

141 A trade carries an Average inventory of 1,00,000. His inventory Turnover Ratio is 8 times. He sells goods at a profit of 25% of cost. Calculate Gross Profit Ratio.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods Sold}}{\text{Avg.Inventory}}$$

$$8 = \frac{\text{Cost of goods sold}}{1,00,000}$$

$$\text{Cost of Goods sold} = 8,00,000$$

$$\text{Revenue from operation} = \text{cogs} + 25\% \text{ of cogs}$$

$$= 8,00,000 + \frac{25}{100} \times 8,00,000$$

$$= 10,00,000$$

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

$$= 10,00,000 - 8,00,000$$

$$= 2,00,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{2,00,000}{10,00,000} \times 100$$

$$= 20 \%$$

142 Calculate Gross profit ratio form the following data:

Average inventory 3,20,000; inventory turnover ratio 8 times;
Average trade receivables 4,00,000 trade receivables turnover ratio 6 times; cash sales 25% of Net sales.

Solution:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods Sold}}{\text{Avg.Inventory}}$$

$$8 = \frac{\text{Cost of goods sold}}{3,20,000}$$

$$\text{Cost of Goods sold} = 3,20,000 \times 8 = 25,60,000$$

$$\text{Trade receivables turnover ratio} = \frac{\text{Net credit revenue from operations}}{\text{Avg,trade receivables}}$$

$$6 = \frac{\text{Net credit revenue from operations}}{4,00,000}$$

$$\text{Net credit revenue from operation} = 24,00,000$$

$$\text{Revenue from operation} = \text{Net credit revenue from operation} + \text{cash revenue from operation}$$

$$X = 24,00,000 + \frac{25x}{100}$$

$$X - \frac{25x}{100} = 24,00,000$$

$$\frac{75x}{100} = 24,00,000$$

$$\text{Revenue from operation} = \frac{24,00,000 \times 100}{75}$$

$$= 32,00,000$$

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

$$= 32,00,000 - 25,60,000$$

$$= 6,40,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{6,40,000}{32,00,000} \times 100$$

$$= 20 \%$$

143 (i) Revenue from operation: cash sales 4,20,000; credit sales 6,00,000; Return 20,000 cost of Revenue from Operations or cost of Goods sold 8,00,000. Calculate Gross profit Ratio.

(ii) Average Inventory 1,60,000; Inventory Ratio 6 Times; Selling price 25% above cost. Calculate Gross profit Ratio.

(iii) Opening inventory 1,00,000; Closing Inventory 60,000; Inventory Turnover Ratio 8 times; selling price 25% above cost. Calculate Gross Profit Ratio.

Solution:

Case - 1

Net Revenue from operation = Credit sales + Cash sales - Sales Return

$$= 6,00,000 + 4,20,000 - 20,000$$

$$= 10,00,000$$

Cost of Goods sold = 8,00,000

Gross profit = Net revenue from operation - Cost of goods sold

$$= 10,00,000 - 8,00,000$$

$$= 2,00,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{2,00,000}{10,00,000} \times 100$$

$$= 20 \%$$

Case - 2

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods Sold}}{\text{Avg.Inventory}}$$

$$6 = \frac{\text{Cost of goods sold}}{1,60,000}$$

$$\text{Cost of Goods sold} = 9,60,000$$

$$\text{Revenue from operation} = \text{cogs} + 25\% \text{ of cogs}$$

$$= 9,60,000 + \frac{25}{100} \times 9,60,000$$

$$= 9,60,000 + 2,40,000$$

$$= 12,00,000$$

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

$$= 12,00,000 - 9,60,000$$

$$= 2,40,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{2,40,000}{12,00,000} \times 100$$

$$= 20 \%$$

Case - 3

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods Sold}}{\frac{\text{Op..Inventory} + \text{Cl.Inventory}}{2}}$$

