ ₹ 2
2 purchased 400 units @ ₹ 2.20

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2) Standard Price Method:

The standard price of a material is fixed at ₹20 per unit. Show the stores ledger entries as they would appear when using the standard price method.

May 2005		Units	Rate
1	Balance in hand B/f	400	20
4	Purchased	500	21
6	Issued	600	
8	Issued	200	
10	Purchased	700	19
12	Issued	150	
14	Issued	200	
16	Issued	100	
19	Purchased	800	22
20	Issued	400	
25	Issued	300	

Calculate the price variance:

Date		Particulars	Receipts			Issues			Balance	
			Qty	Rate	₹	Qty	Rate	₹	Qty	₹
May 2005	1	To balance b/d							400	8000
	4	To purchase	500	21	10500				900	18500
	6	To issued				600	20	12000	300	6500
	8	To issued				200	20	4000	100	2500
	10	To purchase	700	19	13300				800	15800
	12	To issued				150	20	3000	650	12800
	14	To issued				200	20	4000	450	8800
	16	To issued				100	20	2000	350	6800
	19	To purchase	800	22	17600				1150	24400
	20	To issued				400	20	8000	750	16400
	25	To issued				300	20	6000	450	10400

Closing stock } 450 × 20 = 9000
(-) 10400
1400

5. Explain the importance of material control in a manufacturing company. Imagine you are managing a small production unit. Describe how you would control materials from purchase to issue in your company.

Material control is a systematic process and management.

Importance → cost reduction, continuous production, quality assurance, inventory control, improved profitability, accurate planning.

Small production unit:
1. Material planning 2. Purchase control, Receiving materials, Storage and inventory management, Issue and usage control, Regular auditing and reporting.

Mahaveer Textile

(1) In textile industry the first step is to analyze the material planning and [illegible] needs.

(2) Then we have to select the supplier selection for our industry.

(3) Then we have to place the order to the selected supplier.

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4 Issued 150 units
6 Purchased 200 units @ ₹ 2.30
11 Issued 150 units
19 Issued 200 units
22 Purchased 200 units @ ₹ 2.40
24 Issued 150 units.

Store ledger under Simple average price Method:

Date 2005	Particulars	Receipts Qty	Rate	₹	Issues Qty	Rate	₹	Balance Qty	₹
May 1	To bal b/d							500	800
2	To purchase	200	2.20	1110				700	1910
4	To issued				150	2.10	315	550	1595
6	To purchase	200	2.30	1160				750	2755
11	To issued				150	2.16	324	600	2431
19	To issued				200	2.16	432	400	1999
22	To purchase	200	2.40	1180				600	2909
24	To issued				150	2.30	345	450	2564

Closing balance: 450 units
= 2564

Working Note:

May 4 $\frac{2.20 + 2}{2} = 2.10$

6 $\frac{2.30 + 2.20 + 2}{3} = \frac{6.50}{3} = 2.16$

24 $\frac{2.40 + 2.30 + 2.20}{3} = \frac{6.90}{3} = 2.30.$

Store ledger under weighted average Method

Date 2005	Particulars	Receipts Qty	Rate	₹	Issues Qty	Rate	₹	Balance Qty	₹
May 1	To bal b/d							500	800
2	To purchase	200	2.20	1110				700	1910
4	To issued				150	2.08	312	550	1598
6	To purchase	200	2.30	1160				750	2758
11	To issued				150	2.16	324	600	2434
19	To issued				200	2.16	432	400	1932
22	To purchase	200	2.40	1180				600	3112
24	To issued				150	2.28	342	450	2770

Closing balance: 450 units
= 2770

Working Note:

$= \frac{1910}{700}$

$= \frac{1598}{550} = 2.16$

$= \frac{864}{400} = 2.16$

$= \frac{912}{400} = 2.28.$

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(Minimum consumption x Minimum Re-order period)

= 8,300 + 3,600 - (240 x 110)

= 9,900 - (8,400)

= 7,500 units.

iv) Average stock level

= 850 units.

ii) Minimum stock level: Reorder level - Reorder quantity (average consumption x average re-order period)

= 850 - [450 x 2]

= 850 - 250 = 200 units.

iii) Maximum stock level: Reorder level + Re-order quantity - (Minimum consumption x Minimum Re-order period)

= 850 + 300 - (50 x 11)

= 750 - 100

= 650 units

5) COMPUTATION OF STOCK LEVELS:

a) Stock level for one material:

In a company, weekly minimum and maximum consumption of material A are 25 and 75 units respectively. The reorder quantity as fixed by the company is 300 units. The material is received within 4 to 6 weeks from issue of supply order. Calculate minimum level and Maximum level of Material A.

i) Reorder level = Max consumption x Max - reorder period.

= 75 x 6

6) Material 'A' is used as follows:

Maximum usage in a Month 600 units

Minimum usage in a Month 400 units

Average usage in a month 450 units

Lead time: Maximum 6 months, minimum 2 months.

Re-order quantity: 1500 units

Maximum reorder period for emergency purchase: 1 month. Calculate:

a) reorder level.

b) maximum level

c) minimum level

d) average stock level

e) danger level.

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3) The following transactions occurred in the purchase and issue of a material:

Jan 3 Purchased 4000 units at ₹ 4.00 per unit
20 Purchased 500 units at ₹ 5.00 per unit
Feb 5 Issued 2000 units
10 Purchased 6000 units at ₹ 6.00 per unit
12 Issued 4000 units
Mar 2 Issued 1000 units
5 Issued 2000 units
15 Purchased 4500 units at ₹ 5.50 units
20 Issued 3000 units

Prepare stores ledger account using:
a) Simple average method b) weighted average method.

