Chapter 2

Enterprise DCF Model

1. The profit and loss account and balance sheet of a company for two years (1 and 2) are given below. Assume a tax rate of 30 percent for year 2.

Profit and Loss Account	1	2
• Net sales	30,000	35,000
• Income from marketable securities	600	1,000
• Non-operating income	400	800
• Total income	31,000	36,800
• Cost of goods sold	18,000	21,000
• Selling and administrative expenses	3,800	4,600
• Depreciation	1,900	2,200
• Interest expenses	1,700	1,600
• Total costs and expenses	25,400	29,400
• PBT	5,600	7,400
• Tax provision	1,400	1,900
• PAT	4,200	5,500
• Dividends	1,200	1,400
• Retained earnings	3,000	4,100
Balance Sheet		
• Equity capital	5,000	5,000
• Reserves and surplus	5,000	9,100
• Debt	15,000	14,900
	25,000	29,000
• Fixed assets	15,000	18,500
• Investments (marketable securities)*	5,000	6,500
• Net current assets	5,000	4,000
	25,000	29,000
* All of this represents excess marketable securities		

(i) What is the EBIT for year 2?
(ii) What is the tax on EBIT for year 2?
(iii) What is the FCFF for year 2?
(iv) Show the break-up of the financing flow

2. The profit and loss account and the balance sheet for Magna Corporation for two years (year 1 and year 2) are given below:

Profit and Loss Account	**1**	**2**

• Net sales	16800	19320
• Income from marketable securities	420	630
• Non-operating income	210	420
• Total income	17430	20370
• Cost of goods sold	9660	11340
• Selling and administrative expenses	2100	2310
• Depreciation	1050	1260
• Interest expenses	1008	1176
• Total costs and expenses	13818	16086
• PBT	3612	4284
• Tax provision	1092	1344
• PAT	2520	2940
• Dividend	1260	1680
• Retained earnings	1260	1260
Balance Sheet	**1**	**2**
• Equity capital	6300	6300
• Reserves and surplus	5040	6300
• Debt	7560	8820
	18900	21420
• Fixed assets	12600	13650
• Investments	3780	4200
• Net current assets	2520	3570
	18900	21420

Assume that the tax rate is 40 percent.

(i) What is the EBIT (also called PBIT) for year 2?
(ii) What is the tax on EBIT for year 2?
(iii) What is the NOPLAT for year 2?
(iv) What is the FCFF for year 2?

Appendix 2C-

Enterprise DCF Valuation: 2-Stage and 3-Stage Growth Models

1. Boldman Sachs, an investment banking firm, is engaged in valuing MLF Realty, a firm which specialises in the construction of housing and commercial complexes. MLF is currently riding a construction boom and is expected to grow at a healthy rate for the next four years at least. Thereafter the growth rate is expected to decline rather gradually for a few years before it stabilises at a modest level.

   You have recently moved to Boldman Sachs after a few years of experience in another financial services firm. Your first assignment at Boldman Sachs is to value MLF. Based on extensive discussion with management and industry experts you have gathered the following information.

Base Year (Year 0) Information

- Revenues — Rs. 1400 crore
- EBIT (20 % of revenues) — Rs. 280 crore
- Capital expenditure — Rs. 350 crore
- Depreciation and amortisation — Rs. 266 crore
- Working capital as a percentage of revenues — 20 percent
- Tax rate — 30 percent (for all time to come)

Inputs for the High Growth Period

- Length of the growth period = 4 years
- Growth rate in revenues, depreciation, EBIT and capital expenditure = 25 percent
- Working capital as a percentage of revenues = 20 percent
- Cost of debt(pre-tax) = 10 percent
- Debt – equity ratio = 1.0
- Risk- free rate = 7.4 percent
- Market risk premium = 6 percent
- Equity beta = 1.2667

Inputs for the Transition Period

- Length of the transition period = 3 years
- Growth rate in revenues, depreciation, EBIT and Capital expenditures will decline from 25 percent in year 4 to 10 percent in year 7 in linear increments of 5 percent per year.
- Working capital as a percentage of revenues = 20 percent
- The cost of debt, debt-equity ratio, risk –free rate, market risk premium and equity beta will be the same as in the high growth period.

Inputs for the Stable Growth Period

- Growth rate in revenues, EBIT, capital expenditure and depreciation = 10 percent
- Working capital as a percentage of revenues = 20 percent
- The cost of debt, risk –free rate and market risk premium will be the same as in the previous stages.
- Debt-equity ratio = 2 : 3
- Equity beta = 1.322

a. What is the cost of capital in the three periods (high growth, transition, and stable)?

b. What value would you impute to MLF Realty using the DCF method?

