

81 Cost of revenue from operations (cost of goods sold) 5,00,000:
purchases 5,50,000; opening inventory 1,00,000.

Calculate inventory turnover ratio.

Solution:

Cost of goods sold = opening inventory + purchase – purchased
return

– closing
inventory

5,00,000 = 1,00,000 + 5,50,000 – 0 – closing inventory

Closing inventory = 1,50,000

Cost of goods sold = 5,00,000

$$\begin{aligned}\text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{1,00,000 + 1,50,000}{2} \\ &= 1,25,000\end{aligned}$$

$$\begin{aligned}\text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{5,00,000}{1,25,000} \\ &= 4 \text{ times}\end{aligned}$$

82 Calculation inventory turnover ratio from the following
information:

Opening inventory is 50,000; purchase 3,90,000; revenue from
operations, i.e., net sales 6,00,000; gross profit ratio 30%.

Solution:

Gross profit ratio = 30% of net sales

$$\begin{aligned}&= \frac{30}{100} \times 6,00,000 \\ &= 1,80,000\end{aligned}$$

Cost profit = net sales – cost of goods sold

1,80,000 = 6,00,000 – cost of goods sold

Cost of goods sold = 4,20,000

Cost of goods sold = opening inventory + purchases – purchase return
+ direct expenses – closing
inventory

$$4,20,000 = 50,000 + 3,90,000 - 0 + 0 - \text{closing inventory}$$

$$\text{Closing inventory} = 20,000$$

$$\begin{aligned} \text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{50,000 + 20,000}{2} \\ &= 35,000 \end{aligned}$$

$$\begin{aligned} \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{4,20,000}{35,000} \\ &= 12 \text{ times} \end{aligned}$$

83 Form the following information, calculate inventory turnover ratio:

Opening inventory	2,00,000
Purchase	4,60,000
Carriage inwards	20,000
Closing inventory	60,000
Wages	30,000
Freight outwards	37,500

Solution:

Cost of goods sold = opening inventory + purchases + carriage inwards

$$\begin{aligned} &+ \text{wages} - \text{closing inventory} \\ &= 2,00,000 + 4,60,000 + 20,000 + 30,000 - 60,000 \\ &= 6,50,000 \end{aligned}$$

$$\begin{aligned} \text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{2,00,000 + 60,000}{2} \end{aligned}$$

$$\begin{aligned}
 &= 1,30,000 \\
 \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\
 &= \frac{6,50,000}{1,30,000} \\
 &= 5 \text{ times}
 \end{aligned}$$

84 Calculate inventory turnover ratio from the following:

Opening inventory	58,000
Closing inventory	62,000
Revenue from operation, i.e., net sales	6,40,000
Gross profit ratio 25%.	

Solution:

Gross profit = 25% of net sales

$$\begin{aligned}
 &= \frac{25}{100} \times 6,40,000 \\
 &1,60,000
 \end{aligned}$$

Gross profit = net sales – cost of goods sold

$$1,60,000 = 6,40,000 - \text{cost of goods sold}$$

Cost of goods sold = 4,80,000

$$\begin{aligned}
 \text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\
 &= \frac{58,000 + 62,000}{2} \\
 &= 60,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\
 &= \frac{4,80,000}{60,000} \\
 &= 8 \text{ times}
 \end{aligned}$$

85 From the following information, calculate inventory turnover Ratio:

Revenue form operations	16,00,000
Average inventory	2,20,000

Gross loss Ratio 5%.

Solution:

Gross loss = 5% of revenue from operation

$$= \frac{25}{100} \times 16,00,000$$

$$= 80,000$$

Gross loss = cost of goods sold – revenue from operation

$$80,000 = \text{cost of goods sold} - 16,00,000$$

Cost of goods sold = 16,80,000

$$\begin{aligned} \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{16,80,000}{2,20,000} \\ &= 7.64 \text{ times} \end{aligned}$$

- 86 Revenue from operations 4,00,000; gross 1,00,000; closing inventory 1,20,000; excess of closing inventory over inventory 40,000. Calculate inventory turnover Ratio.

Solution;

Revenue from operation = 4,00,000

$$\begin{aligned} \text{Opening inventory} &= 1,20,000 - 40,000 \\ &= 80,000 \end{aligned}$$

Gross profit = revenue from operation – cost of goods sold

$$1,00,000 = 4,00,000 - \text{cost of goods sold}$$

Cost of goods sold = 3,00,000

$$\begin{aligned} \text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{1,20,000 + 80,000}{2} \end{aligned}$$

$$= 1,00,000$$

$$\text{Inventory turnover ratio} = \frac{\text{cost of goods sold}}{\text{avg inventory}}$$

$$= \frac{3,00,000}{1,00,000}$$

$$= 3 \text{ times}$$

87 From the following data, calculate turnover Ratio:

Total sales 1,00,000; sales return 1,00,000; gross profit 1,80,000; closing inventory 2,00,000; excess of closing inventory over opening inventory 40,000.