SIMPLE AVERAGE METHOD

Date	Particulars	Receipts			Issue			Balance	
		Qty	Rate	₹	Qty	Rate	₹	Qty	₹
Jan									
3	To purchase	4000	4	16000				4000	16000
20	To purchase	500	5	2500				4500	18500
Feb									
5	To issue				2000	4·5	9000	2500	9500
10	To purchase	6000	6	36000				8500	45500
12	To issue				4000	5	20000	4500	25500
Mar									
2	To issue				1000	5	5000	3500	20500
5	To issue				2000	5	10000	1500	10500
15	To purchase	4500	5·50	24750				6000	35250
20	To issue				3000	5·5	16500	3000	18450

Closing stock = ₹ 18,750

Feb working:
5 4+5 = 9/2 = 4·5
12 5+4·5+6 = 15/3 = 5
Mar 3 5+6+5·50 = 16·5/3 = 5·5

Weighted Average method:

Date	Particulars	Receipts			Issue			Balance	
		Qty	Rate	₹	Qty	Rate	₹	Qty	₹
Jan									
3	To purchase	4000	4	16000				4000	16000
20	To purchase	500	5	2500				4500	18500
Feb									
5	To issue				2000	4·11	8222	2500	10278
10	To purchase	6000	6	36000				8500	46278
12	To issue				4000	5·444	21600	4500	24678
Mar									
2	To issue				1000	5·444	5444	3500	19234
5	To issue				2000	5·444	10888	1500	8346
15	To purchase	4500	5·50	24750				6000	33096
20	To issue				3000	5·516	16548	3000	16548

Closing stock = ₹ 16,548

working:

a) 18500/4500 = 4·11
33250/6000 = 5·444
46800/8500 = 5·506
33096/6000 = 5·516

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UNIT - 2

Material control:

Material control in cost accounting refers to the systematic control and regulation of the purchase, storage and usage of materials.

Material control is a system which ensures that the required

Objectives of Material control:

- avoid under stocking or over-stocking
- Minimize wastage and theft
- Ensure quality of material
- Keep material cost within budget.
- Maintain proper records for accounting and audit.

Uses of Material

1) purchase control:
   - Ensures materials are purchased at the right price, time and quantity
   - avoid unnecessary or urgent purchase.

2) Receiving control:
   - check the quality & quantity of material received.

3) storage control:
   - Ensure proper storage, safety and preservation of materials.
   - Maintain the record of stock ledger.

4) issue control
   - Materials are issued to production only when needed and with proper authorization.

5) Inventory control:

Needs for Material control:

i) Efficient use of material
ii) cost control
iii) continuous production
iv) Avoids over stocking & under stocking
v) Helps in accounting & Reporting.
vi) Improves profitability.

Inventory levels:

Types:

1) Minimum level:
   - lowest quantity level:

Minimum level = Re-Order level - (average consumption × average re-order period)

ii) maximum level:

Maximum level = Re-order level + Re-order quantity - (minimum consumption × minimum Re-order period)

iii) Average level:

average level = minimum level + ½ Reorder quantity.

Closing Stock = 200 × 3.50 = 700
100 × 4 = 400
600 × 5 = 3000
Closing stock of 500 units = 1800

LIFO METHOD WITH RETU

July 1 Opening stock 2000 units @ ₹ 10 each
5 Issued 1000 units @ ₹ 11 each
6 Issued 500 units
10 Received back 500 units @ ₹ 12 each
12 Received back 50 units out of the issued made on 6th July.
14 Issued 600 units
18 Returned to supplier 100 unit out of the goods received on 5th
19 Issued back 100 unit out of the issued made on 14th July.
20 Issued 350 units
25 Received 500 units @ ₹ 14 each
28 Issued 300 units

The stock verification report reveals that there was a shortage of 10 units of 18th July and another shortage 15 units on 30th July.

Stores ledger a/c under FIFO Method:

Date	Particulars	Receipts			Issued			Balance		
		Qty	Rate	$	Qty	Rate	$	Qty	Rate	$
July 1	To Balance b/d	-						2000	10	20000
5	To purchase/ Received	1000	11	11000	-			2000	10	20000
								1000	11	11000

Date	Particulars	Receipts			Issued			Balance		
		Qty	Rate	$	Qty	Rate	$	Qty	Rate	$
6	To issued	-			500	10	5000	1500	10	15000
								1000	11	11000
10	To purchase	500	12	6000	-			1500	10	15000
								1000	11	11000
								500	12	6000
12	To purchase	50	10	500	-			1500	10	15000
								1000	11	11000
								500	12	6000
								50	10	500
14	To issued	-			600	10	6000	900	10	9000
								1000	11	11000
								500	12	6000
								50	10	500
18	To return	-			100	11	1100	890	10	8900
					10	10	100	900	11	9900
								500	12	6000
								50	10	500
19	To purchase	100	10	1000				890	10	8900
								900	11	9900
								500	12	6000
								50	10	500
								100	10	1000
30	To issued				150	10	1500	890	10	8900
								900	11	9900
								500	12	6000
								50	10	500
								100	10	1000
25	To purchase	500	14	7000	-			890	10	8900
								900	11	9900
								500	12	6000
								50	10	500
								100	10	1000

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iv) Danger level = Maximum usage per period (lead time) × Emergency period

v) Re-order level = Max consumption × max re-order period

problem:

1) find out the re-order level, maximum usage 800 units, minimum usage 400 units, Re-order period 8 to 10 days.

Re-order level = max consumption × max Re-order period

= 800 units × 10 days = 8000 units

Re-order level = 8000 units.

2) find out the maximum consumption, recorded level 1000 units, minimum level 2000 units, re-order period 8 to 10 weeks.

Re-order level = Max consumption × max re-order period.

1000 = x × 8

$\frac{1000}{8} = x$

$x = 1250$

Max consumption = 1250 units.

3) If the minimum stock level and average stock level are 50,000 and 80,000 units respectively find out the re-order quantity of the material.

Average level = minimum level + ½ Re-order quantity

1000 = 800 + ½ re-order quantity

½ re-order quantity = 1000 - 800

½ re-order quantity = 200

Re-order quantity = 200 × 2

Re-order quantity = 400 units.

4) From the following information calculate maximum stock level, minimum stock level, re-order level, maximum consumption 800 units per day, normal consumption 500 units per day, minimum consumption 400 units per day, re-order quantity 8,000 units, Re-order period 10 to 12 days, normal order period 12 days

i) minimum level = Re-order level - (average consumption × average re-order period)

= 8000 - (500 × 10)

= 8000 - 5000

= 3000 units

ii) Re-order level = max consumption × max re-order period.