2. Telesoft International was set up seven years ago to develop telecommunication software. Though the company started with a bang, it entered a turbulent phase because of the shrinkage in the global telecom market in the initial years of this decade. Thanks to recovery in the last 18 months or so and a firm indication of strong growth in the next few years, the management of Telesoft International is quite upbeat about the future.

   Recently, Pankaj Behl, the CEO of Telesoft International had a preliminary dialogue with the CEO of a another company engaged in developing telecommunication software to explore a possible merger. Both the CEOs felt enthusiastic about this.
   Pankaj Behl believes that the compensation for the merger, if consummated, will be in the form of the stock of Telesoft International. He has requested you to value the equity of Telesoft and asked Vijay Rao, Finance Director, Telesoft International to provide you with information about the current and projected financials of Telesoft International.

   The following information has been provided to you.

Base Year (Year 0) Information

Revenues	= Rs. 1200 million
EBIT	= Rs. 350 million
Capital expenditure	= Rs. 280 million
Depreciation	= Rs. 140 million
Working capital as a percentage of revenues	= 30 percent
Corporate tax rate	= 10 percent
Paid up equity capital (Rs.10 par)	= Rs. 300 million
Market value of debt	= Rs. 300 million

Inputs for the High Growth Period

Length of the high growth period	= 4 years
Growth rate in revenues, depreciation, EBIT and capital expenditure	= 30 percent
Working capital as a percentage of revenues	= 30 percent

Cost of debt	= 10 percent (pre-tax)
Tax rate will increase to 30 percent in linear increment of 5 percent	
Debt-equity ratio	= 0.8:1
Risk-free rate	= 7 percent
Market risk premium	= 7 percent
Equity beta	= 1.4

Inputs for the Transition Period

Length of the transition period	= 4 years
Growth rate in revenues, depreciation, EBIT, and capital expenditures will decline from 30 percent in year 4 to 10 percent in year 8 in linear increments of 5 percent each year	
Working capital as a percentage of revenues	= 30 percent
Debt-equity ratio	= 0.8:1
Cost of debt	= 10 percent (pre-tax)
Risk-free rate	= 8 percent
Market risk premium	= 6 percent
Equity beta	= 1.1
Tax rate	= 30 percent

Inputs for the Stable Growth Period

Growth rate in revenues, EBIT, capital expenditure and depreciation	= 10 percent
Working capital as a percentage of revenues	= 30 percent
Debt-equity ratio	= 0.5:1.0
Cost of debt	= 10 percent (pre-tax)
Risk-free rate Market risk premium	= 8 percent = 7 percent
Equity beta	= 1.0
Tax rate	= 30 percent

a. What will be the WACC, year-wise?
b. What is the present value of the FCF in the high growth period?
c. What is the present value of the FCF in the transition period?
d. What is the present value of the terminal value?
e. What is the intrinsic value per share?

Chapter 3

The Cost of Capital

1. The latest balance sheet of MM Limited is given below

The target capital structure of MM has 65 percent equity, 5 percent preference, and 30 percent debt. MM's preference capital has a post-tax cost of 8 percent. MM's debentures consist of Rs.100 par, 9 percent coupon payable annually, with a residual maturity of 4 years. The market price of these debentures is Rs.105. Working capital loan carries an interest rate of 10 percent. MM's equity stock is currently selling for Rs.90 per share. Its last dividend was Rs.2.00 per share and the dividend per share is expected to grow at a rate of 12 percent per year in future.

Liabilities		*Assets*	
Equity capital	3200	Fixed assets	10500
Preference capital	300	Investments	1100
Reserves & Surplus	6800	Current assets, loans & advances	4500
Debentures	2100		
Working capital loan	2000		
Current liabilities & Provisions	1700		----------
	16100		16100

MM's equity beta is 1.05, the risk-free rate is 7 percent, and the market risk premium is 6 percent. MM's tax rate is 30 percent

(i) What is MM's average pre-tax cost of debt? (Use the approximate yield formula)

(ii) What is MM's cost of equity using the constant growth dividend discount model?

(iii) What is MM's post tax weighted average cost of capital? Use the CAPM to estimate the cost of equity and employ the weights in the target capital structure.

