Illustration 94.

From the following information, calculate Gross Profit Ratio:

	31st March, 2018 (₹)	*31st March, 2019* (₹)
Revenue from Operations (Net Sales)	1,60,000	2,00,000
Gross Profit	40,000	60,000

Solution:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from Operations (Net Sales)}} \times 100$$

For 31st March, 2018: Gross Profit Ratio $= \frac{₹\,40,000}{₹\,1,60,000} \times 100 = \mathbf{25\%}.$

For 31st March, 2019: Gross Profit Ratio $= \frac{₹\,60,000}{₹\,2,00,000} \times 100 = \mathbf{30\%}.$

Illustration 95.

Compute Gross Profit Ratio from the following information:
Revenue from Operations ₹ 6,00,000; Gross Profit 25% on cost. (*AI 2004, Modified*)

Solution:

Let the Cost be ₹ 100; Gross Profit = ₹ 25; Sales = ₹ 125

Cost of Revenue from Operations (Cost of Goods Sold) $= \frac{₹\,100}{₹\,125} \times ₹\,6,00,000 = ₹\,4,80,000$

Gross Profit = Revenue from Operations – Cost of Revenue from Operations
= ₹ 6,00,000 – ₹ 4,80,000 = ₹ 1,20,000.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from Operations}} \times 100 = \frac{₹\,1,20,000}{₹\,6,00,000} \times 100 = \mathbf{20\%}.$$

Illustration 98.

Calculate Gross Profit Ratio from the following data:

Average Inventory ₹ 1,60,000; Inventory Turnover Ratio 8 Times; Average Trade Receivables ₹ 2,00,000; Trade Receivables Turnover Ratio 6 Times; Cash Sales 25% of Net Sales.

Solution:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from Operations}} \times 100 = \frac{₹\,3,20,000}{₹\,16,00,000} \times 100 = \mathbf{20\%}.$$

Cost of Revenue from Operations (Cost of Goods Sold)

= Average Inventory × Inventory Turnover Ratio

= ₹ 1,60,000 × 8 = ₹ 12,80,000.

Credit Sales = Average Trade Receivables × Trade Receivables Turnover Ratio

= ₹ 2,00,000 × 6 = ₹ 12,00,000 (being 75% of Net Sales).

Revenue from Operations (Net Sales) = Credit Sales × 100/75

= ₹ 12,00,000 × 100/75 = ₹ 16,00,000.

Gross Profit = Revenue from Operations (Net Sales) – Cost of Revenue from Operations (Cost of Goods Sold)

= ₹ 16,00,000 – ₹ 12,80,000 = ₹ 3,20,000.

Illustration 99.

Illustration 10:

Calculate Operating Profit Ratio from the following information:

	₹		₹
Opening Inventory	50,000	Selling Expenses	60,000
Purchases	5,00,000	Dividend on Shares	15,000
Sales (Gross)	7,50,000	Loss by Theft	10,000
Closing Inventory	75,000	Sales Return	15,000
Administrative Expenses	25,000		

Solution:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from Operations}} \times 100 = \frac{₹\ 1,75,000}{₹\ 7,35,000} \times 100 = \mathbf{23.81\%}.$$

Notes: 1. Revenue from Operations (Net Sales) = Sales (Gross) – Sales Return = ₹ 7,50,000 – ₹ 15,000 = ₹ 7,35,000.

2. Operating Profit = Revenue from Operations (Net Sales) – (Purchases + Change in Inventories of Stock-in-Trade + Other Expenses, *i.e.*, Administrative Expenses and Selling Expenses)
= ₹ 7,35,000 – (₹ 5,00,000 – ₹ 25,000 + ₹ 25,000 + ₹ 60,000) = ₹ 1,75,000.

3. Closing Inventory is more than the Opening Inventory. Hence, it is deducted to calculate Operating Cost.

Both Operating Profit Ratio and Operating Ratio are Complementary to each other and thus, if one of such ratio is deducted from 100, another ratio is obtained. For example, if Operating Ratio = 75%, then Operating Profit Ratio = 100 – 75 = 25%.

Illustration 108.

Calculate Operating Profit Ratio from the following information:

	₹		₹
Revenue from Operations, *i.e.*, Net Sales	47,99,600	Selling and Distribution Expenses	4,50,400
Cost of Goods Sold or Cost of Revenue from Operations	24,40,200	Interest on Loan	50,000
Wages	3,04,000	Income from Investment	60,000
Office and Administrative Expenses	2,51,200	Loss by theft	30,000

Solution:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from Operations (Net Sales)}} \times 100$$

$$= \frac{₹\,16,57,800 \text{ (Note)}}{₹\,47,99,600} \times 100 = \mathbf{34.54\%}.$$

Note: Operating Profit = Revenue from Operations, *i.e.*, Net Sales – Cost of Revenue from Operations (Cost of Goods Sold)* – Office and Administrative Expenses – Selling and Distribution Expenses

= ₹ 47,99,600 – ₹ 24,40,200 – ₹ 2,51,200 – ₹ 4,50,400 = ₹ 16,57,800.