Solution:

$$\begin{aligned}\text{Net sales} &= \text{gross sales} - \text{sales return} \\ &= 10,00,000 - 1,00,000 \\ &= 9,00,000\end{aligned}$$

$$\text{Revenue from operation} = 9,00,000$$

$$\begin{aligned}\text{Opening inventory} &= 2,00,000 - 40,000 \\ &= 1,60,000\end{aligned}$$

$$\begin{aligned}\text{Gross profit} &= \text{revenue from operation} - \text{cost of goods sold} \\ 1,80,000 &= 9,00,000 - \text{cost of goods sold}\end{aligned}$$

$$\text{Cost of goods sold} = 7,20,000$$

$$\begin{aligned}\text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{1,60,000 + 2,00,000}{2} \\ &= 1,80,000\end{aligned}$$

$$\begin{aligned}\text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{7,20,000}{1,80,000} \\ &= 4 \text{ times}\end{aligned}$$

88 ₹ 2,00,000 is the cost of revenue from operations (cost of good sold), during the year. If inventory turnover Ratio is 8 times, calculate inventories at the end of the year. Inventory at the end is 1.5 times that of in the beginning.

Solution:

$$\text{Inventory turnover ratio} = \frac{\text{cost of goods sold}}{\text{avg inventory}}$$

$$= \frac{2,00,000}{\frac{\text{opening inventory} + \text{closing inventory}}{2}}$$

$$8 = \frac{2,00,000 \times 2}{n + 1.5 \times 8}$$

$$8 (2.5 \times 8) = 4,00,000$$

$$X = \frac{4,00,000}{2.5 \times 8}$$

$$\text{Opening inventory} = 20,000 \times 1.5$$

$$\text{Closing inventory} = 20,000 \times 1.5$$

$$= 30,000$$

89 From the following information obtained from the books of Kundan Ltd. calculate the inventory turnover Ratio for the years 2015-16 and 2016-17:

Particular	2015-16 ₹	2016-17 ₹
Inventory on 31 st March	7,00,000	17,00,000
Revenue from operations (gross profit is 25% on cost of revenue from operation)	50,00,000	75,00,000

In the year 2015-16, inventory by 2,00,000.

Solution:

2015-16

$$\text{Opening inventory} = 5,00,000$$

$$\text{Closing inventory} = 7,00,000$$

$$\text{Gross profit} = \text{revenue from operation} - \text{cost of goods sold}$$

$$\frac{25}{100} \text{ logs} = 50,00,000 - \text{logs}$$

$$\left(\frac{25}{100} + 1\right) \text{ logs} = 50,00,000$$

$$\text{Logs} = 50,00,000 \times \frac{100}{125}$$

$$\text{Lost of goods sold} = 40,00,000$$

$$\begin{aligned}\text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{5,00,000 + 7,00,000}{2} \\ &= 6,00,000\end{aligned}$$

$$\begin{aligned}\text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{40,00,000}{6,00,000} = 6.666 \\ &= 6.67 \text{ times}\end{aligned}$$

2016-17

$$\text{Opening inventory} = 7,00,000$$

$$\text{Closing inventory} = 17,00,000$$

$$\begin{aligned}\text{Average inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{7,00,000 + 17,00,000}{2} \\ &= 12,00,000\end{aligned}$$

$$\text{Gross profit} = \text{revenue form operation} - \text{cost of goods Sold}$$

$$\frac{25}{100} \text{ logs} = 75,00,000 - \text{logs}$$

$$\left(\frac{25}{100} + 1\right) \text{ logs} = 75,00,000$$

$$\text{Logs} = 75,00,000 \times \frac{100}{125}$$

$$\text{cost of goods sold} = 60,00,000$$

$$\begin{aligned}\text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ &= \frac{60,00,000}{12,00,000} \\ &= 5 \text{ times}\end{aligned}$$

90 Calculate inventory turnover ratio from following information:
Opening inventory 40,000; purchases 3,20,000; and closing inventory 1,20,000 state, giving reason, which of the following transactions would (i) increase, (ii) decrease, (iii) neither increase nor decrease the inventory turnover Ratio:

- a) Sale of goods for 40,000 (cost 32,000).
- b) Increase in the value of closing inventory by 40,000.
- c) Goods purchased for 80,000.
- d) Purchase return 20,000.
- e) Goods costing 10,000 withdrawn for personal use.
- f) Goods costing 20,000 distributed as free samples.