= 800 × 12

= 9600 units

iii) minimum level = Re-order level - (average consumption × average re-order period)

= 9600 - (500 × 10)

= 9600 - 5000

= 4600 units;

#Y Two components A and B are used as follows:

Reordering quantity	A 1200 units B 900 units
Reordering period	A 9 to 11 weeks B 3 to 6 weeks
Normal usage	300 units per week each
minimum usage	150 units per week each
maximum usage	450 units per week each

You are required to calculate the following for each of the components.

a) Reordering level b) maximum level
c) Minimum level d) average stock level.

a) Re-order level = Max consumption × max reorder period

A; 450 × 11 B; 450 × 6

Reorder level = 1800units, Reorder level = 2700 units

b) Maximum level = Reorder level + Re order quantity - (mini consumption × mini re-order period)

A = 1800 + 1200 - (150 × 3)
= 3000 - 300
Max level = 2700 units,

B = 2700 + 1100 - (150 × 3)
= 3800 - 450
max level = 3350 units,

c) minimum level = Re order level - (Avg usage × Avg reorder period)

A = Avg Reorder period = $\frac{9+11}{3} = \frac{6}{3} = 2$

= 1800 - (300 × 2)
= 1800 - 900
Min level = 900 units,

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Prepare Stores ledger under LIFO method

Stores Ledger a/c - LIFO

Date	Particulars	Receipts			Issues			Balance		
		qty	Rate	price	qty	Rate	price	qty	Rate	price
Jan 1	To bal b/d			-		-		500	₹	2000
₹	To issue/ MRS NO		-	-	200	₹	800	300	₹	1200
5	To received/ GRN	800	₹25	850		-		300	₹	1200
								300	₹·25	850
10	To issued			-	200	₹·25	850			
					300	₹	800	100	₹	₹00
12	To received	150	₹·10	615			-	100	₹	₹00
								150	₹·10	615
15	Issue			-	100	₹·10	₹10	100	₹	₹00
								50	₹·10	305
19	issue			-	50	₹·10	305			
					30	₹	200	50	₹	200
20	Received	500	₹50	1350				50	₹	200
								300	₹·50	1350
25	To received	₹00	₹·00	1600				50	₹	200
								300	₹·50	1350
								₹00	₹	1600
26	To received				20	₹ 850		850	₹	300
								300	₹·50	1350
								200	₹	800
30	To received				₹00	₹·50	325	50	₹	200
								350	₹·50	1125

Closing stock = 50 × ₹ = ₹00 + 350 × ₹·50 = 1125

Closing stock = 300 units

= 1825

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∴ EOQ = 1000 units

Number of orders per year = Annual consumption / EOQ

= 36,000 / 1000

No. of orders per year } = 36 times.

3) From the following information calculate EOQ, reorder level, Max level, & Mini level. Normal usage 150 per day. Minimum usage 100 units per day. Max usage 200 units per day. Reorder period 50 to 60 days. The annual usage is 50,000 units. The cost of purchase ₹ 100 per order. cost per unit = ₹1 carrying cost 10% per annum

i) EOQ = $\sqrt{\frac{2AB}{CS}}$

A = 50,000 units

B = ₹100

C = ₹1

S = 10%

= $\sqrt{\frac{2 \times 50,000 \times 100}{1 \times 10\%}}$

= $\sqrt{\frac{10,000,000}{0.1}}$

= $\sqrt{100,000,000}$

= 10,000 units.

ii) Re-order level = Max cons × Max re-order period.

= 100 × 60

= 12,000 units.

iii) Minimum level = Reorder level - (average consumption × average reorder period)

= 12,000 - (150 × 55)

iii) Max cons = reorder level + reorder quantity - (Mini cons × Mini re-order period)

= 12,000 + 10,000 - (100 × 50)

= 22,000 - 5000

= 17,000 units.

iv) Mini cons = Re-order level - (average cons × average reorder period)

= 12,000 - (150 × 55)

= 12,000 - 8250

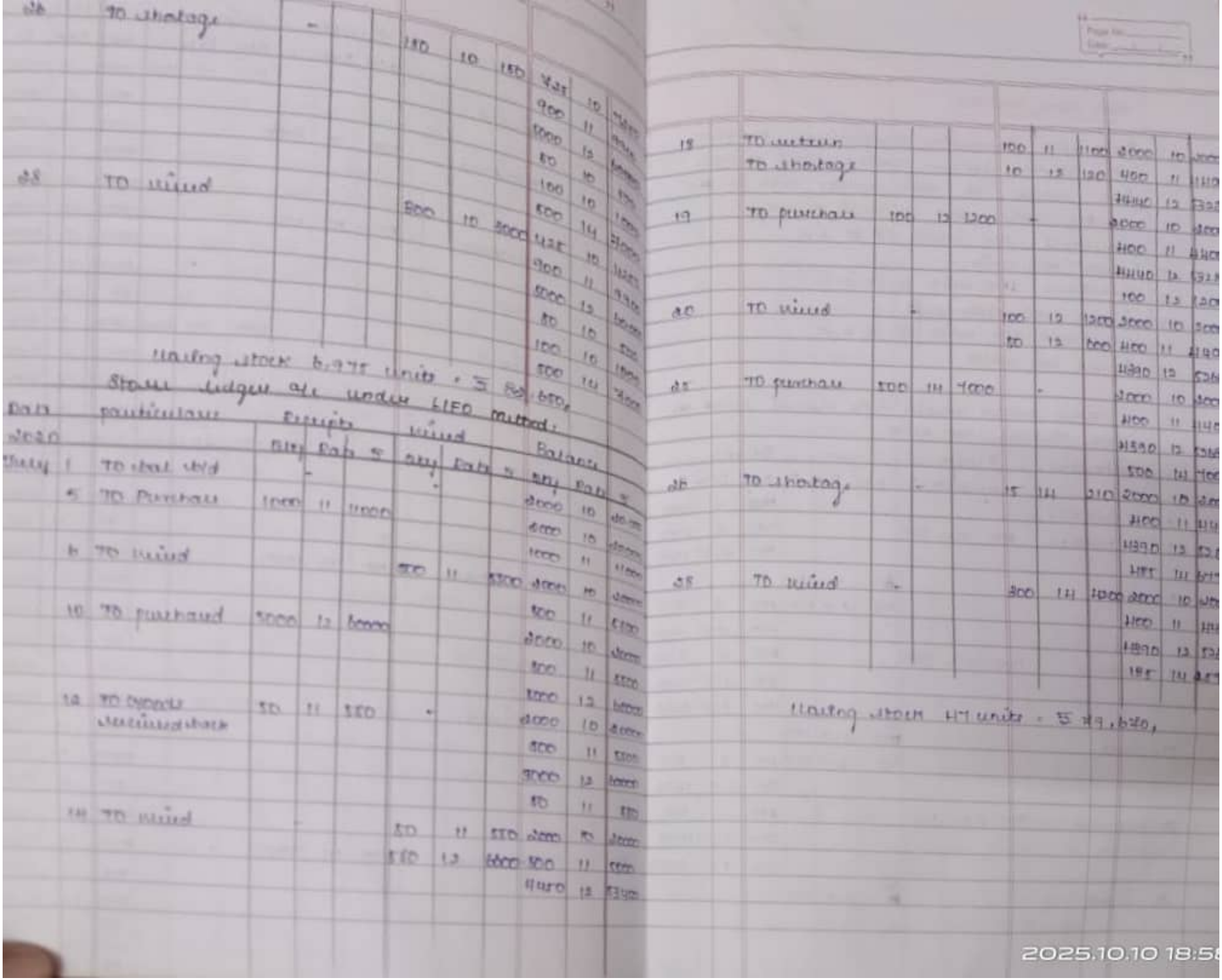
= 3750 units.

