Example:-

Sensex Ltd has the following book value capital structure:-

| | |
|---|---|
| Equity Capital (10 million shares, Rs 10 per) | Rs 100 million |
| Preference Capital, 12% (1,00,000 shares, Rs 100) | Rs 10 mill. |
| Retained earnings | Rs 120 mill |
| Debentures 15% (5,00,000 debentures, Rs 100) | Rs 50 mill |
| Term loan, 14% | Rs 80 mill |
| Total. | Rs 360 mill |

The next expected dividend per share is Rs 2. The dividend per share is expected to grow at the rate of 8%. The market price per share is Rs 20. Preference stock, redeemable after 10 years, is currently selling for Rs 75 per share. Debentures redeemable after 6 years, are selling for Rs 80 per debenture. Tax rate is 50%.

Calculate average cost of capital.

Solution:-

→ The cost of equity and retained earnings

$$r_e = \frac{D_1}{P_0} + g = \frac{2}{20} + 0.08 = 0.18$$

$$= 18\%$$

→ Cost of Preference

$$r_p = \frac{12 + (100-75)/10}{0.6 \times 75 + 0.4 \times 100} = 0.1705 \approx 17.05\%$$

→ Pre-tax cost of Debt

$$r_D = \frac{14 + (100-80)/6}{0.6 \times 80 + 0.4 \times 100} = \frac{17.33}{88} = 0.1969$$

$$= 19.69\%$$

→ Post-tax cost of debt

$$19.69\,(1-0.5) = 9.845\%$$

→ Post-tax cost of term loans is

$$14\,(1-0.5) = 7\%$$

## Average Cost of Capital

| Sources | Component Cost (1) | Book Value (2) | BV Proportion (3) | Product of (1)×(3) |
|---|---|---|---|---|
| Equity Capital and retained earnings | 18% | 220 | 0.612 | 0.110 |
| Preference Capital | 17.05% | 10 | 0.027 | 0.005 |
| Debentures | 9.845% | 50 | 0.138 | 0.0135 |
| Term loans | 7% | 80 | 0.223 | 0.0156 |
| | | 360 | | 0.1441 |

$$= 14.41\%$$