91 Following figures have been extracted form shivalika mills Ltd.
Inventory in the beginning of the year 60,000.
Inventory at the end of the year 1,00,000.
Inventory turnover Ratio 8 times.
Selling price 25% above cost.
Compute amount of Gross Profit and Revenue from operations (Net sales).

Solution:

$$\begin{aligned} \text{Avg. inventory} &= \frac{\text{opening inventory} + \text{closing inventory}}{2} \\ &= \frac{60,000 + 1,00,000}{2} \\ &= 80,000 \end{aligned}$$

$$\begin{aligned} \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\ 8 &= \frac{\text{cost of goods sold}}{80,000} \end{aligned}$$

$$\text{cost of goods sold} = 6,40,000$$

$$\text{Selling price} = 25\% \text{ above cost}$$

$$\text{Revenue from operation} = 6,40,000 + 25\%/100 \times 6,40,000$$

$$= 6,40,000 + 1,60,000$$

$$= 8,00,000$$

Gross profit = revenue from operation – cost of goods sold

$$= 8,00,000 - 6,40,000$$

$$= 1,60,000$$

92 From the following information, calculate inventory turnover Ratio:

Credit revenue from operations 6,00,000; cash revenue from operations 2,00,000 gross profit 25% of cost, closing was 3 times the opening inventory. Opening inventory was 10% of cost of revenue from operations.

Solution:

Net revenue from operation = credit revenue from operation +

Cash revenue from operation

$$= 6,00,000 + 2,00,000$$

$$= 8,00,000$$

Let the cost of goods sold be x

Gross profit = net revenue from operations – cost of goods sold

$$\frac{25}{100} x = \text{net revenue from operation} - x$$

$$(1 + 25/100) x = 8,00,000$$

$$x = 8,00,000 \times 100/125$$

cost of revenue from operations = 6,40,000

opening inventory = 10% of cost of revenue from operations

$$= \frac{10}{100} \times 6,40,000$$

$$= 64,000$$

Closing inventory = 3 x 64,000 = 1,92,000

Avg. inventory = $\frac{\text{opening inventory} + \text{closing inventory}}{2}$

$$= \frac{64,000 + 1,92,000}{2}$$

$$\begin{aligned}
 &= 1,28,000 \\
 \text{Inventory turnover ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\
 &= \frac{6,40,000}{1,28,000} \\
 &= 5 \text{ times}
 \end{aligned}$$

93 From the following information, calculation value of opening inventory:

Closing inventory 68,000

Total sales 4,80,000 (including cash sales 1,20,000)

Total purchases 3,60,000 (including credit purchases 2,39,200)

Goods are sold at a profit of 25% on cost.

Solution:

Gross profit = revenue from operation – cost of goods sold

$$\frac{25}{100} \times = 4,80,000 - x$$

$$\left(\frac{25}{100} + 1\right) = 4,80,000$$

$$\begin{aligned}
 \text{Cost of goods sold} &= 4,80,000 \times \frac{100}{125} \\
 &= 3,84,000
 \end{aligned}$$

Cost of goods sold = opening inventory + purchase – closing inventory

$$3,84,000 = \text{opening inventory} + 3,60,000 - 68,000$$

$$\begin{aligned}
 \text{Opening inventory} &= 3,84,000 - 3,60,000 + 68,000 \\
 &= 92,000
 \end{aligned}$$

94 From the following information, determine opening and closing inventories:

Inventory turnover Ratio 5 times, total sales 2,00,000, gross profit Ratio 25%. Closing inventory is more y 4,000 than the opening inventory.

Solution:

Gross profit = 25% of sales

$$= \frac{25}{100} \times 2,00,000$$

$$= 50,000$$

Gross profit = revenue from operation – cost of goods sold

$$50,000 = 2,00,000 - \text{cost of goods sold}$$

Cost of goods sold = 1,50,000

Let the opening inventory be x

Closing inventory = x + 4,000

$$\text{Inventory turnover Ratio} = \frac{\text{cost of goods sold}}{\text{avg inventory}}$$

$$= \frac{1,50,000}{\frac{x + x + 4,000}{2}}$$

$$5 (2x + 4,000) = 1,50,000 \times 2$$

$$10x + 20,000 = 3,00,000$$

$$x = \frac{3,00,000 - 20,000}{10}$$

Opening inventory = 28,000

$$\text{Closing inventory} = 28,000 + 4,000$$

$$= 32,000$$

95 Inventory turnover Ratio 5 times; cost of Revenue from operations (cost of goods sold) 18,90,000. Calculate opening inventory and closing inventory if inventory at the end is 2.5 times more than that in the beginning.

