

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Paper – 20: Financial Analysis & Business Valuation

Time Allowed: 3 hours

Full Marks: 100

Group-A

(Answer Question 1 and 2 which are compulsory and any two from the rest)

Question 1.

(A) Selected Financial Statistics of Rudo Ltd.

(₹ in lakhs)

(Index: Base Year 2003-04 = 100)

	2012-13	2011-12	2010-11
Total Income (₹)	10,615	9,093	8,280
Index	498	427	389
Depreciation (₹)	225	126	101
Index	479	268	215
Profit before tax (₹)	803	815	540
Index	453	460	305
Taxation (₹)	405	474	315
Index	526	616	409
Dividend (₹)	91	91	70
Index	260	260	200
Retained Profits (₹)	307	250	155
Index	473	385	238
Assets, Liabilities and Net Worth:			
Fixed Assets (₹)	1,655	991	914
Index	338	202	187
Investment (₹)	177	165	165
Index	358	358	358
Indebtedness (₹)	1,097	885	760
Index	213	172	148
Share capital (₹)	917	603	603
Index	321	211	211
Reserves (₹)	806	795	615
Index	413	408	315
Net Worth (₹)	1,723	1,399	1,218
Index	358	291	253

(B) Significant Ratios

(₹ in lakhs)

		2012-13	2011-12	2010-11
1.	Measurement of Investment			
	Percentage of Return on Investment	32.7	39.5	32.9
	Percentage of Return on Equity	29.9*	25.9	19.7
	Dividend cover (Ratio)	4.67*	3.99	3.48
2.	Measurement of Performance:			
	Percentage of Profit before tax to Sales	7.7	9.3	6.7
	Percentage of Profit after tax to Sales	3.8	3.9	2.8
	Assets Turnover (Ratio)	3.6	3.8	4.1
3.	Measurement of Financial Status			
	Percentage of Term Loans to Tangible net worth	4.12	14.2	19.4
	Current Ratio	1.25	1.25	1.15

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4.	General			
	Dividend per Equity Share (₹)	1.60	1.60	1.20
	Earning per Equity Share (₹)	7.48*	6.39	4.17

* Excluding bonus shares issued on March 31st, 2013.

(C) Statement of Changes in Financial Position

(₹ in lakhs)

Funds obtained from:	2012-13	2011-12
Profit after tax	415.21	341.17
Depreciation	225.09	125.94
Long-term loans	466.30	---
Sale of investments	---	0.44
	1,106.60	467.55
Funds used for:		
Repayment of long-term loans	---	23.05
Plant expenditure	889.16	202.47
Increase in investment	11.97	0.85
Dividends	90.96	161.04
Increase in working capital	114.51	80.14
	1,106.60	467.55
Changes in Working Capital Increase/(Decrease):		
Cash and Bank Balances	274.23	12.08
Inventories	55.63	236.08
Sundry Debtors	(66.91)	292.47
Loans and Advances	163.20	(0.20)
	426.15	540.43
Creditors and other Liabilities	616.80	244.10
Short-term Borrowings	(254.30)	197.31
Provision for Taxation	(50.86)	18.88
	311.64	460.29
Increase in Working Capital	114.51	80.14

After reading the above informations of Rudo Ltd., answer the following questions:

- (a) Analyse the financial position of Rudo Ltd. from the profitability, liquidity, solvency and overall performance perspectives.
- (b) What aspects are to be considered to review the financial position of Rudo Ltd.?
- (c) Mr. X, an investor of Rudo Ltd., wants to know about the financial implications related to earnings and value of shares. Write it from an investor's perspective.

[8+2+5]

Answer:

- (a) The funds flow statement of the company reveals that the company financed its fixed assets requirements from its operational profits. In the year 2011-12 ₹ 202.47 lakhs of operational profits were invested in plant. Similarly a substantial portion of plant expenditure amounting to ₹ 889.16 lakhs in 2012-13 was also financed by the company out of its internal generated funds. The company also raised a long-term loan of ₹ 466.30 lakhs during this year, mainly to finance the heavy expenditure on plants. A part of working capital requirements was also met out of this loan. All this seems to be quite satisfactory.

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There is enough scope for further borrowings in future years. The present percentage of 4.12 of term loans to tangible net worth even after raising a term loan of ₹ 466.30 lakhs in 2012-13, confirms this contention.