$$6 = \frac{\text{Cost of goods sold}}{\frac{1,00,000 + 60,000}{2}}$$

$$\text{Cost of Goods sold} = \frac{8 (1,60,000)}{2} = 6,40,000$$

$$\text{Revenue from operation} = \text{cogs} + 25\% \text{ of cogs}$$

$$= 6,40,000 + 25\% \text{ of } 6,40,000$$

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

$$= 8,00,000$$

Gross profit = Revenue from operation - cost of goods sold

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

$$= 1,60,000$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{1,60,000}{8,00,000} \times 100$$

$$= 20 \%$$

144 Gross profit Ratio of a company is 25%. state, giving reason, which of the following transactions will

(a) increase or (b) decrease or (c) not alter the Gross profit Ratio.

(i) Purchases of stock-in-Trade 50,000.

(ii) purchases Return 15,000.

(iii) Cash sale of stock-in-Trade 40,000.

(iv) Stock-in-Trade costing 20,000 withdrawn for personal use.

(v) Stock-in-Trade costing 15,000 distributed as free sample.

Solution:

145 Revenue from operations 12,00,000, cost of revenue from operations 5,00,000. Opening cost 6,00,000. Calculate Ratio.

Solution:

Opening Cost = 6,00,000

Revenue from operation = 12,00,000

$$\begin{aligned}\text{Operating Ratio} &= \frac{\text{Operating Cost}}{\text{Revenue from operation}} \times 100 \\ &= \frac{6,00,000}{12,00,000} \times 100 \\ &= 50 \%\end{aligned}$$

146 Cost of Revenue from operations (Cost of goods sold) 3,00,000.

Operating Expenses 1,20,000. Revenue from Operations: Cash sales 5,20,000; Return 20,00,000. Calculate operating Ratio.

Solution:

Operating cost = Cost of goods sold + Operating expenses

$$= 3,00,000 + 1,20,000$$

$$= 4,20,000$$

Revenue from operation = Cash sales - sales Return

$$= 5,20,000 - 20,000$$

$$= 5,00,000$$

$$\begin{aligned}\text{Operating Ratio} &= \frac{\text{Operating Cost}}{\text{Revenue from operation}} \times 100 \\ &= \frac{4,20,000}{5,00,000} \times 100 \\ &= 84 \%\end{aligned}$$

147 Operating Ratio 92%; Operating expenses 94,000; Revenue from operations 6,00,000; sales Return 40,000. Calculate cost of Revenue from operations (Cost of goods sold).

Solution

$$\text{Operating Ratio} = \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Revenue from operatoin}} \times 100$$

$$92 = \frac{\text{Cost of Goods sold} + 94,000}{6,00,000} \times 100$$

$$\text{Cost of Goods sold} + 94,000 = \frac{92 \times 6,00,000}{100}$$

$$\begin{aligned}\text{Cost of goods sold} &= 5,52,000 - 94,000 \\ &= 4,58,000\end{aligned}$$

148 From the following information, calculate operating Ratio:

Cost of Revenue

From operations (cost of goods sold) 52,000

Operating Expenses 18,000

Revenue from Operations:

Gross sales 88,000

Sales Return 8,000

solution:

$$\begin{aligned}\text{Revenue from operation} &= \text{Gross sales} - \text{sales Return} \\ &= 88,000 - 8,000 \\ &= 80,000\end{aligned}$$

$$\text{Operating Ratio} = \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Revenue from operatoin}} \times 100$$

$$= \frac{52,000 + 18,000}{80,000} \times 100$$

$$= \frac{70,000}{80,000} \times 100$$

$$= 87.5\%$$

149 Calculate cost of Revenue from operations from the information:

Revenue from operations 12,00,000; Opening Ratio 75%;
Operating Expenses 1,00,000.

Solution:

$$\begin{aligned}\text{Operating Ratio} &= \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Revenue from operation}} \times 100 \\ 92 &= \frac{\text{Cost of Revenue from operation} + 1,00,000}{12,00,000} \times 100\end{aligned}$$

$$\begin{aligned}\text{Cost of Revenue from operation} &= \frac{75 \times 12,00,000}{100} - 1,00,000 \\ &= 8,00,000\end{aligned}$$

150 Calculate Operating Ratio from the following information:

Operating cost 6,80,000; Gross Profit 25%; Operating Expenses 80,000.