2. The latest balance sheet of Phoenix Limited is given below

Liabilities		*Assets*	
Equity capital	1500	Fixed assets	4000
Preference capital	200	Investments	1000
Reserves & Surplus	2000	Current assets, loans & advances	1500
Debentures	1800		
Current liabilities & Provisions	1000		
	6500		6500

The target capital structure of Phoenix has 70 percent equity, 5 percent preference, and 25 percent debt. Phoenix's preference capital has a post-tax cost of 9 percent. Phoenix's debentures consist of Rs.100 par, 8 percent coupon payable annually, with a residual maturity of 5 years. The market price of these debentures is Rs.105. Phoenix's equity

stock is currently selling at Rs.125 per share. Its last dividend was Rs.3.00 per share and the dividend per share is expected to grow at a rate of 12 percent per year in future. Phoenix's equity beta is 0.9, the risk-free rate is 7 percent, and the market risk premium is 7 percent. Phoenix's tax rate is 30 percent

(i) What is Phoenix's pre-tax cost of debt?
(Use the approximate yield formula)

(ii) What is Phoenix' cost of equity using the constant growth dividend discount model?

(iii) What is Phoenix's post tax weighted average cost of capital? Use the CAPM to estimate the cost of equity and employ the weights in the target capital structure.

3. Astute Corporation's WACC is 11 percent and its tax rate is 36 percent. Astute's pre-tax cost of debt is 10 percent and its debt-equity ratio is 1.5:1. The risk-free rate is 7 percent and the market risk premium is 8 percent. What is the beta of Astute's equity?

4. Jaihind Corporation has 100 million equity shares outstanding. The book value per share is Rs.100 and the market price per share is Rs.680. Jaihind has a debenture issue outstanding with a face value of Rs.800 million. The coupon rate for a debenture is 13 percent coupon, and it sells for 85 percent of its face value. It will mature in 4 years. Jaihind also has a bank loan of Rs.600 million on which the interest rate is 11 percent.

What are Jaihind's capital structure weights on a book value basis and on a market value basis?

5. Friends Associates manufactures industrial solvents. Its debt-equity ratio is 5:3 Its WACC is 13 percent and its tax rate is 34 percent.
If Friends Associate's cost of equity is 22 percent, what is its pre-tax cost of debt?

6. Modern Limited has the following book value capital structure:

Equity capital (25 million shares, Rs.10 par)	Rs.250 million
Preference capital, 10 percent (800,000 shares, Rs.100 par)	Rs. 80 million
Retained earnings	Rs. 50 million
Debentures 14 percent (2,000,000 debentures, Rs.100 par)	Rs.200 million
Term loans, 14 percent	Rs.220 million
	Rs.800 million

The next expected dividend per share is Rs.3.00. The dividend per share is expected to grow at the rate of 10 percent. The market price per share is Rs.260. Preference stock, redeemable after 8 years, is currently selling for Rs.90 per share. Debentures, redeemable after 5 years, are selling for Rs.105 per debenture. The tax rate for the company is 34 percent.

Calculate the average cost of capital using

(i) book value proportions, and market value proportions

(ii) The average cost of capital using market value proportions is calculated below:

7. Aryan Limited, an all-equity firm, is evaluating the following projects:

Project No.	*Beta*	*Expected Return (%)*
1	0.9	14
2	1.1	16
3	1.2	18
4	1.7	25

The risk-fee rate is 7 percent and the expected market premium is 9 percent. Aryan's cost of capital is 15 percent. Which projects would be accepted or rejected incorrectly on the basis of the firm's cost of capital as a hurdle rate?

8. Shivashankari Steel Mills is considering a steel project for which it proposes to employ a debt-equity ratio of 1.8:1. Its pre-tax cost of debt will be 10 percent and its expected tax rate is 35 percent.
There are three firms, A, B, and C, engaged wholly in steel manufacture. Their equity betas and debt-equity ratios and tax rates are as follows:

	Equity beta	*Debt-equity ratio*	*Tax rate (%)*
A	1.70	1.6	35
B	1.45	1.5	33
C	1.20	1.2	30

The risk free rate is 8 percent and the expected return on the market portfolio is 16 percent.

(i) What is the average asset beta of the three firms A,B,and C ?
(ii) What is the beta of the steel project of Shivashankari Mills?
(iii) What is the required rate of return on the steel project of Shivashankari Mills?

9. Osama Industries is considering a textile project for which it proposes to employ a debt-equity ratio of 1. Its pre-tax cost of debt will be 14 percent and its expected tax rate is 31 percent.