The percentage return of equity has also gone up from 19.7 in 2010-11 to 29.9 in 2012-13. The chances of its further improvement are quite high, in view of the fact that the overall return on investment is 33 per cent and in any case the company is not going to pay such a high rate of interest on the long-term funds borrowed by it. However, there are certain downward trends which need investigation. The ROI has gone down from 32.9 per cent in 2010-11 to 32.7 per cent in 2012-13. The assets turnover rate has also declined from 4.1 in 2010-11 to 3.6 in 2012-13. This may perhaps be due to purchase of new plant in 2012-13 which does not seem to have yet gone into commercial production. If it is so, the situation may be considered as satisfactory.

The company does not have an adequate current ratio. It was 1.15 in 2010-11 and it has increased to 1.25 in 2012-13. However, it is still on the lower side. The management, therefore, must take appropriate steps to ensure a better liquidity position. There has been a sharp increase in creditors in 2012-13 as compared to 2011-12. This is to some extent a cause for anxiety. However, the net working capital of the company has increased by ₹ 80.14 lakhs in 2011-12 and ₹ 114.51 lakhs in 2012-13. The cash and banks balances have also gone up by ₹ 274.23 lakhs in 2012-13. All these are indicators of improvements in the working capital position of the company. However, the management should try to strengthen the working capital position of the company further, in view of the fact that the working capital requirements will increase with greater utilisation of the company's capacity. The profitability position of the company is also quite satisfactory. The ROI at 32.7% in 2012-13 is lower than 32.9% in 2010-11. However, percentage return on equity capital stands increased from 19.7% in 2010-11 to 29.9% in 2012-13.

(b) The financial position of Rudo Ltd. can be judged from the point of view of the following aspects:

1. The pattern adopted by Rudo Ltd. to finance its fixed as well as working capital requirements.
2. The possibility of raising funds in future by way of debt as against equity.
3. The liquidity, profitability and overall performance of the company over the three-year period from 2010-11 to 2012-13.
4. It has to ensure timely return of the money borrowed by the company from the financial institutions. They have also to see that the interest on borrowings is paid at the proper time and the investors get a fair return on the investment besides appreciation in its value.

(c) An investor is primarily interested in the following three things:

1. The earnings per share.
2. The intrinsic value of the share.
3. The prospects of growth in the value of shares.

There has been an upward trend in the index of net worth. It was 253 in 2010-11 and it stands at 358 in 2012-13. It is, therefore, quite satisfactory. The rate of return on equity shareholders funds and earning per equity share has also gone up. They were 19.7% and ₹ 4.17 per share respectively in 2010-11. They now stand on 29.9% and ₹ 7.48 in 2012-13. The company has also issued bonus shares in 2012-13. The continuous increase in the

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Reserves of the company from ₹ 615 lakh in 2010-11 to ₹ 806 lakhs in 2012-13 is a definite indicator that there is every possibility for the company to issue bonus shares in the years to come.

In any case the intrinsic value of the company's shares will go up further even if the company does not issue bonus shares.

The dividend cover ratio is also improving constantly. It stood at 3.48 times in 2010-11 and it stands at 4.67 in 2012-13. It is significant to note that these ratios have been maintained in spite of increase in the dividend rate from ₹ 1.20 per share in 2010-11 to ₹ 1.60 per share in 2012-13 and that also on an increased number of equity shares.

Thus, it may be concluded that the company has a sound financial position from the point of view of all concerned parties — the corporate management, and the investors. The overall performance of the company is satisfactory and it will further improve when the facilities at the disposal of the company are fully utilised. However, the management must remain cautious towards the working capital position of the company. The current ratio is not satisfactory at present and, therefore, they should take all possible steps in the near future to improve the working capital position of the company.

Question 2.

The following data is available from the books of ABC Ltd.

