Cost of Capital (WACC)

1. Following information is obtained from the Shah Chemicals Ltd.

Equity Share Capital (Each of Rs. 10)	Rs. 10, 00,000
11% Pref. Share Capital (Each of Rs. 100)	Rs. 2, 00,000
Reserve & Surplus	Rs. 18, 00,000
15% Debentures (Each of Rs. 100)	Rs. 20, 00,000

Expected rate of dividend on equity share for the next year is 20%, growth rate of company's earnings is 10%, and current market price of equity share is Rs. 25. Cost of retained earnings is 3% low than equity. Suppose the current market price of preference share is Rs. 60 and current market price of debenture is Rs. 69. Corporate Tax rate is 60%. Find out WACC on the base of Book Value Weights and Market Value Weights.

2. Following information is available from Mona Ltd. As on 31/3/91.

Equity Capital (Rs. 10 each)	Rs. 70,000
Reserves	Rs. 30,000
10% Pref. Capital (Rs. 100 each)	Rs. 20,000
14% Debentures (Rs. 100 each)	Rs. 80,000
Current Liabilities	Rs. 30,000
Net Fixed Assets	Rs. 1, 20,000
Current Assets	Rs. 1, 10,000

The cost of equity is 16% and the cost of reserves is 1% less than the cost of equity capital. The applicable tax rate is 60%. Market price of equity share is Rs. 16, a Preference share is Rs. 70 and Debentures is Rs. 80. Calculate WACC according to both the values.

3. The ten year debentures of a firm can be sold at a rate of Rs. 90. The face value of debenture is Rs. 100 and the coupon rate is 8%. The tax rate is assumed to be 50%. Calculate after tax cost of debt. A company issues a 10 % preference share capital without a maturity date. The face value per preference share is Rs. 100 but the issue price is Rs. 95. What is the cost of this issue? The current market price of a share is Rs. 90 and the expected dividend for the next year is Rs. 4.50 per share. If the dividend is expected to grow at a rate of 7%, calculate the cost of equity.

4. Calculate cost of capital in the following circumstances by assuming 50% tax bracket. Preference shares of 8.5% are sold are face value. Ten years 8% bond of Rs. 1000 sold at Rs. 950 and 4% underwriting commission is to be paid. Present market value of equity share is Rs. 120 and dividend paid per share is Rs. 9 and 8% growth is assumed. The company's shares are sold at Rs. 50, whose outside debt is zero. Earnings per share is Rs. 7.50 out of this 60% is paid as dividend. Company reinvest 10% amount from undistributed earnings.

5. Following details relate to the Swapnalok Ltd. For the year ended on 31st March, 1995.

Sources	Book Value	Market Value
Equity Share Capital (Each of Rs. 10)	Rs. 8, 00,000	Rs. 20 per sh.
10%Pref. Share Capital (Each of Rs. 100)	Rs. 2, 00,000	Rs. 75 per sh.
14% Debentures (Each of Rs. 100)	Rs. 10, 00,000	Rs. 80

The expected equity dividend in the next year is 20%, which will grow at the rate of 8%. The tax rate of the company is 40%.
Answer the following:

- Calculate the WACC under the book value and market value weights.
- The company is planning to finance an expansion project costing Rs. 5, 40,000 through an issue of equity shares at Rs. 18 per share. Calculate the Marginal cost of capital of the company.

6. The details of XYZ Ltd. As on 31-12-2006 are as under:

Liabilities	Rs.	Assets	Rs.
Equity Share Capital (Each of Rs. 10)	1, 00,000	Net Fixed Assets	4, 00,000
		Current Assets	2, 50,000
Reserves	80,000		
14% Pref. Shares	30,000		
15% Debentures	2, 50,000		
20% Term Loan	1, 40,000		
Current Liabilities	50,000		
	6, 50,000		6, 50,000

The Average market price of equity share is Rs. 30. The expected dividend in the next year is 24%. The dividend grows at 11%. The tax bracket of the company is 40%. The cost of retained earnings is 2% less than cost of equity capital.

Calculate the cost of equity as per dividend growth model. Calculate WACC.

7. Following details are available about Nick Ltd.
    1) Issue of 1, 00,000 debentures with a coupon rate of 15%, each of Rs. 100 repayable after 5 years at a premium of 5%. The issue costs amounted to Rs. 4, 00,000. Calculate the cost of debt assuming 40% tax bracket.
    2) Equity share capital (each of Rs. 10) Rs. 5, 00,000. Expected dividend rate in the next year is Rs. 1.62. Current market price is Rs. 32.40. Growth rate in earnings and dividends 8%. Calculate the cost of equity capital. Assume 40% tax bracket.