Pricing of Materials issues:

a) FIFO [First in first out Method]

1) From the following particulars prepare the stores ledger by adopting first in out method:

2023 May 1 purchased 300 unit at ₹ 2 per unit
2 purchased 600 unit at ₹ 3 per unit
5 Issued 400 unit
8 Issued 800 unit
10 purchased 600 units at ₹ per unit
12 Issued 400 units



Stock Ledger A/c under LIFO method:

Date	Particulars	Receipts			Issued			Balance		
2020		Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
May 1	To Opening Bal	-						1000	10	10000
5	To Purchase	1000	11	11000				1000	10	10000
								1000	11	11000
8	To Issued				800	11	8800	1000	10	10000
								200	11	2200
10	To Purchase	1000	12	12000				1000	10	10000
								200	11	2200
								1000	12	12000
12	To Opening Balance	50	11	550	-			1000	10	10000
								200	11	2200
								1000	12	12000
								50	11	550
14	To Issued				50	11	550	1000	10	10000
					150	12	1800	200	11	2200
								1000	12	12000

Closing stock 6,975 units = ₹ 80,650

								150	10	1500	925	10	9250
											900	11	9900
											1000	12	12000
05	To Issued	-									50	10	500
								500	10	5000	100	11	1100
											500	12	6000
											50	10	500
											100	11	1100
											500	12	6000
											50	10	500
											100	11	1100
											500	12	6000
15	To return							100	11	1100	2000	10	20000
	To shortage							10	12	120	400	11	4400
											4400	12	52800
17	To purchase	100	12	1200	-						2000	10	20000
											400	11	4400
											4400	12	52800
											100	12	1200
20	To Issued	-						100	12	1200	2000	10	20000
								50	12	600	400	11	4400
											4400	12	52800
22	To purchase	100	11	1100	-						2000	10	20000
											400	11	4400
											4400	12	52800
											500	11	5500
25	To shortage	-						15	11	210	2000	10	20000
											400	11	4400
											4390	12	52680
28	To Issued	-						300	11	3300	2000	10	20000
											400	11	4400
											4390	12	52680

Closing stock 47 units = ₹ 49,620

X company has purchase an issue materials as under:

2020 Jan 1 - Stock of materials 200 @ ₹ 2.50 per unit
3 - purchased 300 units @ ₹ 3 per unit
7 - purchased 500 units @ ₹ 4 per unit
10 - issued 600 units
12 - purchased 400 units @ ₹ 4 per unit
18 - issued 500 units
24 - purchased 400 units @ ₹ 5 per unit
28 - issued 200 units. Prepare the stores ledger account under FIFO and LIFO method.

Date	Particulars	Receipt			Issue			Balance		
Jan		Qty	Rate	₹	Qty	Rate	₹	Qty	Rate	₹
1	To stock b/d	-			-			200	2.50	500
3	To purchase	300	3	900	-			200	2.50	500
								300	3	900
7	To purchase	500	4	2000	-			200	2.50	500
								300	3	900
								500	4	2000
10	To issue	-			200	2.50	500			
					300	3	900			
					100	4	400	400	4	1600
12	To purchase	400	4	1600				400	4	1600
								400	4	1600
18	To issue	-			400	4	1600			
					100	4	400	300	4	1200
24	To purchase	400	5	2000	-			300	4	1200
								400	5	2000
28	To issue	-			300	4	1200	100	4	400
								400	5	2000

Closing stock = 100 kg = 400
400 x 5 = 2000
2400

Closing stock of 500 units of ₹ 2400

Stores ledger a/c under LIFO method:

Date	Particulars	Receipt			Issued			Balance		
Jan		Qty	Rate	₹	Qty	Rate	₹	Qty	Rate	₹
1	To stock b/d	-			-			200	2.50	500
3	To purchase	300	3	900	-			200	2.50	500
								300	3	900
7	To purchase	500	4	2000	-			200	2.50	500
								300	3	900
								500	4	2000
10	To issued	-			500	4	2000			
					100	3	300	200	2.50	500
								200	3	600
18	To purchase	400	4	1600	-			200	2.50	500
								200	3	600
								400	4	1600
18	To issued	-			400	4	1600			
					100	3	300	200	2.50	500
								100	3	300
24	To purchase	400	5	2000	-			200	2.50	500
								100	3	300
								400	5	2000
28	To issued	-			200	5	1000	200	2.50	500
								100	3	300
								400	5	2000

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A: 900 + 1/2 (1200)
= 900 + 600
Avg level = 1500 units,
B: 1350 + 1/2 (1100)
= 1350 + 550
Avg level = 1900 units,

EOQ = Economic Ordering Quantity:
Minimizing the carrying cost and cost of the order:

$$EOQ = \sqrt{\frac{2AB}{CS}}$$

A = Annual consumption
B = Buying cost per order
C = cost per unit
S = storage and carriage cost 10%.