	(₹)	
Balance Sheet (extract) as on	31-03-2012	31-03-2013
Assets		
Land and buildings	8,00,000	8,55,000
Furniture, fixtures and fittings	90,000	76,500
Stock	5,32,500	5,96,300
Debtors	1,87,300	1,84,200
Cash in hand	18,200	13,400
Cash at bank	1,15,200	1,62,000
Bills receivable	30,000	50,000
Advance payment of income-tax	2,55,000	2,70,000
Preliminary expenses	21,000	14,000
	20,49,200	22,21,400
Liabilities		
Equity share capital	10,00,000	11,00,000
Securities premium	---	30,000
General reserve	4,00,000	5,01,000
Bills payable	60,000	20,000
Creditors	2,07,200	1,57,400
Outstanding expenses	30,000	35,000
Provision for Income-tax	2,52,000	2,68,000
Proposed dividend	1,00,000	1,10,000
	20,49,200	22,21,400

Profit and Loss Account (extract) for the year ended 31st March, 2013

		(₹)
Sales		46,37,200
Cost of goods sold		(37,21,200)

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Gross profit	9,16,000
Sundry operating expenses	(3,17,500)
Depreciation on land and buildings	(45,000)
Depreciation on furniture, fixtures and fittings	(8,500)
Loss on disposal of furniture	(2,000)
Preliminary expenses amortised	(7,000)
Net profit before Income-tax	5,36,000
Provision for Income-tax	(2,68,000)
Net profit after Income-tax	2,68,000
Provision for Income-tax (2011 – 12)	(2,000)
Interim dividend	(55,000)
Proposed dividend	(1,10,000)
Transfer to general reserve	(1,01,000)
	NIL

ABC Ltd. also provides the following informations:

- (i) Liability for income-tax for the accounting year 2011-12 was fixed at ₹ 2,54,000 and hence, a refund of ₹ 1,000 was received out of the advance tax paid for that year.
- (ii) Book value of furniture sold during the year was ₹ 5,000.

Read the above financial statements and answer the following questions:

- (a) What is the treatment of non-cash transactions in cash flow statement?
- (b) What is the amount would be payable to suppliers and employees during the year in the given case of ABC Ltd.?
- (c) What is the financing activity in cash flows? Mention those items of financing activities which will come in the cash flow statement of ABC Ltd.?
- (d) How cash flows from operating activities under indirect method is calculated? Also show the computation of the same under direct method.

[3+3+3+6]

Answer:

- (a) Investing and financing transactions that do not require the use of cash or cash equivalents should be excluded from a cash flow statement. Such transactions should be disclosed elsewhere in the financial statements in a way that provides all the relevant informations about these investing and financing activities. The exclusion of noncash transactions from the cash flow statement is consistent with the objective of a cash flow statement as these do not involve cash flows in the current period. Examples of such noncash transactions:

- (i) The acquisition of assets by assuming directly related liabilities.
- (ii) The acquisition of an enterprise by means of issue of shares.
- (iii) Conversion of debt into equity.

- (b) Cash paid to Suppliers and Employees

	₹	₹
Cost of goods sold		37,21,200
Add: Sundry operating expenses		3,17,500
		40,38,700
Add: Stock at the end	5,96,300	

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Creditors at the beginning	2,07,200	
Bills payable at the beginning	60,000	
Outstanding expenses at the beginning	30,000	8,93,500
		49,32,200
Less: Stock at the beginning	5,32,500	
Creditors at the end	1,57,400	
Bills payable at the end	20,000	
Outstanding expenses at the end	35,000	7,44,900
Cash paid to Suppliers and Employees		41,87,300

(c) Financing activities are activities that results in changes in the size and composition of the owners' capital (including preference share capital in the case of a company) and borrowings of the enterprise. Following are the examples of cash flows arising from financing activities:

- (i) Cash proceeds from issuing shares or other similar instruments.
- (ii) Cash proceeds from issuing debentures, loans, notes, bonds and other short-term borrowings.
- (iii) Cash repayments of amounts borrowed, i.e. redemption of debentures, bonds etc.
- (iv) Cash payments to redeem preference shares.
- (v) Payment of dividends.

The items which will come in the cash flow statement of ABC Ltd. are as under:

- (i) Issue of equity shares at premium (₹1,00,000 + ₹30,000).
- (ii) Final dividend paid (₹1,00,000).
- (iii) Interim dividend paid (₹55,000).

