Illustration 39.

From the following information, calculate Debt to Equity Ratio:

	₹		₹
Share Capital: 10,000 Equity Shares of ₹ 10 each	1,00,000	Debentures	75,000
General Reserve	45,000	Long-term Provisions	25,000
Surplus, *i.e.*, Balance in Statement of Profit and Loss	30,000	Outstanding Expenses	10,000

Solution:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholders' Funds)}} = \frac{₹\ 1,00,000}{₹\ 1,75,000} = \mathbf{0.57 : 1.}$$

Debt = Debentures + Long-term Provisions = ₹ 75,000 + ₹ 25,000 = ₹ 1,00,000.

Equity = Share Capital + General Reserve + Surplus, *i.e.*, Balance in Statement of Profit and Loss
= ₹ 1,00,000 + ₹ 45,000 + ₹ 30,000 = ₹ 1,75,000.

Illustration 40.

Calculate Debt to Equity Ratio from the following information:

	₹
(*i*) Total Assets	1,25,000
(*ii*) Total Debts, *i.e.*, external debts	1,00,000
(*iii*) Current Liabilities	50,000.

Solution:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholders' Funds)}} = \frac{₹\ 50,000}{₹\ 25,000} = \mathbf{2 : 1.}$$

Debt = Total Debts – Current Liabilities
= ₹ 1,00,000 – ₹ 50,000 = ₹ 50,000.

Equity (Shareholders' Funds) = Total Assets – Total Debts
= ₹ 1,25,000 – ₹ 1,00,000 = ₹ 25,000.

Illustration 41.

From the following information, compute Debt to Equity Ratio:

	₹		₹
Shareholders' Funds:		*Long-term Borrowings:*	
Equity Share Capital	2,00,000	10% Debentures	3,50,00
Reserves and Surplus	1,50,000	Current Liabilities	1,00,00

Solution:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholders' Funds)}} = \frac{₹\ 3,50,000}{₹\ 3,50,000} = \mathbf{1:1.}$$

Debt = 10% Debentures = ₹ 3,50,000.

Equity = Equity Share Capital + Reserves and Surplus
= ₹ 2,00,000 + ₹ 1,50,000 = ₹ 3,50,000.

Illustration 42.

From the following information, compute Debt to Equity Ratio:

	₹		₹
Long-term Borrowings	5,00,000	Equity Share Capital	2,00,000
Long-term Provisions	1,00,000	General Reserve	2,00,000
Surplus, *i.e.*, Balance in Statement of Profit and Loss (Dr.)	1,00,000		

Solution:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholders' Funds)}} = \frac{₹\ 6,00,000}{₹\ 3,00,000} = \mathbf{2:1.}$$

Debt = Long-term Borrowings + Long-term Provisions
= ₹ 5,00,000 + ₹ 1,00,000 = ₹ 6,00,000.

Equity = Equity Share Capital + General Reserve + Surplus, *i.e.*, Balance in Statement of Profit and Loss (Dr.)
= ₹ 2,00,000 + ₹ 2,00,000 – ₹ 1,00,000* = ₹ 3,00,000.

*Surplus, *i.e.*, Balance in Statement of Profit and Loss (Dr.) means negative balance.

Illustration 43.

From the following information, compute Debt to Equity Ratio:

	₹		₹
Long-term Borrowings	2,00,000	Non-current Assets	3,60,000
Long-term Provisions	1,00,000	Current Assets	90,000
Current Liabilities	50,000		

(Delhi 2014)

Solution: $$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity (Shareholders' Funds)}} = \frac{₹\ 3,00,000}{₹\ 1,00,000} = 3:1.$$

Debt = Long-term Borrowings + Long-term Provisions
= ₹ 2,00,000 + ₹ 1,00,000 = ₹ 3,00,000.

Equity (Shareholders' Funds) = Non-current Assets + Current Assets – (Long-term Borrowings + Long-term Provisions + Current Liabilities)
= ₹ 3,60,000 + ₹ 90,000 – (₹ 2,00,000 + ₹ 1,00,000 + ₹ 50,000)
= ₹ 4,50,000 – ₹ 3,50,000 = ₹ 1,00,000.

Illustration 47.

Calculate Total Assets to Debt Ratio from the following information:

Long-term Debts ₹ 16,00,000; Total Assets ₹ 24,00,000.

Solution: Total Assets to Debt Ratio $= \dfrac{\text{Total Assets}}{\text{Long-term Debts}} = \dfrac{₹\,24,00,000}{₹\,16,00,000} = 1.5:1.$

Illustration 48.

Shareholders' Funds ₹ 14,00,000; Total Debts (Liabilities) ₹ 18,00,000; Current Liabilities ₹ 2,00,000. Calculate Total Assets to Debt Ratio.

Solution:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Long-term Debts}} = \frac{₹\,32,00,000}{₹\,16,00,000} = 2:1.$$

Long-term Debts = Total Debts (Liabilities) – Current Liabilities
= ₹ 18,00,000 – ₹ 2,00,000 = ₹ 16,00,000.

