

2022

COMMERCE

Paper : CC-301

[Strategic Financial Management and Business Valuation (SFMBV)]

Full Marks : 40

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

Module - I

(Strategic Financial Management)

Answer *any two* questions.

1. X Ltd. is considering a two-year project for which initial investment will be ₹ 6,00,000. The probable net cash inflows are estimated to be as follows.

Year 1		Year 2	
Net Cash Inflows (₹)	Probability	Net Cash Inflows (₹)	Probability
3,00,000	0.30	5,00,000	0.25
4,00,000	0.60	4,00,000	0.50
5,00,000	0.10	3,00,000	0.25

If the company's overall cost of capital is 10% and the risk-free rate of interest is 5%, determine the expected net present value, and risk of the project in terms of standard deviation assuming cash inflows over two-year life of the project are perfectly correlated. 4+6

2. (a) Holding too much or too less amount of cash may have an adverse impact on any firm. Do you agree? How would you determine optimum cash balance that a firm should maintain?
- (b) Y. Ltd. currently manufactures and sells all its products on credit and its current annual sales are ₹ 24,00,000. It allows a credit period of 1 month and offers a cash discount of 2% for making payment within 10 days. 40% of the customers avail the cash discount. The selling price per unit is ₹ 100 and variable cost of production per unit is ₹ 70. The company's cost of capital is 10%. The company is thinking of changing its credit policy by increasing the credit period to 1½ months and cash discount to 3% if payment is made within 10 days. 60% of the customers are expected to avail the cash discount. The change in the credit policy is expected to increase the annual sales by ₹ 8,00,000 and increase the collection expenses by ₹ 50,000. It has also been estimated that default costs (bad debts) will come down from 5% to 3% on total sales. Suggest whether the new policy should be adopted by the company. 3+7

Please Turn Over

3. (a) Two firms X and Y, identical in all respects except their capital structure. X has no debt, whereas Y has a debt of ₹ 100 Cr. at 12%. EBIT for both the firms is ₹ 40 Cr. Market value of equity shares of X and Y are 280 Cr. and 250 Cr. respectively. The debt of Y trades at par. Both the firm pay 30% tax.

If market value of X is correctly determined, what should be the value of Y?

If an investor is holding 5% stake in Y, what action can you recommend to him to increase his welfare?

- (b) What is tax-shield as per M-M theory? How it is calculated? Explain with example. 6+4

4. (a) Briefly state the main proposition of Modigliani-Miller hypothesis on dividend theory and prove their theorem.

- (b) PQR Ltd., has the following capital structure :

	(₹ Crores)
Equity Share Capital (in shares of ₹ 10 each, fully paid up at par)	1,500
11% Preference Share Capital (in shares of ₹ 100 each, fully paid up at par)	100
Retained earnings	2,000
13.5% Debentures (of ₹ 100 each)	1,000
15% Term loans	1,250

The next expected dividend on equity shares is ₹ 3.60 per share and the dividend per share is expected to grow at the rate of 7%. The market price per share is ₹ 40. Preference stock, redeemable after ten years, is currently selling at ₹ 75 per share. Debentures, redeemable after six years, are selling at ₹ 80 per debenture. The income tax rate for the company is 25%.

You are required to :

- (i) Calculate the weighted average cost of capital of the company using market value as weights; and
- (ii) Determine the marginal cost of capital for the firm if it raises 750 crores for a new project. The firm plans to have a target debt to value ratio of 20%. The beta of the new project is 1.4375. The debt capital will be raised through term loans. It will carry interest rate of 9.5% for the first 100 crores and 10% for the next ₹ 50 crores. Balance amount to be raised through fresh issue of equity shares selling at ₹ 32. 4+(3+3)

Module - II

(Business Valuation)

Answer *any two* questions.

5. (a) Hindustan Limited, a leading creator and manufacturer of packaged organic spices, paid out dividends of ₹ 91 per share on earnings per share of ₹ 164 in 2022 F.Y. The firm is expected to have a return on equity of 20% between 2023 and 2027, after which the firm is expected to have stable growth of 6% a year. The return on equity is expected to drop to 15% in the stable growth phase. The dividend payout ratio is expected to remain at the current level from F.Y. 2023 to F.Y. 2027. The stock had a beta of 1.10, which is not expected to change. The 182-days Treasury bond rate is 5.5% and 364 days Treasury bond rate is 6%, and the risk premium is 5.5%.