(d) Cash flow Statement of ABC Ltd. for the year ended 31-03-2013 (Indirect Method)

(₹)

Cash flows from Operating Activities	
Net Profit before tax and extraordinary items	5,36,000
Adjustments for:	
Depreciation on land and buildings	45,000
Depreciation on furniture, fixtures and fittings	8,500
Loss on disposal of furniture	2,000
Preliminary expenses amortised	7,000
Operating profit before working capital changes	5,98,500
Adjustments for:	
Increase in stock	(63,800)
Decrease in debtors	3,100
Increase in bills receivable	(20,000)
Decrease in bills payable	(40,000)
Decrease in creditors	(49,800)
Increase in outstanding expenses	5,000
Cash flows from operations	4,33,000
Advance Income-tax paid (net) (Note 1)	(2,69,000)
Net Cash Inflow from Operating Activities	1,64,000

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Cash flow Statement of ABC Ltd. for the year ended 31-03-2013 (Direct Method)

(₹)	
Cash flows from operating activities	
Cash receipts from customers (Note 2)	46,20,300
Cash paid to suppliers and employees	(41,87,300)
Cash flow from operations	4,33,000
Advance income tax paid (net)	(2,69,000)
Net Cash Inflow from Operating Activities	1,64,000

Note:

(₹)	
(1) Tax paid	
Advance tax paid during the year	2,70,000
Less: Refund of previous year	1,000
Total income tax paid	2,69,000

(2) Cash Receipts from Customers (₹)

Sales		46,37,200
Add: Debtors at the beginning	1,87,300	
Bills received at the beginning	30,000	2,17,300
		48,54,500
Less: Debtors at the end	1,84,200	
Bills received at the end	50,000	2,34,200
Cash Receipts from Customers		46,20,300

Question 3.

- (a) From the following informations and particulars of Zed Ltd. for the year ended 31.03.2013 calculate — (1) Book Value per Share, (2) Earnings per Share, (3) Dividend Yield, (4) Earning Yield, (5) P/E Ratio and (6) P/B Ratio.

The informations which are available from the Books of Accounts of Zed Ltd. are as follows: (All ₹ in lakhs)

Sales — ₹18.26, Cost of goods sold — ₹10.25, Administrative expenses — ₹0.46, Selling and distribution expenses — ₹1.47, Depreciation — ₹1.05, Interest on debt — ₹1.13, Tax provision — ₹1.08, Proposed dividend — ₹0.90, Equity share capital (consisting of 7,000 equity shares of ₹100 each) ₹7.00, Reserve & surplus — ₹1.15, 8% Debentures — ₹9.0, 9% Public deposits — ₹3.4, Trade creditors — ₹3.28, Outstanding liabilities for expenses — ₹0.23, and Fixed assets (less accumulated depreciation for ₹4.6) ₹15.6.

Monthly average market price per share during month of March, 2013 was ₹247.

Industry averages: P/E ratio 10, P/B 1.6, Dividend yield 8%.

- (b) What is the impact of leverage on capital turnover ratio, working capital turnover ratio, and shareholders wealth (by using ROI and ROE).

[6+4]

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Answer:

(a)

**Income Statement of Zed Ltd.
For the year ended 31.03.2013**

(₹ in lakhs)

Sales		18.26
Less: Cost of Goods Sold		10.25
Gross Margin		8.01
Less: Administrative Expenses	0.46	
Selling and Distribution Expenses	1.47	
Depreciation	1.05	
Interest on debt	1.13	4.11
Profit before Tax		3.90
Less: Tax Provision		1.08
Net Profit		2.82

Computation of the ratios of Zed Ltd.:

$$\begin{aligned}
 \text{(i) Book value per share} &= \frac{\text{Shareholders' Fund}}{\text{No. of Shares}} \\
 &= \frac{\text{Equity Share Capital} + \text{Reserve \& Surplus}}{\text{No. of Shares}} \\
 &= \frac{\text{₹8.15 lakhs}}{7,000} = \text{₹116.43}
 \end{aligned}$$

$$\begin{aligned}
 \text{(ii) Earnings per share} &= \frac{\text{Profit after Tax}}{\text{Total Number of Shares}} \\
 &= \frac{\text{₹2.82 lakhs}}{7,000} = \text{₹40.29}
 \end{aligned}$$

$$\begin{aligned}
 \text{(iii) Dividend Yield} &= \frac{\text{Dividend per Share}}{\text{Market Price per Share}} \\
 &= \frac{\text{₹12.86}}{\text{₹247}} = 5.21\%
 \end{aligned}$$

$$\begin{aligned}
 \text{(iv) Earning Yield} &= \frac{\text{Earnings per share}}{\text{Market Price per Share}} \\
 &= \frac{\text{₹40.29}}{\text{₹247}} = 16.31\%
 \end{aligned}$$

$$\begin{aligned}
 \text{(v) Price-earnings Ratio} &= \frac{\text{Market Price per Share}}{\text{Earnings per share}} \\
 &= \frac{\text{₹247}}{\text{₹40.29}} = 6.13 \text{ or } 6 \text{ times}
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi) Price-Book Value Ratio} &= \frac{\text{Market Price per Share}}{\text{Book Value per Share}} \\
 &= \frac{\text{₹247}}{\text{₹116.43}} = 2.12
 \end{aligned}$$