There are three firms, A, B, and C, engaged wholly in similar textile industry. Their equity betas, debt-equity ratios, and tax rates are as follows

	Equity beta	*Debt-equity ratio*	*Tax rate*
A	1.30	1.6	33 %
B	0.90	1.1	32%
C	1.20	1.3	31%

The risk-free rate is 8 percent and the expected return on the market portfolio is 16 percent.

(i) What is the average asset beta of the three firms, A, B, and C?
(ii) What is the cost of capital applicable to the textile project of Osama Industries?



Chapter 4

Other DCF Models

1. The share of a certain stock paid a dividend of Rs.10.00 last year. The dividend is expected to grow at a constant rate of 15 percent in the future. The required rate of return on this stock is considered to be 18 percent. How much should this stock sell for now? Assuming that the expected growth rate and required rate of return remain the same, at what price should the stock sell 4 years hence?

2. The equity stock of Hansa Limited is currently selling for Rs.280 per share. The dividend expected next is Rs.10.00. The investors' required rate of return on this stock is 14 percent. Assume that the constant growth model applies to Hansa Limited. What is the expected growth rate of Hansa Limited?

3. The equity stock of Amulya Corporation is currently selling for Rs.1200 per share. The dividend expected next is Rs.25.00. The investors' required rate of return on this stock is 12 percent. Assume that the constant growth model applies to Amulya Corporation. What is the expected growth rate of Amulya Corporation?

4. Mammoth Corporation is facing gloomy prospects. The earnings and dividends are expected to decline at the rate of 10 percent. The previous dividend was Rs.3.00. If the current market price is Rs.25.00, what rate of return do investors expect from the stock of Mammoth Limited?

5. The current dividend on an equity share of Magnum Limited is Rs.4.00.

(i) Assume that Magnum's dividend will grow at the rate of 18 percent per year for the next 5 years. Thereafter, the growth rate is expected to fall and stabilise at 10 percent. Equity investors require a return of 15 percent from Magnum's equity shares. What is the intrinsic value of Magnum's equity share?

(ii) Assume now that the growth rate of 18 percent will decline linearly over a period of 4years and then stabilise at 10 percent. What is the intrinsic value per share of Magnum, if investors require a return of 15 percent?

6. The current dividend on an equity share of Omex Limited is Rs. 5.00 on an earnings per share of Rs. 20.00.

Assume that the dividend will grow at a rate of 18 percent for the next 4 years. Thereafter, the growth rate is expected to fall and stabilize at 12 percent. Equity investors require a return of 15 percent from Omex's equity share. What is the intrinsic value of Omex's equity share?

7. The current dividend on an equity share of Omega Limited is Rs.8.00 on an earnings per share of Rs. 30.00.

(i) Assume that the dividend per share will grow at the rate of 20 percent per year for the next 5 years. Thereafter, the growth rate is expected to fall and stabilise at 12 percent.

Investors require a return of 15 percent from Omega's equity shares. What is the intrinsic value of Omega's equity share?

(ii) Assume that the growth rate of 20 percent will decline linearly over a five year period and then stabilise at 12 percent. What is the intrinsic value of Omega's share if the investors' required rate of return is 15 percent?

8. You have developed the following projections for Jahanara Corporation:

Rs. in million

	Years				
	1	*2*	*3*	*4*	*5*
• Free cash flow to the firm	200	600	900	1000	1000
• Interest-bearing debt	400	800	1000	700	500
• Interest expense	44	88	110	77	55

Calculate the enterprise value of Jahanara Corporation using the following assumptions:

- Beyond year 5, the free cash flow to the firm will grow at a constant rate of 10 percent per annum.
- Jahanara's unlevered cost of equity is 16 percent.
- After year 5, Jahanara will maintain a debt-equity ratio of 1:2
- The borrowing rate for Jahanara will be 12.5 percent.
- The tax rate for Jahanara is 28 percent.
- The risk-free rate is 8 percent.
- The market risk premium is 6 percent.

9. The following projections have been developed for Vaibhav Limited:

Rs. in million

	Years				
	1	*2*	*3*	*4*	*5*
• Free cash flow to the firm	500	900	900	900	1000
• Interest-bearing debt	1000	800	600	400	200
• Interest expense	120	96	72	48	24

Calculate the enterprise value of Vaibhav Limited using the following assumptions:

- Beyond year 5, the free cash flow to the firm will grow at a constant rate of 9 percent per annum.
- Vaibhav's unlevered cost of equity is 18 percent.
- After year 5, Vaibhav will maintain a debt-equity ratio of 2:3
- The borrowing rate for Vaibhav will be 11 percent.
- The tax rate for Vaibhav is 30 percent.
- The risk-free rate is 9 percent.
- The market risk premium is 8 percent.