- (i) Estimate the PE ratio of Hindustan Ltd.
- (ii) Estimate how much of this PE ratio can be ascribed to the extraordinary growth in earnings that the firm expects to have between 2023 and 2027.
- (iii) Also, estimate the PEG ratio of this firm.
- (iv) Can you comment on the valuation of this firm based on the PEG ratio, as determined by you.
- (b) Bharat Steel is a publicly traded steel company with 20 million shares outstanding, issued at ₹ 70 a share, currently trading at ₹ 25 a share, ₹ 100 million in outstanding debt. The cost of capital for the firm was 12%. The firm is expected to generate ₹ 180 million in after tax operating income next year and is considered to be in stable growth, growing 4% a year in perpetuity. Assuming that the firm is correctly valued by the market now, estimate the return on capital that the firm is expected to generate in perpetuity. 7+3
6. (a) Vaxo Hind, a pharmaceutical company, known for its vaccination drug 'COVAX' for the treatment of a virus related disease, is a leader in the Indian pharmaceutical market. The patent for this drug will get over by 2025, after which the firm will stabilise. While the peak period of the vaccination programme is almost over, there is still a possibility for further vaccination drive till 2025 and the firm is expected to sustain its high growth during this period. The free cash flows to this firm for the year 2022 can be estimated from the following table :

	2022
Expected growth rate	6.50%
Reinvestment rate	40.00%
EBIT (1 - t)	₹ 13,56,00,735
Cost of Capital	13.5%
Tax rate	32.5%

After the end of the patent period, the firm will grow at a modest rate of 3% in perpetuity and a return on capital equal to 1.45 times of its cost of capital. Compute the Terminal value of Vaxo Hind.

- (b) New India Cable Ltd. is a cable and wireless firm with the following characteristics :
- (i) The firm has a cost of capital of 12% and faces a tax rate of 35% on its operating income.
- (ii) The firm has capital expenditure that amounts to 45% of EBITDA and depreciation that amounts to 20% of EBITDA. There are no working capital requirements.
- (iii) The firm is in stable growth and its operating income is expected to grow 6% a year to perpetuity.

Estimate EV to EBITDA.

- (c) You have been asked to check the valuation of a software firm, Damodaran Inc, done by an eminent analyst. You noted that the analyst has assumed earnings growth of 10% a year for the next 3 years, and 5% a year thereafter, and has arrived at a value for the firm of ₹ 400 million. While you find yourself in agreement with most of the assumptions made by the analyst, you disagree with the assumption she has made that capital expenditures will offset depreciation after year 3. You believe instead, that capital expenditures will be 150% of depreciation after year 3. If the current depreciation is ₹ 10 million and the cost of capital is 12%, estimate the effect of this change in assumption on the value of Damodaran Inc. There are no working capital requirements and depreciation grows at the same rate as earnings. 4+2+4

7. (a) You have been asked to analyze the synergy in a merger of two financial services companies operating in India, for which the following information is provided :

	Stock Tips Ltd.	Investo Guide Ltd.
EBIT (in ₹ crores)	8,750	4,200
Invested Capital (in ₹ crores)	80,000	50,000
Reinvestment rate	45%	25%
Risk premium	8.0	6.50
Beta	1.25	1.65
Cost of Debt	12%	15%
Debt to Capital Ratio	0.6	0.5

Both the companies are in stable growth and are growing at 6% and 4% respectively a year. The merger is motivated partly by cost savings and partly by increase in market share. The treasury bond rate is 4%. Both are subjected to corporate tax rates of 25%. Estimate the value of both the companies as a stand-alone firm. If the combined entity post-merger shall save ₹ 1250 crores a year in operating expenses and will be able to garner an additional 20% operating income due to an increased market share, starting right away, with an expected growth potential and the reinvestment rate to be maintained as that of the bidder firm, estimate the value of operating synergy. If Investo Guide, the target firm, was operating under an inefficient management due to which the firm is undervalued to an extent of 15%, then determine the value of control due to a change in the management.

- (b) From the following information relating to a company, calculate FCFE :

Net Income-₹ 316 million; Debt issued-₹ 5,768 million; Debt repaid-₹ 5,614 million; Depreciation-₹ 3,508 million; Capital expenditure-₹ 4,030 million; Changes in Non-cash Working capital-₹ 488 million. 7+3

8. (a) Naya Bharat Limited has provided the following information :

(All figures in ₹.)

Year	EBIT	Net Capex	Stock	Debtors	Marketable Securities	Bank	Cash	Current Liabilities
2022	2,85,000	80,000	20,000	32,000	6,000	6,000	5,000	15,000
2023	3,50,000	65,000	14,000	30,000	7,000	6,500	6,000	20,000
2024	4,20,000	80,000	20,000	25,000	5,000	10,000	8,000	25,000
2025	5,15,000	92,000	15,000	25,000	6,000	8,500	6,500	30,000
2026	6,12,000	88,000	25,000	15,000	6,000	2,500	4,500	33,000
2027	6,85,000	99,000	15,000	15,000	8,000	5,000	2,500	40,000

Assuming corporate tax rate @ 25%, compute the free cash flow of Naya Bharat for the relevant years.

- (b) Compute the value of the firm during the explicit forecast period based on the following information.

High growth rate of the firm = 9%

Normal growth rate of the firm = 5%

High growth rate period = 12 years

Cost of capital during high growth period = 12.5%

Cost of capital during normal growth = 13.77%.

The free cash flow of the firm for the current financial year is determined as ₹ 2450 crores.

If the firm has employed debt capital amounting to ₹ 1,500 crores with an interest obligation @12%, then compute the value of this firm for the equity shareholders only, assuming a tax rate of 30%.

5+5