Illustration 63.

From the following information, calculate Inventory Turnover Ratio:

	₹
Cost of Revenue from Operations (Cost of Goods Sold)	4,50,000
Inventories in the beginning of the year	1,00,000
Inventories at the end of the year	1,25,000

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 4,50,000}{₹\ 1,12,500} = \mathbf{4\ Times.}$$

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

$$= \frac{₹\ 1,00,000 + ₹\ 1,25,000}{2} = ₹\ 1,12,500.$$

Illustration 64.

From the following information, calculate Inventory Turnover Ratio:

		₹
Revenue from Operations		5,00,000
Inventory:	Opening	75,000
	Closing	1,25,000

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 5,00,000}{₹\ 1,00,000} = \mathbf{5\ Times.}$$

$$\text{Average Inventory} = \frac{₹\ 75,000 + ₹\ 1,25,000}{2} = ₹\ 1,00,000.$$

Illustration 65.

From the following data, calculate Inventory Turnover Ratio:
Cost of Revenue from Operations (Cost of Goods Sold) ₹ 3,00,000; Purchases ₹ 3,30,000; Opening Inventory ₹ 60,000.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 3,00,000}{₹\ 75,000} = \textbf{4 Times.}$$

Cost of Revenue from Operations (Cost of Goods Sold)
= Opening Inventory + Purchases + Direct Expenses – Closing Inventory

Closing Inventory = Opening Inventory + Purchases – Cost of Revenue from Operations (Cost of Goods Sold)
= ₹ 60,000 + ₹ 3,30,000 – ₹ 3,00,000 = ₹ 90,000.

Average Inventory = (Opening Inventory + Closing Inventory) ÷ 2
= (₹ 60,000 + ₹ 90,000) ÷ 2 = ₹ 75,000.

Illustration 66.

Opening Inventory is ₹ 29,000; Purchases ₹ 2,42,000; Revenue from Operations, *i.e.*, Net Sales ₹ 3,20,000; Gross Profit 25% on Sales. Calculate Inventory Turnover Ratio.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 2,40,000}{₹\ 30,000} = \textbf{8 Times.}$$

Cost of Revenue from Operations (Cost of Goods Sold)
= Revenue from Operations – Gross Profit
= ₹ 3,20,000 – ₹ 80,000 (*i.e.*, 25% of ₹ 3,20,000) = ₹ 2,40,000.

Closing Inventory = Opening Inventory + Purchases – Cost of Revenue from Operations
= ₹ 29,000 + ₹ 2,42,000 – ₹ 2,40,000 = ₹ 31,000.

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

$$= \frac{₹\ 29,000 + ₹\ 31,000}{2} = ₹\ 30,000.$$

Illustration 67.

Opening Inventory ₹ 29,000; Closing Inventory ₹ 31,000; Revenue from Operations (Net Sales) ₹ 3,00,000; Gross Profit 25% on cost. Calculate Inventory Turnover Ratio.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 2,40,000}{₹\ 30,000} = \textbf{8 Times.}$$

Calculation of Cost of Revenue from Operations (Cost of Goods Sold):
Let Cost of Revenue from Operations (Cost of Goods Sold) be ₹ 100
Gross Profit = ₹ 25
Revenue from Operations = ₹ 100 + ₹ 25 = ₹ 125

If Revenue from Operations (Net Sales) is ₹ 125 then Cost of Revenue from Operations (Cost of Goods Sold) is = ₹ 100.

If Revenue from Operations (Net Sales) is ₹ 3,00,000,

$$\text{Cost of Revenue from Operations (Cost of Goods Sold)} = \frac{₹\,100}{₹\,125} \times ₹\,3,00,000 = ₹\,2,40,000.$$

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

$$= \frac{₹\,29,000 + ₹\,31,000}{2} = ₹\,30,000.$$

Illustration 68.

From the following information, calculate Inventory Turnover Ratio:

Net Sales ₹ 4,00,000; Average Inventory ₹ 55,000; Gross Loss on Sales is 10%.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\,4,40,000}{₹\,55,000} = \mathbf{8\ Times.}$$

Working Note:

Net Sales = ₹ 4,00,000

Gross Loss = 10% of ₹ 4,00,000 = ₹ 40,000.