10. CMX Limited is interested in acquiring the cement division of B&T Limited. The planning group of CMX Limited has developed the following forecast for thecement division of B & T Limited

Rs. in millions

Year	1	2	3	4	5	6
Asset value (at the beginning)	100	140	175	210	241.5	277.7
NOPAT	20	25	30	34.5	39.7	43.7
Net investment	35	36.5	37	37.4	43.0	42.0
Growth rate (%)	40	25	20	15	15	10

The growth rate from year 7 onward will be 10 percent. The discount rate to be used for acquisition is 12 percent. What is the value of this acquisition?

11. Rex Limited is interested in acquiring the cement division of Flex Limited. The planning group of Rex Limited has developed the following forecast for the cement division of Flex Limited

Year	1	2	3	4	5	6
Asset value	100	125	150	172.5	193.2	212.50
NOPAT	14	17.5	21	24.2	27.1	29.80
Net investment	20	22.5	22.5	24.2	24.1	25.3
Growth rate(%)	25	20	15	12	10	8

The growth rate from year 7 onward will be 8 percent. The discount rate to be used for this acquisition is 15 percent.

What is the value of this acquisition?

Chapter 5

Relative Valuation

1. Varun Associates' return on equity is 18 percent and r 15 percent, growth rate 8 percent and dividend payout multiple is 0.2. What are its P/E and P/B multiples from a fundamental point of view?

2. Sanjay Industries' net profit margin is 12 percent, growth rate 15 percent and dividend payout multiple is 0.3. If Sanjay's cost of equity is 24 percent what is its P/S multiple from a fundamental point of view?

3. Titus Limited's cost of equity is 18 percent while its return on equity is 23 percent. Its dividend payout multiple is 0.4. Calculate the PEG ratio.

4. Bright's dividend payout ratio is 0.2, cost of equity is 18 percent, return on equity is 24 percent and growth rate 10 percent. What is its value ratio?

5. Ahmad's growth rate is 8 percent and net profit margin is 16 percent. Its r is 20 percent and dividend payout multiple 0.3. What is its PS to NPM multiple?

6. If the growth rate of a firm is 20 percent, return on invested capital is 30 percent, WACC is 22 percent and DA is 11 percent, what is its EV / EBITDA multiple? Assume a tax rate of 30 percent.

7. Leo Limited has a reinvestment rate of 80 percent and growth rate of 12 percent. Its weighted average cost of capital is 16 percent and tax rate 31 percent. What is Acme's EV / EBIT multiple?

8. Riyaz's weighted average cost of capital is 20 percent, growth rate 10 percent and return on invested capital 26 percent. Calculate its EV/BV and EV/FCFF multiples.

9. A company is growing at 14 percent and has a post-tax operating margin of 15 percent. Its WACC is 16 percent and reinvestment rate is 60 percent. What is its EV / sales multiple?

Chapter 7
Valuation of Real Options

1. An equity share is currently selling for Rs 100. In a year's time it can rise by 30 percent or fall by 10 percent. The exercise price of call option on this share is Rs.110.

(i) What is the value of the call option if the risk – free rate is 7 percent? Use the option – equivalent method.

(ii) What is the value of the call option if the risk-free rate is 6 percent? Use the risk – neutral method.

2. An equity share is currently selling for Rs.60. In a year's time, it can rise by 50 percent or fall by 10 percent. The exercise price of a call option on this share is Rs.70.

a. What is the value of the call option if the risk-free rate is 8 percent? Use the option-equivalent method.

b. What is the value of the call option, if the risk-free rate is 6 percent? Use the risk-neutral method.

3. Consider the following data for a certain share.

Current Price = S_0 = Rs. 80
Exercise Price = E = Rs. 90
Standard deviation of continuously compounded annual return = σ = 0.5
Expiration period of the call option = 3 months
Risk – free interest rate per annum = 6 percent

What is the value of the call option? Use the normal distribution table and resort to linear interpolation.

4. Consider the following data for a certain share

- Price of the share now = S_0 = Rs. 150
- Exercise price = E = Rs. 170
- Standard deviation of continuously compounded annual return = σ = 0.4
- Expiration period of the call option = 6 months
- Risk-free interest rate = 9 percent

What is the value of the call option? Use the normal distribution table and resort to linear interpolation.