Solution:

Operating cost = Cost of Goods sold + Operating Expenses

$$6,80,000 = \text{Cost of Goods sold} + 80,000$$

Cost of Goods sold = 6,00,000

Gross profit = Revenue from operation - cost of goods sold

$$\begin{aligned}\frac{25}{100} \times x &= x - 6,00,000 \\ x - \frac{25}{100} x &= 6,00,000 \\ x - \frac{75x}{100} &= 6,00,000\end{aligned}$$

$$\text{Revenue from operation} = \frac{6,00,000 \times 100}{75}$$

$$= 8,00,000$$

$$\text{Operating Ratio} = \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Revenue from operatoin}} \times 100$$

$$= \frac{6,00,000 + 80,000}{8,00,000} \times 100$$

$$= \frac{6,80,000}{8,00,000} \times 100$$

$$= 85 \%$$

151(i) Cost of Revenue from operations (cost of goods sold) 2,20,000;

Revenue from operations (Net Sales) 3,20,000; Selling Expenses

12,000; Office Expenses 8,000; Depreciation 6,000. Calculate Operating Ratio.

(ii) Revenue from operations, cash Sales 4,00,000; Credit sales 1,00,000; Gross Profit 1,00,000; Office and selling Expenses 50,000. Calculate Operating Ratio.

Solution:

Case - 1

Operating expenses = Selling Expenses + Office Expenses + Depreciation

$$= 12,000 + 8,000 + 6,000$$

$$= 26,000$$

$$\text{Operating Ratio} = \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Revenue from operatoin}} \times 100$$

$$= \frac{2,20,000 + 26,000}{3,20,000} \times 100$$

$$= \frac{2,46,000}{3,20,000} \times 100$$

$$= 76.875\%$$

Case - 2

Revenue from operation = Cash sales + credit sales

$$= 4,00,000 + 1,00,000$$

$$= 5,00,000$$

Cost of Goods sold = Revenue from operation - Gross profit

$$= 5,00,000 - 1,00,000$$

$$= 4,00,000$$

Operating Ratio = $\frac{\text{Cost of Goods sold} + \text{Office \& selling Exp.}}{\text{Revenue}} \times 100$

$$= \frac{4,00,000 + 50,000}{5,00,000} \times 100$$

$$= \frac{4,50,000}{5,00,000} \times 100$$

$$= 90\%$$

152 Calculate Operating Profit Ratio from the following:

Revenue from Operations (Net sales)

5,00,000

Cost of Revenue from operations (Cost of Goods sold)

2,00,000

Wages

1,00,000

Office and Administrative Expenses	50,000
------------------------------------	--------

Interest on Borrowings	5,000
------------------------	-------

Solution:

Opening Expenses = Office & Administrative Expenses

$$= 50,000$$

Gross profit = Revenue from operation - Cost of Goods sold

$$= 5,00,000 - 2,00,000$$

$$= 3,00,000$$

Opening Profit = Gross Profit - Operating Expenses

$$= 3,00,000 - 50,000$$

$$= 2,50,000$$

Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100$

$$= \frac{2,50,000}{5,00,000} \times 100$$

$$= 50 \%$$

153 Calculate Operating profit ratio from the following information:

Opening inventory	1,00,000
-------------------	----------

Purchases	10,00,000
-----------	-----------

Revenue from operations, i.e., Net sales	14,70,000
--	-----------

Administrative and Selling Expenses	1,70,000
-------------------------------------	----------

Closing inventory	1,50,000
-------------------	----------

Loss by fire	20,000
--------------	--------

Dividend Received

30,000

Solution:

