

INVENTORIES

Solution 1

As per AS 2 'Valuation of Inventories', inventories should be valued at lower of cost and net realizable value. Inventories should be written down to net realizable value on an item-by-item basis:

Items	Historical cost	Net realizable value	Value of Closing Stock
P	5,70,000	4,75,000	4,75,000
Q	9,80,000	10,32,000	9,80,000
R	3,16,000	2,89,000	2,89,000
S	4,25,000	4,25,000	4,25,000
T	1,60,000	2,15,000	1,60,000
			23,29,000

Solution 2

a) First-in-First out basis

Calculation of the value of Inventory as on 31-3-2023

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
01.01.23	Purchases	100	30	3,000				100	30	3,000
15.01.23	Issue				50	30	1,500	50	30	1,500
01.02.23	Purchases	200	40	8,000				50	30	1,500
								200	40	8,000
15.02.23	Issue				50	30	1,500			
					50	40	2,000	150	40	6,000
20.02.23	Issue				100	40	4,000	50	40	2,000

Therefore, the value of Inventory as on 31-3-2023: 50 units @ ₹ 40 = ₹ 2,000

b) Weighted Average basis

Calculation of the value of Inventory as on 31-3-2023

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
01.01.23	Purchases	100	30	3,000				100	30	3,000
15.01.23	Issue				50	30	1,500	50	30	1,500
01.02.23	Purchases	200	40	8,000				250	38	9,500
15.02.23	Issue				100	38	3,800	150	38	5,700
20.02.23	Issue				100	38	3,800	50	38	1,900

Therefore, the value of Inventory as on 31-3-2023: 50 units @ ₹ 38 = ₹ 1,900

Solution 3

a) First-in-First out basis (FIFO)

Calculation of the value of Inventory as on 31st December

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				500	50	25,000	400	50	20,000
Dec 10	Purchase	400	55	22,000				400	50	20,000
								400	55	22,000
Dec. 11	Purchase	300	55	16,500				400	50	20,000
								400	55	22,000
								300	55	16,500
Dec. 19	Purchase	200	60	12,000				400	50	20,000

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								400	55	22,000
								300	55	16,500
								200	60	12,000
Dec 20	Issue				400	50	20,000	200	55	11,000
					200	55	11,000	300	55	16,500
								200	60	12,000
Dec 28	Purchase	800	47	37,600				200	55	11,000
								300	55	16,500
								200	60	12,000
								800	47	37,600
Dec 29	Issue				200	55	11,000	200	60	12,000
					300	55	16,500	800	47	37,600

Therefore, the value of Inventory as on 31 Dec: 1000 units = ₹ 49,600

b) Last-in-First out basis (LIFO)

c) Calculation of the value of Inventory as on 31st December

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				500	50	25,000	400	50	20,000
Dec 10	Purchase	400	55	22,000				400	50	20,000
								400	55	22,000
Dec. 11	Purchase	300	55	16,500				400	50	20,000
								400	55	22,000
								300	55	16,500
Dec. 19	Purchase	200	60	12,000				400	50	20,000
								400	55	22,000
								300	55	16,500
								200	60	12,000
Dec 20	Issue				200	60	12,000	400	50	20,000
					300	55	16,500	300	55	16,500
					100	55	5,500			
Dec 28	Purchase	800	47	37,600				400	50	20,000
								300	55	16,500
								800	47	37,600
Dec 29	Issue				500	47	23,500	400	50	20,000
								300	55	16,500
								300	47	14,100

Therefore, the value of Inventory as on 31 Dec: 1000 units valuing ₹ 50,600

c) Simple Average Cost

Simple Average per unit Cost = $(50+55+55+60+47)/5 = 53.40$

Closing Stock (in Units) = 1000 units

Value = $1000 * 53.40 = 53,400$

d) Weighted Average Cost

Calculation of the value of Inventory as on 31st December

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				500	50	25,000	400	50	20,000
Dec 10	Purchase	400	55	22,000				800	52.50	42,000

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Dec 11	Purchase	300	55	16,500				1100	53.18	58,500
Dec 19	Purchase	200	60	12,000				1300	54.23	70,500
Dec 20	Issue				600	54.23	32,538	700	54.23	37,962
Dec 28	Purchase	800	47	37,600				1500	50.37	75,562
Dec 29	Issue				500	50.37	25,185	1000	50.37	50,377