Cost of Revenue from Operations = Net Sales + Gross Loss

= ₹ 4,00,000 + ₹ 40,000 = ₹ 4,40,000.

Illustration 69.

From the following information, calculate Inventory Turnover Ratio:

Total Sales ₹ 2,20,000; Sales Return ₹ 20,000; Gross Profit ₹ 50,000; Closing Inventory ₹ 60,000; Excess of Closing Inventory over Opening Inventory ₹ 20,000.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\,1,50,000}{₹\,50,000} = \mathbf{3\ Times.}$$

Working Notes:

1. *Calculation of Average Inventory:*

Opening Inventory = Closing Inventory – Excess of Closing Inventory over Opening Inventory

= ₹ 60,000 – ₹ 20,000 = ₹ 40,000.

Average Inventory = (Opening Inventory + Closing Inventory) ÷ 2

= (₹ 40,000 + ₹ 60,000) ÷ 2 = ₹ 50,000.

2. Cost of Revenue from Operations = Net Sales – Gross Profit

= ₹ 2,00,000 – ₹ 50,000 = ₹ 1,50,000.

Illustration 70.

₹ 2,00,000 is Cost of Revenue from Operations (Cost of Goods Sold); Inventory Turnover Ratio 8 times; Inventory in the beginning is 1.5 times more than the Inventory at the end. Calculate values of Opening and Closing Inventory. *(Delhi 2004, Modified)*

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations (Cost of Goods Sold)}}{\text{Average Inventory}}$$

$$8 = \frac{₹\ 2,00,000}{\text{Average Inventory}}$$

Average Inventory = ₹ 25,000

Average Inventory = (Opening Inventory + Closing Inventory)/2

Let the Closing Inventory be x; So, Opening Inventory = $x + 1.5x$

Hence, $$\frac{x+x+1.5x}{2} = ₹\ 25,000$$

$$3.5x = ₹\ 50,000$$

$$x = \frac{₹\ 50,000}{3.5} = ₹\ \mathbf{14,286\ (Closing\ Inventory).}$$

Thus, Opening Inventory = ₹ 14,286 + 1.5 Times of ₹ 14,286

= ₹ **35,715** (*i.e.*, ₹ 14,286 × 2.5).

Illustration 71.

Cash Revenue from Operations ₹ 50,000, Credit Revenue from Operations ₹ 1,50,000. Gross Profit 25% on cost. Closing Inventory was 3 times the Opening Inventory. Opening Inventory was 10% of Cost of Revenue from Operations. Calculate Inventory Turnover Ratio.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{₹\ 1,60,000}{₹\ 32,000} = \mathbf{5\ Times.}$$

Working Notes:

1. *Calculation of Cost of Revenue from Operations:*
   Let Cost of Revenue from Operations be ₹ 100; Gross Profit = ₹ 25
   Revenue from Operations = ₹ 100 + ₹ 25 = ₹ 125
   If Revenue from Operations is ₹ 125, then cost is = ₹ 100
   If Revenue from Operations is ₹ 2,00,000, then cost = ₹ 2,00,000 × ₹ 100/₹ 125 = ₹ 1,60,000.
2. Opening Inventory = 10% of Cost of Revenue from Operations = ₹ 1,60,000 × 10/100 = ₹ 16,000.
3. Closing Inventory = 3(Opening Inventory) = ₹ 16,000 × 3 = ₹ 48,000.
4. Average Inventory = $\frac{₹\ 16,000\ (\text{Opening}) + ₹\ 48,000\ (\text{Closing})}{2}$ = ₹ 32,000.

Illustration 77.

Calculate Trade Receivables Turnover Ratio and Average Collection period:

Credit Revenue from Operations (Net Credit Sales) for the year is ₹ 6,00,000 and Debtors and Bills Receivable at the year end were ₹ 60,000 and ₹ 40,000 respectively.