1/3 Reorder

4) Find out the EOQ from the following particulars:
Annual usage 6000 units
cost of material per unit = 60
cost of placing and receiving one order = 60
Annual carrying cost of one unit 10% of Inventory value.

EOQ = $\sqrt{\frac{2AB}{CS}}$ → Minimize both carrying cost and cost order.

A = 6000 units
B = 60
C = 60
S = 10%.

$= \sqrt{\frac{2 \times 6000 \times 60}{60 \times 10\%}}$

$= \sqrt{\frac{2 \times 360000}{2}}$

= 600 units.

2) Find out EOQ and the No. of order per year. Monthly consumption 3000 units, cost per unit = 54, ordering cost = 150 per order, Inventory carrying cost 20% of the Inventory value.

EOQ = $\sqrt{\frac{2AB}{CS}}$

A = 3000 units
B = 150
C = 54
S = 20%.

$= \sqrt{\frac{2 \times 3000 \times 150}{54 \times 20\%}}$

$= \sqrt{\frac{2 \times 450000}{10.8}}$

$= \sqrt{\frac{10,80,000}{10.8}}$

$= \sqrt{10,00,000}$

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profit cost of sales × Rate of profit on sales
100 - rate percentage on sales.

15th The accounts of a machine manufacturing company discloses the following information for the months ending 31st dec 1985

Materials used	1,50,000
direct wages	1,20,000
factory overheads	80,000
administration expenses	15,000

Prepare cost sheet for the half year and calculate the price which the company should quote for the manufacture of a machine requiring materials valued at ₹ 1000 and expenditure on productive wages ₹ 750 so that the price might yield a profit of 20% on the selling price.

Statement of cost

particulars	₹	₹
material used	1,50,000	
direct wages	1,20,000	
prime cost		2,70,000
add: factory overheads:		80,000
factory cost		3,50,000
add: administration overheads: 4½ of 80		15,000
cost of production		3,65,000

% of factory o/h to wages = $\frac{80,000}{1,20,000} \times 100 = 33\frac{1}{3}\%$

% of administration to cost of production = $\frac{15,000}{3,65,000} \times 100 = 5\%$

Statement of quoted price:

particulars	₹	₹
material	1,00,000	
productive wages	75,000	
prime cost		2,00,000
add factory overheads	1,87.50	187.50
factory cost		2,187.50
add administrative overheads	109.38	109.38
cost of production		2,296.88
add profit		574.00
sales		2,871.10

Difference between cost Accounting and financial accounting:

Aspect	cost accounting	financial accounting
purpose	fixing cost	financial position
focus	Internal Reporting	External Reporting
users	Internal Stakeholders	External Stakeholders
Reporting period	as required (daily, weekly, monthly)	usually periodic
format / structure	flexible, based on management needs.	structured
Type of data	estimated & actual cost	only historical data
legal requirement	Not mandatory	legally required for company
audit	usually not audited	must be audited by external auditor
Details provided	Detailed Information about product	
Tools used	Standard costing, marginal costing	

Aspect	cost Accounting	management accounting
purpose		
scope		
focus / area		
Type of data used		
reporting users		
~~[illegible]~~		
Regulations		
time orientation		
Techniques used		
Reporting		
Decision used		

(1) calculate raw material consumed
Raw materials purchased : 80,000
Sale of material scrap

(2) O.S : 12,000
(+) R.M : 80,000
92,000
(-) S : 1,000
(-) C.S : 22,000
70,000

(2) DM : 8,000
DW : 6,000
DX : 2,500
16,500
F.OH : 5000 | 5000
21,500
adm : 4000 | 4,000
25,500
Sell : 2,500 | 2,500
28,000
Profit : 12,000
Sales : 40,000

(3) M : 6000
W : 9000
15,000
(+) Fact : 4,500
19,500
(+) office : 3900
23400
(+) Selling : 1950
25350
(+) profit : 4680
Sales : 30030

(4) DM : 1,00,000
DW : 80,000
1,80,000
FC : 50,000 | 50,000
2,30,000
OH : 30,000 | 30,000
2,60,000

(5) Fact : 10,000
FnW : 22,000
Fn M : 9,000
for : 13,000
54,000

(6) M : 64,500
(+) dw : 80,000 | 144,500
(+) FC : 34,500
178,500
(+) opening : 13,000
191,000
(-) closing : 34,500
W.C : 1,56,500

3,40,000
28,000
12,000

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cost sheet of the month of Sep 2019

opening stock of raw materials	21,000	
(+) purchase of raw material	21,400	
(+) carriage on purchase	1,100	
	47,000	
(-) closing stock of raw material (47,000 - 41,800)	41,800	
cost of raw material consumed		21,800
direct wages		17,200
direct expenses		1,200
prime cost		40,200
(+) factory overheads		9,100
gross work cost		49,300
(+) work in progress (o.i)		8,200
		57,500
(-) work in progress (c.i)		9,100
work cost		48,400
(+) admin o.h		32,000
		81,600
(+) finished goods (o.i)		17,200
		64,400
(-) finished goods (c.i)		15,400
cost of production		53,000
(+) selling & dis o.h		4,200
cost		57,400
profit		14,900
sales		72,300

Prepare cost sheet showing the cost and the profit per unit and the total profit earned.

Cost sheet of M/s Indu Industries for the month March 2009.