Total Assets = Shareholders' Funds + Total Debts (Liabilities)
= ₹ 14,00,000 + ₹ 18,00,000 = ₹ 32,00,000.

Illustration 49.

From the following information, calculate Total Assets to Debt Ratio:

	₹		₹
Capital Employed	22,20,000	Equity Share Capital	10,50,000
Current Liabilities	1,80,000	8% Debentures	3,00,000
Fixed Assets (Gross)	15,00,000	Capital Reserve	2,40,000
Accumulated Depreciation	2,00,000	Surplus, *i.e.*, Balance in Statement of Profit and Loss (Dr.)	30,000
Non-current Investment	7,00,000	Cash and Cash Equivalents	1,50,000
Trade Receivables	2,50,000		

Solution:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\,24,00,000\ (\text{WN }1)}{₹\,9,60,000\ (\text{WN }2)} = 2.5:1.$$

Working Notes:

1. Total Assets = Non-current Assets* + Current Assets**
= ₹ 20,00,000 + ₹ 4,00,000 = ₹ 24,00,000.

*Non-current Assets = Fixed Assets (Gross) – Accumulated Depreciation + Non-current Investment
= ₹ 15,00,000 – ₹ 2,00,000 + ₹ 7,00,000 = ₹ 20,00,000.

**Current Assets = Trade Receivables + Cash and Cash Equivalents
= ₹ 2,50,000 + ₹ 1,50,000 = ₹ 4,00,000.

Capital Employed = Shareholders' Funds* + Long-term Debts**

2. ₹ 22,20,000 = ₹ 12,60,000 + Long-term Debts

Long-term Debts = ₹ 22,20,000 – ₹ 12,60,000 = ₹ 9,60,000.

*Shareholders' Funds = Equity Share Capital + Capital Reserve + Surplus, *i.e.*, Balance of Profit and Loss

= ₹ 10,50,000 + ₹ 2,40,000 – ₹ 30,000 = ₹ 12,60,000.

**Debt or Long-term Debts = Long-term Borrowings + Long-term Provisions.

Illustration 50.

Compute Total Assets to Debt Ratio from the following information:

Share Capital ₹ 12,00,000; Reserves and Surplus ₹ 8,00,000; Long-term Borrowings ₹ 25,00,000; Long-term Provisions ₹ 5,00,000; Current Liabilities ₹ 10,00,000.

Solution: Total Assets to Debt Ratio = $\frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 60,00,000}{₹\ 30,00,000} = 2:1.$

Total Assets = Share Capital + Reserves and Surplus + Long-term Borrowings + Long-term Provisions + Current Liabilities

= ₹ 12,00,000 + ₹ 8,00,000 + ₹ 25,00,000 + ₹ 5,00,000 + ₹ 10,00,000 = ₹ 60,00,000.

Debt = Long-term Borrowings + Long-term Provisions

= ₹ 25,00,000 + ₹ 5,00,000 = ₹ 30,00,000.

Illustration 51.

From the following information, calculate Total Assets to Debt Ratio:

	₹		₹
Capital Employed	25,00,000	Equity Share Capital	14,30,000
Investment	2,10,000	8% Debentures	4,00,000
Land	8,50,000	Capital Reserve	2,75,000
Trade Receivables	2,75,000	Surplus, *i.e.*, Balance	
Cash and Cash Equivalents	1,50,000	in Statement of Profit and Loss	1,50,000

(OD 2015 C)

Solution: Total Assets to Debt Ratio = $\frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 14,85,000}{₹\ 6,45,000} = 2.30 : 1.$

Working Notes:

1. Total Assets = Investment + Land + Trade Receivables + Cash and Cash Equivalents

= ₹ 2,10,000 + ₹ 8,50,000 + ₹ 2,75,000 + ₹ 1,50,000 = ₹ 14,85,000.

2. Debt = Capital Employed – Equity*

= ₹ 25,00,000 – ₹ 18,55,000 = ₹ 6,45,000.

*Equity = Equity Share Capital + Capital Reserve + Surplus, *i.e.*, Balance in Statement of Profit and Loss

= ₹ 14,30,000 + ₹ 2,75,000 + ₹ 1,50,000 = ₹ 18,55,000.

Illustration 52.

Calculate Total Assets to Debt Ratio from the following information:

Total Debt ₹ 48,00,000; Shareholders' Funds ₹ 8,00,000; Reserves and Surplus ₹ 2,00,000; Current Assets ₹ 20,00,000; Working Capital ₹ 4,00,000.

Solution:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 56,00,000}{₹\ 32,00,000} = \mathbf{1.75 : 1.}$$

Notes:

1. Current Liabilities = Current Assets – Working Capital
   = ₹ 20,00,000 – ₹ 4,00,000 = ₹ 16,00,000
   ∴ Debt = Total Debt – Current Liabilities = ₹ 48,00,000 – ₹ 16,00,000 = ₹ 32,00,000.
2. Total Assets = Shareholders' Funds + Total Debt
   = ₹ 8,00,000 + ₹ 48,00,000 = ₹ 56,00,000.
3. Reserves and Surplus are included in Shareholders' Funds.