Solution:

Trade Receivables Turnover Ratio

$$= \frac{\text{Credit Revenue from Operations (Net Credit Sales)}}{\text{Average Trade Receivables (Debtors + Bills Receivable)}}$$

$$= \frac{₹\,6,00,000}{₹\,60,000 + ₹\,40,000} = \frac{₹\,6,00,000}{₹\,1,00,000} = \textbf{6 Times.}$$

$$\text{Average Collection Period (Months)} = \frac{\text{No. of Months in a Year}}{\text{Trade Receivables Turnover Ratio}} = \frac{12}{6} = \textbf{2 Months.}$$

$$\text{Average Collection Period (Days)} = \frac{\text{No. of Days in a Year}}{\text{Trade Receivables Turnover Ratio}}$$

$$= \frac{365}{6} = \textbf{60.83 or 61 Days.}$$

Note: Opening balances of debtors and bills receivable are not given. Hence, they are presumed to be nil.

Illustration 79.

From the following information, calculate Trade Receivables Turnover Ratio:

		₹
Trade Receivables:	Opening	20,000
	Closing	25,000
Provision for Doubtful Debts:	Opening	2,000
	Closing	2,500

	₹
Total Revenue from Operations	2,00,000
Cash Revenue from Operations	87,500

Solution:

$$\text{Trade Receivables Turnover Ratio} = \frac{\text{Credit Revenue from Operations}^*}{\text{Average Trade Receivables}^{**}} = \frac{₹\ 1,12,500}{₹\ 22,500} = \textbf{5 Times.}$$

*Credit Revenue from Operations = Total Revenue from Operations – Cash Revenue from Operations

= ₹ 2,00,000 – ₹ 87,500 = ₹ 1,12,500.

$$^{**}\text{Average Trade Receivables} = \frac{₹\ 20,000 + ₹\ 25,000}{2} = ₹\ 22,500.$$

Note: Provision for Doubtful Debts is not deducted from Trade Receivables to calculate Trade Receivables Turnover Ratio.

Illustration 88.

Opening Sundry Creditors ₹ 80,000; Opening Bills Payable ₹ 3,000; Closing Sundry Creditors ₹ 1,00,000; Closing Bills Payable ₹ 17,000; Purchases ₹ 14,00,000; Cash Purchases ₹ 5,00,000; Purchases Return ₹ 1,00,000. Calculate Trade Payables Turnover Ratio.

Solution:

$$\text{Trade Payables Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Trade Payables}} = \frac{₹\ 8,00,000}{₹\ 1,00,000} = \mathbf{8\ Times.}$$

Notes:

1. Net Credit Purchases = Purchases – Cash Purchases – Purchases Return
   = ₹ 14,00,000 – ₹ 5,00,000 – ₹ 1,00,000 = ₹ 8,00,000.

2. $$\text{Average Trade Payables} = \frac{\text{Opening Creditors and Bills Payable} + \text{Closing Creditors and Bills Payable}}{2}$$
   $$= \frac{(₹\ 80,000 + ₹\ 3,000) + (₹\ 1,00,000 + ₹\ 17,000)}{2} = ₹\ 1,00,000.$$

Illustration 89.

Calculate Working Capital Turnover Ratio from the following:

Current Assets ₹ 9,00,000; Revenue from Operations ₹ 30,00,000; Current Liabilities ₹ 3,00,000; Sales Return ₹ 50,000.

Solution:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue from Operations (Net Sales)}}{\text{Working Capital}}$$

$$= \frac{₹\,30,00,000}{₹\,6,00,000} = \textbf{5 Times.}$$

Working Capital = Current Assets – Current Liabilities

= ₹ 9,00,000 – ₹ 3,00,000 = ₹ 6,00,000.

Illustration 90.

Current Assets ₹ 12,00,000; Current Liabilities ₹ 2,40,000; Sales: Credit ₹ 24,00,000 and Cash ₹ 5,20,000; Sales Return ₹ 40,000; calculate Working Capital Turnover Ratio from the above information.

Solution:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue from Operations, } i.e., \text{ Net Sales}}{\text{Working Capital}}$$

$$= \frac{₹\,28,80,000}{₹\,9,60,000} = \textbf{3 Times.}$$

Revenue from Operations, *i.e.*, Net Sales

= Cash Sales + Credit Sales – Sales Return

= ₹ 5,20,000 + ₹ 24,00,000 – ₹ 40,000 = ₹ 28,80,000.

Working Capital = Current Assets – Current Liabilities

= ₹ 12,00,000 – ₹ 2,40,000 = ₹ 9,60,000.