Particulars	₹	Cost per unit
Raw materials consumed	120,000	1
Direct wages	12,000	0.6
Prime cost	132,000	1.6
add: Factory cost		
Machine hours worked × Machine hour rate		
9500 × 2	19,000	0.95
Factory cost	151,000	8.55
add: Office Overheads:		
Office overheads 151,000 × 10%	10,200	0.51
Cost of production	161,200	3.06
less: closing stock 2000 × 3.06	6120	—
cost of goods sold	155,080	3.06
add: Selling overheads		
18,000 × 0.50	9,000	0.50
cost of sales	164080	3.56
Total cost profit →	25980	1.44
Sales 18,000 × 5	90,000	5.00

Tenders & Quotations:

The amounts of a machine manufacturing company during the forthcoming

Formulae:

1. percentage of factory overheads to direct wages:

$$\frac{\text{factory overheads}}{\text{direct wages}} \times 100$$

2. percentage of office overheads to work cost:

$$\frac{\text{office overheads}}{\text{works cost}} \times 100$$

3. percentage of selling & distribution overheads to work cost:

$$= \frac{\text{Selling \& distribution overheads}}{\text{work cost}} \times 100$$

(or)

The percentage may be calculated on cost of production:

$$= \frac{\text{Selling \& distribution overheads}}{\text{cost of production}} \times 100$$

i) estimation of profit for a tender & Quotation

profit = cost of sales × $\frac{\text{percentage of profit}}{100}$

If profit is to be ascertained as a percentage of selling price of the tender profit is to be calculated as given below:

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a) Calculate prime cost • factory expenses 10,000
• selling expenses 5000
• direct material
• office overhead
•

Prime cost	$
direct material	20,000
direct labour	15,000
direct expenses	3,000
prime cost	98,000

b) Ascertain the prime cost from the following:

Direct wages - 50,000
chargable expenses - 5,000
opening stock of raw materials - 10,000
raw materials purchased during the year - 60,000
closing stock of raw materials 20,000
carriage inwards - 1500.
carriage outwards - 1000
raw materials returned to supplier - 1500

Prime cost:

Direct Material	material consumed
Op stock	10,000
Purchases	60,000
carriage inwards	1,500
	71,500
closing stock	20,000
	51,000

direct wages 50,000
chargable expenses 5,000
1,01,5000

Note: carriage outwards ignored.

b) preparing cost sheet:
direct material - 50,000
direct wages - 15,000
factory expenses - 5000
office expenses - 1000
Selling expenses - 500.

cost sheet for the year ending

particulars	total $	per unit $
Direct material	50,000	
Direct wages	15,000	
Direct Expenses	-	
prime cost		65,000
add: Factory overheads:		
Factory expenses	5000	5000
Factory cost		70,000
add: office and administrative overheads:		
office expenses	1000	1000
cost of production		71,000
add: Selling and distribution overheads		
Selling expenses	500	500
cost of goods sold		71,500

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Cost Sheet for the year ended

Particulars	₹	WORB ₹	(Amount) Per unit
Opening stock of R.M	18,000		
(+) Purchase	1,80,000		
(-) Closing stock	(12000)	178000	89
direct wages		5600	28
Prime cost		2,34,000	117
(+) Factory O/Hs :			
Factory Expenses	26,000		
Indirect wages	18,000	44,000	22
Gr work cost		3,08,000	154
(+) Opening work in progress		5,000	2.5
(-) Closing work in progress		(10,000)	(5)
Factory cost		3,04,000	152
(+) administrative overheads:			
cost of production		85,000	42.5
(+) Opening stock of finished goods		3,52,000	176
		2,00,000	100
(-) Closing stock of finished goods		3,72,000	186
180 units × 196		21,120	
Total cost of sale.		3,50,880	175.44
(+) Selling & distribution		16,000	8
Total cost		3,66,880	183.44
(+) profit :		40744	20.36
Sales		4,07,624	203.80

Working: $\frac{3,66,880 \times 10}{100-10}$, $\frac{3,66,880 \times 10}{90}$ = 40,764.44

Cost sheet for the year ended

Particulars	₹	AOEH ₹	(Amount) Per unit
Particulars			
Material	2,20,760		92
wages	58,760		24.5
Prime cost	2,88,720		120
(+) Factory overheads :			
Indirect wages	31200		13
Factory O/Hs	57600		24
Gr work cost	3,34,520		139.38
(+) administrative overheads:	54,000		22.5
cost of production	3,91,520		163.13

Factory O/Hs : 26000 S.no : 18000

Indirect wages : 26000 × 2400 / 2000 = 31200

Factory O/Hs : 18000 × 2400 / 2000 = 57600

Office O/Hs : 54000 × 2400 / 2400 = 54000

16) The following figures have been given from a factory for the year 2004. Material - ₹ 8,00,000; wages - ₹ 10,00,000; factory overheads - ₹ 6,00,000; administration expenses - ₹ 6,72,000; selling overheads - ₹ 4,48,000 distribution overhead ₹ 2,80,000 and profit ₹ 8,40,000.

In 2005 the firm wants to execute a work order which requires ₹ 16,000 for materials and ₹ 10,000 for direct wages. Determine the price at the same rate of profit as in 2004.

Cost sheet for the year ending

particulars	₹	₹
materials consumed	18,00,000	
wages	10,00,000	
prime cost		28,00,000
add: factory overheads:		
factory	6,00,000	6,00,000
factory cost		28,00,000
add: office & administration expenses:		
administration o/h	6,72,000	6,72,000
cost of production		34,72,000
add: selling & distribution expenses:		
selling o/h	4,48,000	
distribution o/h	2,80,000	7,28,000
		42,00,000
add: profit		8,40,000
		50,40,000

Cost sheet for the period ending

particulars	₹	₹
direct materials	16,000	
direct labour	10,000	
prime cost		26,000
add: factory overheads:		
factory o/h ber wages		
10,000 × 60/100		6,000
factory cost		32,000
add: administration overheads:		
adm o/h 24% w.c		
32,000 × 24/100		7,680
cost of production		39,680
add: selling & distribution expenses		
selling o/h		
14% w.c 32,000 × 16/100		5,120
		44,800

Office & administration expenses:

Lighting office	500	
Rent office	2,500	
cost of production		3,000
		1,142,500

Selling & distribution expenses:

Salaries of salesmen	1,250	
advertising	1,250	
cost of goods sold		2,500
		1,145,000
add: profit		141,500
Sales		1,287,500