*Wages is already included in Cost of Revenue from Operations (Cost of Goods Sold) being a direct expense.

Illustration 112.

From the following information, calculate Net Profit Ratio:

Revenue from Operations	₹ 5,00,000	Advertisement Expenses	₹ 10,000
Gross Profit	₹ 2,00,000	Interest	₹ 5,000
Salaries and Wages	₹ 45,000	Rent (Income)	₹ 60,000

Solution:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Revenue from Operations (Net Sales)}} \times 100$$

$$= \frac{₹\ 2,00,000\ (WN)}{₹\ 5,00,000} \times 100 = \mathbf{40\%}.$$

Working Note:

Net Profit = Gross Profit – Indirect Expenses and Losses + Other Income
= ₹ 2,00,000 – ₹ 60,000 + ₹ 60,000 = ₹ 2,00,000

Indirect Expenses and Losses = Salaries and Wages + Advertisement Expenses + Interest
= ₹ 45,000 + ₹ 10,000 + ₹ 5,000 = ₹ 60,000.

Other Income (Rent) = ₹ 60,000.

Illustration 117.

From the following information, calculate Return on Investment:

	₹		₹
Net Profit (before Tax) Ratio	24%	Non-Current Trade Investments	45,000
Tax Rate	50%	Current Assets	90,000
Revenue from Operations	9,00,000	Total Debts	4,05,000
Net Fixed Assets	4,50,000	15% Long-term Borrowings	3,60,000
Accumulated Depreciation	1,12,500		

Solution:

$$\text{Return on Investment} = \frac{\text{Net Profit before Interest and Tax}}{\text{Capital Employed}} \times 100$$

$$= \frac{₹\ 2,70,000}{₹\ 5,40,000} \times 100 = \mathbf{50\%}.$$

$$\text{Net Profit before Tax} = ₹\ 9,00,000 \times \frac{24}{100} = ₹\ 2,16,000.$$

Net Profit before Interest and Tax = Net Profit before Tax + Interest on Long-term Borrowings

= ₹ 2,16,000 + ₹ 54,000 = ₹ 2,70,000.

Current Liabilities = Total Debt – Non-current Liabilities

= ₹ 4,05,000 – ₹ 3,60,000 = ₹ 45,000.

Capital Employed = Net Fixed Assets + Trade Investments + Working Capital (*i.e.*, C.A. – C.L.)

= ₹ 4,50,000 + ₹ 45,000 + ₹ 45,000 (*i.e.*, ₹ 90,000 – ₹ 45,000) = ₹ 5,40,000.

Note: Accumulated Depreciation is already adjusted in Net Fixed Assets.

Illustration 119 (*Calculation of Return on Investment When Closing Balance Sheet is given*). Following is the Balance Sheet of Paliwal Exports Ltd. as at 31st March, 2019:

Particulars		Note No.	₹
I. EQUITY AND LIABILITIES			
1. Shareholders' Funds			
(*a*) Share Capital			5,00,000
(*b*) *Reserves and Surplus:*			
Surplus, i.e., Balance in Statement of Profit and Loss:			
Opening Balance	4,20,000		
Add: Transfer from Statement of Profit and Loss	9,72,000		13,92,000
2. Non-Current Liabilities			
15% Long-term Borrowings			16,00,000
3. Current Liabilities			8,00,000
Total			42,92,000
II. ASSETS			
1. Non-Current Assets			
(*a*) Fixed Assets			18,00,000
(*b*) *Non-current Investments:*			
(*i*) 10% Investments			2,00,000
(*ii*) 10% Non-trade Investments			1,20,000
2. Current Assets			21,72,000
Total			42,92,000

You are required to calculate Return on Investment for the year 2018–19 with reference to Opening Capital Employed.

Solution:

$$\text{Return on Investment } or \text{ Capital Employed} = \frac{\text{Net Profit before Interest and Tax}}{\text{Capital Employed}} \times 100$$

$$= \frac{₹\ 12,00,000}{₹\ 24,00,000} \times 100 = \mathbf{50\%}.$$

Calculation of Net Profit before Interest and Tax:

	₹
Net Profit	9,72,000
Add: Interest on Long-term Borrowings (15% on ₹ 16,00,000)	2,40,000
	12,12,000
Less: Interest on Non-trade Investments (10% on ₹ 1,20,000)	12,000
Net Profit before Interest and Tax	12,00,000

Capital Employed (Liabilities Side Approach)

Capital Employed = Share Capital + Reserves and Surplus – Current Year's Profit + Non-Current Liabilities – Non-trade Investments

= ₹ 5,00,000 + ₹ 4,20,000 + ₹ 16,00,000 – ₹ 1,20,000 = ₹ 24,00,000.

Capital Employed (Assets Side Approach)

Capital Employed = Non-current Assets (excluding Non-trade Investments) + Current Assets – Current Liabilities – Current Year's Profit

= ₹ 20,00,000 + ₹ 21,72,000 – ₹ 8,00,000 – ₹ 9,72,000 = ₹ 24,00,000.

Note: 10% Investments are Trade Investments.