5. A builder owns a plot of land that can be used for constructing an 50 or an 80 apartment building. The construction costs of these alternatives are Rs.100 million and Rs.170 million respectively. The price per apartment currently is Rs.2.8 million. The yearly rental (net of expense) per unit is Rs.0.12 million and the risk-free rate of interest is 10 percent per annum.

If the market for apartment is buoyant next year, each apartment will fetch Rs 3.8 million. On the other hand, if the market for the apartments is sluggish next

year, each apartment will fetch Rs.2.2 million. Assume that the construction costs will remain unchanged.

(i) What is the profit from the best alternative, if the builder has to construct now?
(ii) If the builder waits for one year, what is the payoff from the best alternative, if the market turns out to be buoyant?
(iii) If the builder waits for one year, what is the payoff from the best alternative, if the market turns out to be sluggish?
(iv) What are the risk-neutral probabilities that the market for apartments will be buoyant and sluggish respectively?
(v) What is the value of the vacant land?

6. Raja Builders own plot of land that can be used for constructing a 70 or a 52 apartment building complex. The construction costs of these alternatives are Rs. 1500 lakhs and Rs. 1000 lakhs respectively. The price per apartment currently is Rs. 30 lakhs. The yearly rental (net of expense) per unit is Rs. 120,000 and the risk-free rate of interest is 5 percent per annum.

If the market for apartment is buoyant next year, each apartment will fetch Rs. 40 lakhs. On the other hand, if the market for the apartments is sluggish next year, each apartment will fetch Rs. 25 lakhs. Assume that the construction costs will remain unchanged.

(i) What is the profit from the best alternative, if Raja Builders construct now?
(ii) If Raja Builders wait for one year, what is the payoff from the best alternative, if the market turns out to be buoyant?
(iii) If Raja Builders wait for one year, what is the payoff from the best alternative, if the market turns out to be sluggish?
(iv) What is the risk-neutral probability that the market for apartments will be sluggish?
(v) What is the value of the vacant land?

7. Your firm is looking at a proposal to manufacture a computer system called Galaxy-I. The projected cash flows of this proposal are as shown below.

	0	1	2	3	4
• Initial outlay	(680)				
• After – tax operating cash flow		200	200	300	250
• Terminal cash flow					40

The discount rate applicable to Galaxy-I is 16 percent. Prima facie, the cash flows of the project do not suggest that the project is attractive. However, Relton , the chief technical officer of your believes that if the firm undertakes Galaxy-I proposal now, it will be in a position to make a follow on investment in an advanced version, Galaxy--II, four years from now. He is quite confident that the firm will have all the capabilities to do so, if it undertakes Galaxy-I initially. Relton provided the following estimates

-- Galaxy-II will be twice the size of Galaxy-I. It will require an investment of 1360.
-- The expected cash inflows of Galaxy-II will be twice those of Galaxy-I

-- The standard deviation of the cash inflows of Galaxy-II will be 40 percent.
-- The risk-free interest rate is 8 percent.

a. What is the net present value of Galaxy-I?

b. What is the value of the option to invest in Galaxy-II?



Chapter 8

Advanced Issues in Valuation

1. Sahay Ltd. a PE investor, is considering investing Rs. 6000 million in the equity of Neosys, a start-up IT company. Sahay's required return from this investment is 40 percent and its planned holding period is 5 years. Neosys has projected an EBITDA of Rs. 4,000 million for year 5. An EBITDA multiple of 12 for year 5 is considered reasonable. At the end of year 5, Neosys is likely to have a debt of Rs. 1,000 million and a cash balance of Rs. 800 million.

(i) What ownership share in Neosys should Sahay Ltd. ask for?
(ii) What is the post-money investment value of the firm's equity?
(iii) What is the pre-money investment value?

2. KKP Ltd, a PE investor; is considering investing Rs. 2000 million in the equity of Microsys, a start-up IT company. KKP's required return from this investment is 36 percent and its planned holding period is 5 years. Microsys has projected an EBITDA of Rs. 3000 million for year 5. An EBITDA multiple of 10 for year 5 is considered reasonable. At the end of year 5, Microsys is likely to have a debt of Rs. 1500 million and a cash balance of Rs. 600 million.

(i) What ownership share in Microsys should KKP Ltd. ask for?
(ii) What is the post-money investment value of the firm's equity?
(iii) What is the pre-money investment value?

Mc Graw Hill