10) A manufacturing company submits to you the following details about the various expenses incurred by it during the year ended 31st december 1985:

cost of raw material consumed	25,000	
advertising	1,000	
depreciation on p & m	1,500	
factory office salaries	6,000	
Legal expenses	300	
Supervisor's salary	5,500	
factory rates and insurance	1,000	
carriage outwards - factory	1,500	
direct Labour	20,000	
Bad debts	300	
office stationery	200	
Rent of factory	4,500	
office salaries	10,000	
commission on sales	11,000	
audit fee	300	
* Income tax	1,500	
* Donation to charitable institution	500	
* purchase of new plant	10,000	

cost sheet for the year ending 31/12/1985

particulars	£	£
cost of raw materials consumed	25,000	
Direct Labour	20,000	
prime cost		45,000
add: factory overheads:		
factory office salary	6,000	
factory rate and insurance	1,000	
Dep on p & m	1,500	
Rent of factory	2,500	
carriage outwards	1,500	
commission on sales	4,000	
factory cost		16,500
		61,500
add: office & administration expenses:		
Legal expenses	300	
office stationery	200	
office salaries	10,000	
Audit fee	300	10,500
cost of production		71,300

14) A company has received an enquiry for the supplying of 10000 steel folding chairs. The cost of one is estimated as follows.
Raw materials 1,00,000 kilo @ ₹ 1 per kilo
Direct wages 10,000 hours @ ₹ 5 H per hour
Variable overheads : factory ₹ 2.40 per labour hour,
Selling and distribution : ₹ 1.60, Fixed overheads: factory - 5000, Selling and distribution ₹ 14,000. prepare a statement showing the price to be fixed which will result in a profit 20% on the selling price.

cost sheet for the year ending (10,000 steel folding chairs)

particulars	₹	₹
Raw materials 1,00,000 kg × 1	1,00,000	
direct wages 10,000 hours @ ₹ 5	10,000	
prime cost		1,10,000
add: Factory overheads:		
Factory - variable 5.2·40 × 10,000 hours	24,000	
Factory - fixed	6,000	30,000
		1,40,000
Factory cost		
add: administrative overheads		
add: Selling & distribution O/H		
S & D O/H - variable	16,000	
S & D - fixed	14,000	30,000
total cost		2,00,000
add: profit		50,000

working note:
profit 20% on sales
$\frac{2,00,000 \times 20}{100-20} = \frac{2,00,000 \times 20}{80} = 50,000$

18) prepare cost sheet for the year 2023 from the following showing the total cost and cost per unit No of units produced 21000. opening stock of raw material - 10,000, purchase - 1,20,000, direct wages - 6,000, Product wages - 48,000, closing stock of material - 12,000, working progress on 1.1.2023 5,000, working progress on 31.12.2023 6,000, factory over heads 36,000, office overheads 45,000, Selling overhead 16,000, opening stock of finished goods (100 units) - 20,000, closing stock of finished goods 150 units. profit 10% on sales.

during the year 2023, it is decided to increase the production to 2400 units it is applied that:
material price increase by 10%.
wages will increased by 20%.
other expenses will remain constant per unit.
Expected profit 20% on sales.
ascertain selling price to be fixed per unit.

8) A Factory produces 100 units of a commodity.

A cost of production is :

material - 10,000

wages - 5,000

direct expenses - 1000

Factory overheads 125% on wages.

office overheads 20% on work cost.

Expected profit 25% on sales.

calculate the price to be fixed per unit

C = 75, S = 100; C = 26700; $\frac{26700 \times 100}{75}$

C = 75, P = 25, S = 100

cost sheet for the year ended (100 units)

particulars		total ₹	per unit ₹
direct material		10,000	100
direct wages		5,000	50
direct expenses		1,000	10
prime cost		16,000	160
(+) factory overheads:			
factory expenses	$5000 \times \frac{125}{100}$	6250	625
Factory cost		22250	222.5
(+) office & administrative expenses:			
office expenses	$22250 \times \frac{20}{100}$	4450	44.50
cost of production		26700	267
(+) selling & distribution overheads:			
selling expenses		-	-
cost of goods sold		26700	267
(+) profit		8900	89
sales		35600	356

Factory cost:

prime cost + Factory overheads.

cost of production:

Factory cost + office and administrative overheads.

Cost Sheet for the product

particulars	Total cost	cost per unit
direct materials	xxx	xxx
direct labour	xxx	xxx
direct expenses	xxx	xxx
prime cost	xxx	xxx
add: factory overheads	xxx	xxx
add: opening stock of work in prog.	xxx	xxx
less: closing stock of work in "	xxx	xxx
Factory cost	xxx	xxx
add: office and administrative overheads	xxx	xxx
cost of production	xxx	xxx
add: opening stock of finished goods	xxx	xxx
cost of Goods Available for sale	xxx	xxx
less: closing stock of finished goods	xxx	xxx
cost of Goods Sold	xxx	xxx
add: Selling and distribution cost	xxx	xxx
total cost	xxx	xxx
add: profit	xxx	xxx
Sales	xxx	xxx

problem: 1

During the year 2008, X ltd produced 10,000 units of product. The following were the particulars:

Stock of raw materials on 1.1.2008	10,000
on 31.12.2008	20,000
purchase	1,60,000
direct wages	75,000
direct expenses	25,000
factory expenses	87,500
office expenses	62,500
selling expenses	25,000

You are required to prepare a cost sheet showing cost per unit and total cost at each stage.

Cost sheet of X ltd

for the year ending 31.12.2008

particulars	total ₹	per unit ₹
opening stock of raw material	10,000	
add: purchase of raw material	1,60,000	
	1,70,000	
less: closing stock of raw material	20,000	
raw materials consumed	1,50,000	3.00
direct wage	75,000	1.50
direct expenses	25,000	0.50
prime cost	2,50,000	5.00
add: factory overheads	87,500	0.75
factory cost	2,87,500	5.75
office overheads	62,500	1.25
cost of production	3,50,000	7.00

(a) Ascertain the value of raw materials purchased, material consumed, opening stock of material, closing stock of material.

Materials consumed = O.S + P - C.S

5,00,000 = 50,000 + P - 45,000

purchase = 4,95,000.