Illustration 53.

Shareholders' Funds ₹ 8,00,000; Total Borrowings ₹ 18,00,000; Short-term Borrowings ₹ 2,00,000; Other Current Liabilities ₹ 6,00,000. Calculate Total Assets to Debt Ratio.

Solution:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 32,00,000}{₹\ 16,00,000} = \mathbf{2 : 1.}$$

Notes: 1. Long-term Borrowings or Debt = Total Borrowings – Short-term Borrowings
= ₹ 18,00,000 – ₹ 2,00,000 = ₹ 16,00,000.

2. Total Assets = Shareholders' Funds + Long-term Borrowings + Short-term Borrowings + Other Current Liabilities
= ₹ 8,00,000 + ₹ 16,00,000 + ₹ 2,00,000 + ₹ 6,00,000 = ₹ 32,00,000.

Illustration 54.

Fixed Assets (Gross) ₹ 10,00,000; Accumulated Depreciation ₹ 5,00,000; Non-Current Investments ₹ 50,000; Long-term Loans and Advances ₹ 2,00,000; Current Assets ₹ 2,50,000; Current Liabilities ₹ 10,00,000; Long-term Borrowings ₹ 3,25,000; Long-term Provisions ₹ 2,75,000. Calculate Total Assets to Debt Ratio.

Solution:

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 10,00,000}{₹\ 6,00,000} = \mathbf{1.67 : 1.}$$

Notes:

1. Debt = Long-term Borrowings + Long-term Provisions
   = ₹ 3,25,000 + ₹ 2,75,000 = ₹ 6,00,000.
2. Total Assets = Non-Current Assets + Current Assets
   = [Fixed Assets (Net) + Non-Current Investments + Long-term Loans and Advances] + Current Assets
   = (₹ 10,00,000 – ₹ 5,00,000) + ₹ 50,000 + ₹ 2,00,000 + 2,50,000 = ₹ 10,00,000.

Illustration 59.

From the following information, calculate Proprietary Ratio, Debt to Equity Ratio and Total Assets to Debt Ratio:

Non-current Assets ₹ 40,00,000; Current Assets ₹ 40,00,000; Long-term Borrowings ₹ 25,00,000; Long-term Provisions ₹ 15,00,000; Current Liabilities ₹ 20,00,000.

Solution:

Debt = Long-term Borrowings + Long-term Provisions
= ₹ 25,00,000 + ₹ 15,00,000 = ₹ 40,00,000.

Total Assets = Non-current Assets + Current Assets
= ₹ 40,00,000 + ₹ 40,00,000 = ₹ 80,00,000.

Proprietors' Funds/Equity = Total Assets – Non-current Liabilities – Current Liabilities
= ₹ 80,00,000 – ₹ 40,00,000 – ₹ 20,00,000 = ₹ 20,00,000.

$$\text{Proprietary Ratio} = \frac{\text{Proprietors' Funds}}{\text{Total Assets}} \times 100 = \frac{₹\ 20,00,000}{₹\ 80,00,000} \times 100 = \mathbf{25\%}.$$

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity}} = \frac{₹\ 40,00,000}{₹\ 20,00,000} = \mathbf{2 : 1}.$$

$$\text{Total Assets to Debt Ratio} = \frac{\text{Total Assets}}{\text{Debt}} = \frac{₹\ 80,00,000}{₹\ 40,00,000} = \mathbf{2 : 1}.$$

Illustration 61.

Prakash Ltd. has a term-loan of ₹ 10,00,000. Interest on the loan for the year is ₹ 1,25,000 and its Profit before Interest and Tax is ₹ 5,00,000. Calculate Interest Coverage Ratio.

Solution: Interest Coverage Ratio $= \frac{\text{Profit before Interest and Tax}}{\text{Interest on Long-term Debt}} = \frac{₹\,5,00,000}{₹\,1,25,000} = \textbf{4 Times.}$

Illustration 62.

From the following details obtained from the financial statements of Jeev Ltd., calculate Interest Coverage Ratio:

Net Profit after Tax	₹ 1,20,000
12% Long-term Debt	₹ 20,00,000
Tax Rate	40%.

(Delhi 2016)

Solution:

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Tax}}{\text{Interest on Long-term Debt}}$$

$$= \frac{₹\,4,40,000}{₹\,2,40,000} = \textbf{1.83 Times.}$$

Interest on Long-term Debts = 12% of ₹ 20,00,000 = ₹ 2,40,000

Calculation of Net Profit before Interest and Tax:

Net Profit after Tax = ₹ 1,20,000

Let, Net Profit before Tax* = ₹ 100; Tax = ₹ 40; Net Profit after Tax = ₹ 60

$$\text{Net Profit before Tax} = ₹\,1,20,000 \times \frac{₹\,100}{₹\,60} = ₹\,2,00,000.$$

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

= ₹ 2,00,000 + ₹ 2,40,000 = ₹ 4,40,000.

**Net Profit before Tax shows Net Profit after Interest but before Tax.*

4.4

Liquidity of an enterprise is measured by its ability to meet its long-term financial obligations as they become due. Comment.