Therefore, the value of Inventory as on 31 Dec: 1000 units valuing ₹ 50,377

PERIODIC INVENTORY SYSTEM

1) FIFO

$$\text{Closing Stock} = [(200 \times 60) + (800 \times 47)] = 49,600$$

2) LIFO

$$\text{Closing Stock} = [(900 \times 50) + (100 \times 55)] = 50,500$$

3) Simple Average = Same value as earlier ie 53,400

4) Weighted Average

$$\begin{aligned} \text{Weighted average cost per unit} &= \frac{(900 \times 50) + (400 \times 55) + (300 \times 55) + (200 \times 60) + (800 \times 47)}{900 + 400 + 300 + 200 + 800} \\ &= \frac{1,33,100}{2,600} \\ &= 51.19 \end{aligned}$$

$$\text{Closing Stock} = 1,000 \times 51.19 = 51,190$$

Solution 4

a) First-in-First out basis (FIFO)

Calculation of the value of Inventory as on 31st December

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				600	50	30,000	300	50	15,000
Dec 10	Purchase	700	55	38,500				300	50	15,000
								700	55	38,500
Dec 12	Issue				300	50	15,000			
					200	55	11,000	500	55	27,500
Dec 24	Purchase	600	60	36,000				500	55	27,500
								600	60	36,000
Dec 29	Issue				500	55	27,500			
					100	60	6,000	500	60	30,000

Therefore, the value of Inventory as on 31 Dec: 500 units @ ₹ 60 = ₹ 30,000

b) Last-in-First out basis (LIFO)

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				600	50	30,000	300	50	15,000
Dec 10	Purchase	700	55	38,500				300	50	15,000
								700	55	38,500
Dec 12	Issue				500	55	27,500	300	50	15,000
								200	55	11,000
Dec 24	Purchase	600	60	36,000				300	50	15,000
								200	55	11,000
								600	60	36,000

Dec 29	Issue				600	60	36,000	300	50	15,000
								200	55	11,000

Therefore, the value of Inventory as on 31 Dec: 500 units valuing ₹ 26,000

c) Simple Average Cost

Simple Average per unit Cost = $(50+55+60)/3 = 55$

Closing Stock (in Units) = 500 units

Value = $500 * 55 = 27,500$

d) Weighted Average Cost

Calculation of the value of Inventory as on 31st December

Date	Particulars	Receipts			Issue			Balance		
		Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
Dec 4	Purchase	900	50	45,000				900	50	45,000
Dec 5	Issue				600	50	30,000	300	50	15,000
Dec 10	Purchase	700	55	38,500				1,000	53.50	53,500
Dec 12	Issue				500	53.50	26,750	500	53.50	26,750
Dec 24	Purchase	600	60	36,000				1,100	57.04	62,750
Dec 29	Issue				600	57.04	34,224	500	57.04	28,526

Therefore, the value of Inventory as on 31 Dec: 500 units valuing ₹ 28,526

Solution 5

Calculation of the value of Inventory as on 31-3-2023

Date	Units	Receipts		Units	Issues		Balance		
		Rate	Amount		Rate	Amount	Units	Rate	Amount
		₹	₹		₹	₹		₹	
1-1-2023	Balance							Nil	
1-1-2023	10	300	3,000				10	300	3,000
15-1-2023				5	300	1,500	5	300	1,500
1-2-2023	20	400	8,000				25	380	9,500
15-2-2023				10	380	3,800	15	380	5,700
20-2-2023				10	380	3,800	5	380	1,900

Therefore, the value of Inventory as on 31-3-2023 = 5 units @ ₹380 = ₹1,900

Solution 6

Trading Account

	Amount		Amount
To Opening Stock	50,000	By Sales	4,50,000
To Purchases	3,60,000	Less: Returns	(11,250)
Less: Returns	(10,000)	By Closing Stock	
To Freight Inwards	10,000	(Balancing Figure)	59,000
To Gross Profit (4,38,750*20%)	87,750		
	4,97,750		4,97,750