Solution:

Let the opening inventory be x

Closing inventory = x + 2.5 x = 3.5 x

$$\text{Inventory turnover Ratio} = \frac{\text{cost of goods sold}}{\text{avg inventory}}$$

$$\begin{aligned}
 5 &= \frac{1,50,000}{\frac{x+X+4,000}{2}} \\
 5 (4.5 x) &= 18,90,000 \times 2 \\
 X &= \frac{18,90,000 - 25}{5 \times 4.5}
 \end{aligned}$$

Opening inventory = 16,80,000

Closing inventory = 16,80,000 x 3.5
= 5,88,000

96 3,00,000 is the cost of Revenue from operations (cost of goods sold). Inventory Ratio 8 times; inventory in the beginning is 2 times more than the inventory at the end. Calculate value of opening and closing inventories.

Solution:

Let the closing inventory be x

Opening inventory = x + 2x = 3x

$$\begin{aligned}
 \text{Inventory turnover Ratio} &= \frac{\text{cost of goods sold}}{\text{avg inventory}} \\
 &= \frac{3,00,000}{\frac{3x+X}{2}} \\
 8 (4x) &= 3,00,000 \times 2 \\
 X &= \frac{3,00,000 - 2}{8 \times 4}
 \end{aligned}$$

Opening inventory = 18,750

Closing inventory = 18,700 + 3
= 56,250

97 Credit revenue from operations, i.e., Net credit sale for the year

Debtors 12,00,000

Bills Receivable 1,20,000

Calculate Trade receivables turnover Ratio 80,000

Calculate Trade Receivables Turnover Ratio.

Solution:

Avg. trade receivables = 1,20,000 + 80,000

$$\begin{aligned}\text{Trade receivable turnover Ratio} &= \frac{\text{credit Revenue from operation}}{\text{Average Trade Receivables}} \\ &= \frac{12,00,000}{2,00,000} \\ &= 6 \text{ times}\end{aligned}$$

98 Calculate trade receivables turnover Ratio from the following information:

	Opening Balance	closing
	Balance	
Sundry debtors	28,00,000	25,000
Bills Receivables	7,000	15,000
Provision for doubtful debts	1,500	4,500

Total sales 1,00,000; sales return 1,5000; cash sales 23,5000.

Solution:

$$\begin{aligned}\text{Avg. Trade Receivable} &= \frac{\text{op.debtor} + \text{cl.deboters}}{2} + \frac{\text{op.T/R} + \text{Cl.T/R}}{2} \\ &= \frac{28,000 + 25,000}{2} + \frac{7,000 + 15,000}{2} \\ &= 26,500 + 11,000 \\ &= 37,500\end{aligned}$$

$$\begin{aligned}\text{Net credit sales} &= 1,00,000 - 1500 - 23,500 \\ &= 75,000\end{aligned}$$

$$\begin{aligned}\text{Trade receivable turnover Ratio} &= \frac{\text{credit Revenue from operation}}{\text{Average Trade Receivables}} \\ &= \frac{75,000}{37,500} \\ &= 2 \text{ times}\end{aligned}$$

99 Closing Trade receivables 90,000 revenue from operation 7,20,000, cash revenue from operations 1,80,000. Provision for doubtful debts 8,000. Calculate Trade receivables turnover Ratio.

Solution:

Avg. Trade Receivable = 90,000

Credit revenue from operations = 7,20,000 – 1,80,000

= 5,40,000

Inventory turnover Ratio = $\frac{\text{credit Revenue from operation}}{\text{Average Trade Receivables}}$

$$= \frac{5,40,000}{90,000}$$

= 6 times

100 Closing Trade Receivables 1,00,000; cash sales being 25% of credit sales; Excess of closing Trade Receivables over opening Trade Receivables 40,000; revenue from operations, i.e., net sales 6,00,000. Calculate trade receivable turnover Ratio.

Solution:

Closing Trade receivable = 1,00,000

Opening Trade receivable = 60,000

Net sales = cash sales + credit sales

$$6,00,000 = \frac{25}{100} x + x$$

$$\frac{25x}{100} = 6,00,000$$

$$\text{Credit sales} = \frac{6,00,000 \times 100}{125}$$

Credit + sales = 4,80,000

Inventory receivable turnover Ratio = $\frac{\text{net credit+sales}}{\text{avg Trade receivable}}$

5

$$= \frac{4,80,000}{60,000 + 1,00,000}$$

$$= \frac{4,80,000 \times 2}{1,60,000}$$

= 6 times