Cost of goods sold = Opening inventory + Purchase - closing inventory

$$= 1,00,000 + 10,00,000 - 1,50,000$$

$$= 9,50,000$$

Gross profit = Revenue from operation - Cost of goods sold

$$= 14,70,000 - 9,50,000$$

$$= 5,20,000$$

Operating profit = Gross profit - Administrative & selling Expenses

$$= 5,20,000 - 1,70,000$$

$$= 3,50,000$$

Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100$

$$= \frac{3,50,000}{14,70,000} \times 100$$

$$= 23.81\%$$

154 Revenue from operations 9,00,000; Gross profit 25% on cost; Operating Expenses 45,000. Calculate Operating Profit Ratio.

Solution:

Gross profit = Revenue from operation - Cost of goods sold

$$\frac{25}{100} x = 9,00,000 - x$$

$$x + \frac{25}{100} x = 9,00,000$$

$$x - \frac{125x}{100} = 9,00,000$$

$$\text{Cost of Goods sold} = \frac{9,00,000 \times 100}{125}$$

$$= 7,20,000$$

$$\text{Gross profit} = 9,00,000 - 7,20,000$$

$$= 1,80,000$$

$$\text{Opening profit} = \text{Gross profit} - \text{Opening Expenses}$$

$$= 1,80,000 - 45,000$$

$$= 1,35,000$$

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{1,35,000}{9,00,000} \times 100$$

$$= 15 \%$$

155 Operating Cost 3,40,000; gross profit ratio 20% operating expenses 20,000. calculate operating profit ratio.

Solution:

$$\text{Operating cost} = \text{Cost of Goods sold} + \text{Operating Expenses}$$

$$3,40,000 = \text{Cost of Goods sold} + 20,000$$

$$\text{Cost of Goods sold} = 3,40,000 - 20,000$$

$$= 3,20,000$$

$$\text{Gross profit} = \text{Revenue from operation} - \text{Cost of goods sold}$$

$$\frac{20}{100} x = x - 3,20,000$$

$$x - \frac{20x}{100} = 3,20,000$$

$$\frac{80x}{100} = 3,20,000$$

$$\text{Revenue from operation} = \frac{3,20,000 \times 100}{80}$$

$$= 4,00,000$$

$$\text{Gross profit} = 4,00,000 - 3,20,000$$

$$= 80,000$$

$$\text{Opening profit} = \text{Gross profit} - \text{Opening Expenses}$$

$$= 80,000 - 20,000$$

$$= 60,000$$

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{60,000}{4,00,000} \times 100$$

$$= 15 \%$$

156 What will be the operating profit Ratio, if operating Ratio is 82.59 % ?

Solution:

$$\text{Operating Profit Ratio} + \text{Operating Ratio} = 100$$

$$\text{Operating profit Ratio} + 82.59 = 100$$

$$\text{Operating Profit Ratio} = 100 - 82.59$$

$$= 17.41 \%$$

157 Calculate Operating profit Ratio in each of the following alternative cases:

Case - 1: Revenue from Operation (Net sales) 20,00,000;
Operating Profit 3,00,000.

Case - 2: Revenue from Operation (Net sales) 6,00,000;
Operating Cost 5,10,000.

Case - 3: Revenue from Operation (Net sales) 3,60,000; Gross
Profit 20% on sales; Operating Expenses 18,000.

Case - 4: Revenue from Operation (Net sales) 4,50,000; Cost of
Revenue operations 3,60,000; Operating Expenses 22,500.

Case - 5: Cost of Goods sold, i.e., Cost of Revenue from
Operations 4,00,000; Gross Profit 20% on sales; Operating
Expenses 25,000.