Solution 7

Sales	7,50,000
Add: Closing inventory (at selling price)	1,00,000
Selling price of goods available for sale:	8,50,000
Less: Cost of goods available for sale	5,00,000
Gross margin	3,50,000

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Rate of gross margin = $(350000/850000) \times 100 = 41.18\%$

Cost of closing inventory = 1,00,000 less 41.18% of ₹1,00,000 = ₹ 58,820

*This rate may also be considered as 41.176% in that case, the closing inventory will be valued at ₹ 58,824

OR as 41.17% in that case, the closing inventory will be valued at ₹ 58,830

Solution 8

Alternative 1:

Statement of Valuation of Stock as on 31st March, 2023

Value of stock as on 1st April, 2022	7,00,000	
Less: Book value of Abnormal Stock (2,00,000-60,000)	(1,40,000)	5,60,000
Add: Purchases during the period from 1.4.2022 to 31.3.2023		34,60,000
Add: Manufacturing expenses during the above period		<u>7,00,000</u>
		47,20,000
Less: Cost of sales during the period:		
Sales	52,20,000	
Less: Sale value of abnormal stock	(1,60,000)	
	50,60,000	
Less: Gross profit @ 20% on sales ie 25/125	(10,12,000)	<u>(40,48,000)</u>
Stock as on 31.03.2023		6,72,000

Alternative 2:

Trading Account (01.04.2022 to 31.03.2023)

	Normal	Abnormal		Normal	Abnormal
To Opening Stock	5,60,000	1,40,000	By Sales	50,60,000	1,60,000
To Purchases	34,60,000	-	By Closing Stock (balancing figure)	6,72,000	-
To Manufacturing exp.	7,00,000				
To Gross Profit (50,60,000*20%)	10,12,000	20,000			
	57,32,000	1,60,000		57,32,000	1,60,000

Solution 9

Statement of Inventory in trade as on 31st March, 2023

Inventory as on 31st March, 2022	3,50,000	
Less: Book value of abnormal inventory (₹ 55,000 - ₹ 20,000)	<u>(35,000)</u>	3,15,000
Add: Purchases		12,00,000
Manufacturing Expenses		<u>1,00,000</u>
		<u>16,15,000</u>
Less: Cost of goods sold:		
Sales as per books	18,50,000	
Less: Sales of abnormal item	<u>(50,000)</u>	
	18,00,000	
Less: Gross Profit @ 20%	<u>(3,60,000)</u>	<u>14,40,000</u>
Inventory in trade as on 31st March, 2023		1,75,000

Solution 10

Statement of Valuation of Stock as on 31st March, 2023

		₹
Value of stock as on 1st April, 2022		28,00,000
Add: Purchases during the year		1,38,40,000
Add: Manufacturing expenses during the above period		<u>28,00,000</u>

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Less: Cost of sales during the period:		1,94,40,000
Sales	2,08,80,000	
Less: Gross profit	(51,40,000)	1,57,40,000
Value of stock as on 31.3.2023		37,00,000

Working Note:

	₹
Calculation of gross profit:	
Gross profit on normal sales $25/100 \times (2,08,80,000 - 6,40,000)$	50,60,000
Gross profit on the particular (abnormal) item $6,40,000 - (8,00,000 - 2,40,000)$	80,000
	51,40,000

Solution 11

Alternative 1:

Statement of valuation of Inventory on 31st March, 2023

Value of Inventory as on 15th April, 2023		5,00,000
Add: Cost of goods sold during the period between 31st March, 2023 to 15th April, 2023		
Sales (₹ 4,10,000 - ₹ 10,000)	4,00,000	
Less: Gross Profit (20% of ₹ 4,00,000)	(80,000)	<u>3,20,000</u>
		8,20,000
Less: Purchases during the period from 31st March, 2023 to 15th April, 2023		(50,340)
Stock as on 31.03.2023		7,69,660

Alternative 2:

Trading Account (01.04.2023 to 15.04.2023)

	Amount		Amount
To Opening Stock (Balancing Figure)	7,69,660	By Sales 4,10,000	
To Purchases	50,340	Less: Returns <u>(10,000)</u>	4,00,000
To Gross Profit (4,00,000*20%)	80,000	By Closing Stock	5,00,000
	9,00,000		9,00,000