8. Calculate the WACC of the following capital structure:

Liabilities	Rs.	Assets	Rs.
Equity Share Capital Reserves 12% Pref. Share Capital 15% Debentures 18% Term Loan Current Liabilities	1, 00,000 2, 00,000 1, 00,000 1, 00,000 1, 00,000 1, 00,000	Net Fixed Assets Current Assets	5, 00,000 2, 00,000
	7, 00,000		7, 00,000

The cost of equity capital is to be considered on the basis of earnings approach. The average earnings and average market price of equity shares are Rs. 15 and Rs. 120 respectively. The cost of reserves are to be taken at 2% less than the cost of equity capital. The tax rate is 40%.

9. A limited company has a following capital structure.

Equity Share Capital (50,000 shares)	Rs. 10, 00,000
6% Preference Shares	Rs. 2, 50,000
8% Debentures	Rs. 7, 50,000

The market price of the company's equity share is Rs. 20. It is expected that the company will pay next year dividend of Rs. 2 per share, which will grow at 7% forever. The tax rate may be presumed at 50%. You are required to compute the following.

1) WACC
2) The new WACC if the company raises an additional Rs. 5, 00,000 debt by issuing 10% debentures. This would result in increasing the expected dividend to Rs. 3 and leave the growth rate unchanged but the price of equity share will fall to Rs. 15 per share.

10. As a financial manager of the company, you are required to determine the WACC using book value weights and market value weights from the following information.

Debentures (Rs. 100 each)	Rs. 8, 00,000
Preference Shares (Rs. 100 each)	Rs. 2, 00,000
Equity Shares (Rs. 10 each)	Rs. 10, 00,000

Recent market prices are:
Rs.110 per Debenture
Rs. 120 per Pref. Share
Rs. 22 per Equity Share

Additional Information:

i. Rs. 100 per debenture redeemable at par, 10 years maturity, 11% coupon rate, 4 % floatation costs, Sales price Rs. 100.
ii. Rs. 100 pref. share reddemable at par, 10 years maturity, 12% dividend rate, 5% floatation costs, sales price Rs. 100
iii. Equity shares, Rs. 2 per share floatation costs, sales price Rs. 22.
iv. The dividend expected on equity at the end of this year is Rs. 2 per share and anticipated growth rate is 7%. Tax rate is 35%.

11. Madhavi Ltd. Wishes to determine the WACC for evaluating capital budgeting decisions.

Liabilities	Rs.	Assets	Rs.
Current Liabilities Debentures Preference Shares Equity shares Retained earnings	9,00,000 9,00,000 4,50,000 12,00,000 4,50,000	Sundry Assets	39,00,000
Total	39, 00,000		39,00,000

Additional Information:

i. 8% Debentures of Rs. 2500 face value, 20 years, redeemable at 5% premium, sold at par. 2% floatation cost.
ii. 10% pref. shares, sales price Rs. 100 per share, 2% floatation cost.
iii. Equity share: Sales price Rs. 115 per share. Floatation costs are 5%
iv. Corporate tax rate is 35%.

v. Expected dividend in the current year is 11Rs. And expected growth rate is 5%.

12. Following are the details of LMN Ltd.

Liabilities	Rs.	Assets	Rs.
Equity capital (Rs. 10 each) Reserves 12% Debentures (Rs. 100 each) 10% term loan Current Liabilities	2,00,000 1,00,000 3,00,000 1,00,000 1,50,000	Total Assets	8,50,000
	8,50,000		8,50,000

Assume that the average market price of equity share is Rs. 50 and the current year's EPS is Rs. 10.5. The cost of equity is to be ascertained under E/P approach while the cost of reserves are 2% less than cost of equity. Market price of debentures is Rs. 110. Assume tax rate to be 40%. Calculate WACC by both weights.

13. Boston Co. has the following capital structure

Particulars	Amount (Rs. In millions)
Equity Capital (20 lakh shares, Rs. 10 each)	200
11% Preference Capital (2 lakh shares, Rs. 100 each)	20
Retained earnings	100
13.5% Debentures (8 lakh deb. Rs. 100 each)	80
12% term loan	80

The expected dividend is Rs. 2 per share and it is expected to grow at 7%. The market price per share is Rs. 20. The preference shares are redeemable after 10 years and currently quoted at Rs. 80 per share. The debentures are redeemable after 6 years and their current market price is Rs. 75. Tax rate is 50%