Solution:

Case - 1

$$\begin{aligned}\text{Operating Profit Ratio} &= \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100 \\ &= \frac{3,00,000}{20,00,000} \times 100 \\ &= 15 \%\end{aligned}$$

Case - 2

Operating profit = Revenue from operation - Operating cost

$$= 6,00,000 - 5,10,000$$

$$= 90,000$$

$$\begin{aligned}\text{Operating Profit Ratio} &= \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100 \\ &= \frac{90,000}{6,00,000} \times 100\end{aligned}$$

$$= 15 \%$$

Case - 3

Gross Profit

$$= \frac{20}{100} \times 3,60,000$$

$$= 72,000$$

$$\text{Operating profit} = \text{Gross Profit} - \text{Operating Expenses}$$

$$= 72,000 - 18,000$$

$$= 54,000$$

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100$$

$$= \frac{54,000}{3,60,000} \times 100$$

$$= 15 \%$$

Case - 4

$$\text{Gross profit} = \text{Revenue from operation} - \text{Cost of Revenue from operation}$$

$$= 4,50,000 - 3,60,000$$

$$= 90,000$$

$$\text{Operating profit} = \text{Gross Profit} - \text{Operating Expenses}$$

$$= 90,000 - 22,500$$

$$= 67,500$$

$$\begin{aligned}
 \text{Operating Profit Ratio} &= \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100 \\
 &= \frac{67,500}{4,50,000} \times 100 \\
 &= 15 \%
 \end{aligned}$$

Case - 5

Gross profit = Revenue from operation - Cost of Revenue from operation

$$\frac{20}{100} x = x - 4,00,000$$

$$x - \frac{20x}{100} = 4,00,000$$

$$\frac{80x}{100} = 4,00,000$$

$$\begin{aligned}
 \text{Revenue from operation} &= \frac{4,00,000 \times 100}{80} \\
 &= 5,00,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Gross profit} &= 5,00,000 - 4,00,000 \\
 &= 1,00,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Opening profit} &= \text{Gross profit} - \text{Opening Expenses} \\
 &= 1,00,000 - 25,000 \\
 &= 75,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Operating Profit Ratio} &= \frac{\text{Operating Profit}}{\text{Revenue from operation}} \times 100 \\
 &= \frac{75,000}{5,00,000} \times 100 \\
 &= 15 \%
 \end{aligned}$$

158 Operating profit ratio of star Ltd. is 20%. State, giving reason, which of the following transactions will (i) increase, (ii) decrease, or (iii) not alter the operating profit ratio:

- a) Purchase of Stock-in-Trade 1,00,000
- b) Purchase returns 20,000
- c) Revenue from operations on sale of stock-in-Trade 1,25,000
- d) Stock-in-Trade costing 25,000 withdrawn for personal use.

Assuming that operating cost is variable, i.e., varies with revenue from operations.

Solution:

159 Cash sales 2,20,000; Credit sales 3,00,000; sales Return 20,000; Gross profit 1,00,000; Operating Expenses 25,000; Non-operating incomes 30,000; Non-Operating Expenses 5,000. Calculate Net profit Ratio.

Solution:

$$\begin{aligned}\text{Revenue from operation} &= \text{cash sales} + \text{credit sales} - \text{sales Return} \\ &= 2,20,000 + 3,00,000 - 20,000 \\ &= 5,00,000\end{aligned}$$

Net Profit= Gross profit + Non-Operating income - Operating Expenses

$$\begin{aligned} \text{Expenses} &= \text{Operating} + \text{Non-Operating} \\ &= 1,00,000 + 30,000 - 25,000 - 5,000 \\ &= 1,00,000 \end{aligned}$$

$$\begin{aligned}
 \text{Net Profit Ratio} &= \frac{\text{Net Profit}}{\text{Revenue from operatoin}} \times 100 \\
 &= \frac{1,00,000}{5,00,000} \times 100 \\
 &= 20 \%
 \end{aligned}$$

160 Revenue from operations, i.e., Net sales 12,00,000; Net profit 1,20,000. Calculate Net profit Ratio.

Solution:

$$\begin{aligned}
 \text{Net Profit Ratio} &= \frac{\text{Net Profit}}{\text{Revenue from operatoin}} \times 100 \\
 &= \frac{1,20,000}{12,00,000} \times 100 \\
 &= 10 \%
 \end{aligned}$$