(b) The following details are obtained from the books of Ganesh Ltd for the quarter ended 31-3-2010. Ascertain the direct material consumed for the period:

materials purchased	11,18,000
Import duty on material	88,000
Stock of material on 1.1.10	1,60,000
carriage on the material purchased	110,000
Stock of material on 31.3.10	1,46,000
wastage from material - scarp	14,000

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direct fees	6,250
telephone rent	625
salesmen salary	6,250
advertising	6,250
X Income tax	50,000
direct Material	5,00,000
oil & water	2,500
X transfer to G/L	5,000
Foremen's salary	12,500
Factory lighting	7,500
office lighting	2,500
depreciation:	
factory plan	2,500
office building	6,250
Manager's salary	25,000
warehouse rent	2,500
postage	1,250
travelling Expenses	2,500
office stationery	2,500
dividend paid	10,000
Sales	9,47,500

Cost sheet of the years ending

particulars	₹	₹
direct Material	5,00,000	
Direct wages	1,50,000	
prime cost		6,50,000
add: factory overheads:		
power	2,500	
Semi skilled wages	5,000	
factory rent	25,000	
factory plan	12,500	
estimated stores	12,500	
oil & water	2,500	
factory lighting	7,500	
depreciation of factory plan	2,500	84,500
Foremen salary	12,500	7,39,000
factory cost		7,34,500
add: office & administrative expenses:		
office rent	12,500	
office building	2,500	
direct fees	6,250	
telephone rent	625	
office lighting	2,500	
depreciation of office building	6,250	
Manager's salary	25,000	
postage	1,250	
office stationery	2,500	59,375
cost of production		7,96,875
add: Selling & distribution:		
Salesmen salary	6250	
advertising	6250	
warehouse rent	2500	
travelling expenses	2500	17,500
cost of goods sold		8,14,375
add: profit		1,33,125
Sales		9,47,500

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add: Selling & distribution:

advertisement	1000	
Supervisor salary	5,500	
Bad debts	300	
cost of goods sold		6800
		79,100

11) A manufacturer presents the following details about the various expenses incurred by him:

Raw material consumed	70,000	
carriage Inwards	2000	
factory rent	21400	
Bad debts	440	
printing & stationery	620	
legal expenses	950	
carriage outwards	1,540	
Indirect Materials	560	
power	11600	
depreciation of furniture	160	
postage expenses	465	
Repair of P & M	1,200	
Salesmen's expenses	3,400	
advertising	500	
direct wages	85,500	
General Manager salary	36,000	
factory Manager's salary	18,000	
Depreciation on P & M	1,240	
audit fee	350	

Cost sheet for the period ending

particulars		
Direct material		
raw materials consumed	70000	
Direct wages	85,000	
Direct expenses (carriage Inwards)	2000	
prime cost		157,000
add: factory overheads:		
factory rent	2,400	
Indirect materials	560	
power	11600	
repairs of P&M	1,200	
factory Manager salary	18,000	
Depreciation on P&M	1,240	28,000
factory cost		185,000
add: office & administration overheads:		
printing & stationery	620	
legal expenses	350	
postage expenses	465	
General Manager salary	36,000	
Audit fee	350	
depreciation of furniture	160	37,945
cost of production		222,945
add: selling & distribution:		
Bad debts	440	
Salesmen expenses	3400	
advertising	500	
carriage outwards	1,540	5880
cost of goods sold		2,28,825

cost Accounting and objectives in the context of a manufacturing business. It is a process of giving an account of the product. It starts with recording the expenditure and income of the company.

Objectives:

B) cost sheet - with details of ...
1) calculate (i) prime cost (ii) factory cost (iii) cost of production (iv) cost of ... profit from the following particulars:

Direct materials	1,00,000
Direct wages	25,000
direct expenses	5,000
wages for foreman	2,500
electric power	500
Lighting:	
factory	1,500
office	500
Rent:	
factory	5,000
office	2,500
Salaries to Salesman	1,250
Advertising	1,250
Income tax	10,000
Sales	1,89,500

cost sheet for the year ending

particulars		
Direct materials	1,00,000	
Direct wages	25,000	
Direct Expenses	5,000	
prime cost		1,30,000
add: factory heads:		
wages for foreman	2,500	
electric power	500	
Lighting factory	1,500	
Rent factory	5,000	
factory cost		9,500
		1,39,500

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add:	Factory overheads:		
	Indirect wages	3,000	
	Factory rent	11,500	
	depreciation on P&M	5,000	
add:	work in progress 1-1-24	29,500	
less:	31-1-24	(34,250)	
	factory cost		1,11,500
add:	office and administrative Expenses:		
	office rents & rates	3500	
	cost of production		1,15,000
add:	opening stock of finished goods on 1-1-24	54,600	
less:	goods on 31-1-24	(30,000)	
	cost of goods sold		1,39,600
add:	Selling & distribution	11,000	
	total cost		1,50,600
add:	profit		44,250
	Sales		1,94,850

(4): M/s Indu Industries Ltd are the manufacturers of moon light torches. The following data relate to Manufacture of torches during the month of March 2024

Raw materials consumed	40,000
direct wages	12,000
Machine hours worked	9,500 hr
office overheads	@ 20% of work cost
Machine hour rate	Rs 8
Selling overheads	50 paise per unit
units produced	20,000 units
units sold	18,000 @ 5 per unit.

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Factory overheads (manufacturing overheads)

Cost incurred in the production area.
Indirect materials
Indirect labour
factory rent and rates
factory lighting & heating
Power and fuel for machines
Repairs and maintenance of machinery
Depreciation on factory equipment
Insurance for machinery and factory
factory supplies.

Administrative overheads:
Cost related to general management and administration of the business.
office salaries
office rent and rates
office lighting and electricity
office stationery
postage and telephone
Legal and audit fee.
office equipment depreciation
Insurance for office premises
Bank charges.

Selling overheads and distribution overheads:
Cost incurred to promote and sell the product & cost incurred after sale to deliver the product to the customer.

Salaries of sales personnel
Advertising and publicity
Travel and conveyance for sales team
Showroom expenses
commission to sales agents
packing expenses for sales
Freight and carriage outward
Samples and gifts to customers
Bad debts
delivery van expenses
Freight and transportation charges
packing materials (for delivery)
Transit insurance
loading and unloading charges
depreciation on delivery vehicles
warehousing / storage charges

12) prepare a statement showing cost and profit from the following details, clearly showing prime cost, work cost, cost of production, cost of sales and profit:

Direct wages	1,50,000
power	21,500
Storekeeper wages	5,000
factory rent	25,000
office rent	12,500
repairs:	
factory plan	17,500
office building	2,500
Goodwill written off	2,500
Consumable stores	12,500

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