Solution 12

Profit and Loss Adjustment Account

Particulars	₹	Particulars	₹
To Advertisement (samples)	25,000	By Net profit	5,75,000
To Sales (goods approved in April to be taken as April sales: (55,000 + 18,333))	73,333	By Electric fittings	10,500
To Adjusted net profit	9,57,167	By Samples	25,000
		By Stock (purchases of March not included in stock)	1,85,000
		By Sales (goods sold in March wrongly taken as April sales)	2,05,000
		By Stock (goods sent on approval basis not included in stock)	55,000
	10,55,500		10,55,500

Calculation of value of inventory on 31st March, 2023

	₹
Stock on 31st March, 2023 (given)	2,55,000
Add: Purchases of March, 2023 not included in the stock	1,85,000
Goods lying with customers on approval basis	<u>55,000</u>
Value of inventory as on 31.03.2023	<u>4,95,000</u>

Note: Figures are rounded off to the nearest Rupee.

Solution 13

Statement of Valuation of Stock on 29th February, 2020

		₹
Value of stock as on 23rd February, 2020		28,00,000
Add: Unsold stock out of the goods sent on consignment	2,30,000	
Purchases during the period from 23rd February, 2020 to 29th February, 2020	1,80,000	
Goods in transit on 29th February, 2020	1,20,000	
Cost of goods sent on approval basis (80% of ₹ 1,60,000)	1,28,000	6,58,000
Cost of sales during the period from 23rd February, 2020 to 29th February, 2020		34,58,000
Sales (₹ 13,60,000 - ₹ 1,60,000)	12,00,000	
Less: Gross profit	1,20,000	
		10,80,000
Value of stock as on 29th February, 2020		23,78,000

Working Notes:

1.	Calculation of normal sales:		
	Actual sales		13,60,000
	Less: Abnormal sales	1,50,000	
	Return of goods sent on approval	1,60,000	3,10,000
			10,50,000
2.	Calculation of gross profit:		
	Gross profit on normal sales $20/100 \times ₹ 10,50,000$		2,10,000
	Less: Loss on sale of particular (abnormal) goods (₹ 2,40,000 - ₹ 1,50,000)		90,000
	Gross profit		1,20,000

Solution 14

	Periodic Inventory System	Perpetual Inventory System
1	This system is based on physical verification	It is based on book records.
2	This system provides information about inventory and cost of goods sold at a particular date	It provides continuous information about inventory and cost of sales.
3	This system determines inventory and takes cost of goods sold as residual figure.	It directly determines cost of goods sold and computes inventory as balancing figure.
4	Cost of goods sold includes loss of goods as goods not in inventory are assumed to be sold	Closing inventory includes loss of goods as all unsold goods are assumed to be in Inventory.
5	Under this method, inventory control is not possible	Inventory control can be exercised under this system.
6	This system is simple and less expensive.	It is costlier method.
7	Periodic system requires closure of business for counting of inventory.	Inventory can be determined without affecting the operations of the business.

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Solution 15

Periodic inventory system is a method of ascertaining inventory by taking an actual physical count (or measure or weight) of all the inventory items on hand at a particular date on which inventory is valued. It is because of actual physical count that the system is also called physical inventory system.

The cost of goods sold is determined as shown below:

Opening inventory (known) + Purchases (known) - closing inventory (physically counted) = Cost of goods sold.

Periodic inventory system is simple and less expensive than the perpetual system. In this system, inventory account is adjusted at the end of the accounting period to determine cost of goods sold.

This system suffers from various limitations:

- a) Physical inventory taking is required more than once a year for preparation of quarterly or half yearly financial statements thereby making this system more expensive.
- b) Physical count of goods requires closure of normal operations of business.
- c) As cost of goods sold is taken as residual figure, it is not possible to identify loss of goods due to pilferage, damage or even fraud.
- d) Inventory control is not possible under this system.
- e) Books of accounts does not reflect inventory in hand and its value therefore, it is difficult to operations e.g. how much or when to order/manufacture.

This system is used by small enterprises where is easy to control physical inventory. This system is not considered suitable for medium or larger enterprises which generally use Perpetual Inventory system.