(b) If the turnover increases without a corresponding rise in working capital, the working capital position becomes tight. If the current ratio and acid test ratio are high, the

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capital turnover ratio can be increased without any problem. High capital turnover ratio together with low working capital turnover ratio indicates the situation of overtrading, which is very risky as the risk of insolvency increases. Low capital turnover ratio together with high working capital turnover ratio indicates the situation of under trading, which represents the presence of idle funds or lack of profitable opportunities.

The impact of financial leverage on Return on Equity (ROE) is positive if return on investment after tax (ROI after tax) is greater than the cost of sources of funds bearing fixed financial payments like debt, preference capital and is negative if ROI (after tax) is lower than the cost of sources of funds bearing fixed financial payments like debt, preference capital.

1. ROE without using ROI rate:

$$\text{ROE} = \frac{\text{Earnings after interest, tax \& preference dividend}}{\text{Equity shareholders funds}} \times 100$$

2. ROE using ROI rate:

$$\begin{aligned} \text{ROE} = & \text{ROI(after tax)} + \frac{\text{Debt}}{\text{Equity}} [\text{ROI(after tax)} - \text{Cost of debt (after tax)}] \\ & + \frac{\text{Preference share capital}}{\text{Equity}} [\text{ROI(after tax)} - \text{Rate of preference dividend}] \end{aligned}$$

Question 4.

- (a) Following are the Balance Sheet extracts of Mayuri Ltd. as on 31.03.2012 and 31.03.2013. Prepare Comparative Balance Sheet of Mayuri Ltd. and interpret it.

(₹ in crores)

Balance Sheet (extracts) as at	31.03.2012	31.03.2013
Share Capital and Liabilities:		
Share capital	6,393.21	6,453.39
Equity share suspense	60.14	1.56
Equity share warrants	214.80	1,682.40
Reserves and surplus	57,513.78	73,312.81
Secured loans	9,569.12	6,600.17
Unsecured loans	18,256.61	29,879.51
Current liabilities	16,865.53	21,045.47
Provisions	1,712.87	2,992.62
Deferred tax liability	6,982.02	7,872.54
	1,17,353.28	1,49,838.91
Assets:		
Net fixed assets	63,660.46	61,883.63
Capital work-in-progress	9,528.13	25,005.84
Investments	16,251.34	22,063.60
Current Assets:		
Inventories	10,136.51	12,247.54
Sundry debtors	3,732.42	6,227.58
Cash and bank balances	1,835.35	4,280.05
Other current assets	3.07	72.54

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Loans and advances	12,206.00	18,058.13
	1,17,353.28	1,49,838.91

(b) Why inventories are not considered as quick assets?

[8+2]

Answer:

(a) Comparative Balance Sheet of Mayuri Ltd. (₹ in crores)

Balance Sheet as at	31.03.2012	31.03.2013	Absolute change	% Change
Share Capital and Liabilities:				
Share capital	6,393.21	6,453.39	60.18	0.941
Equity share suspense	60.14	1.56	(58.58)	(97.41)
Equity share warrants	214.80	1,682.40	1,467.60	683.240
Reserves and surplus	57,513.78	73,312.81	15,799.03	27.470
Secured loans	9,569.12	6,600.17	(2,968.95)	(31.026)
Unsecured loans	18,256.61	29,879.51	11,622.90	63.664
Current liabilities	16,865.53	21,045.47	4,179.94	24.784
Provisions	1,712.87	2,992.62	1,279.75	74.714
Deferred tax liability	6,982.02	7,872.54	890.52	12.754
	1,17,353.28	1,49,838.91	32,485.63	27.682
Assets:				
Net fixed assets	63,660.46	61,883.63	(1,776.83)	(2.791)
Capital work-in-progress	9,528.13	25,005.84	15,477.71	162.442
Investments	16,251.34	22,063.60	5,812.26	35.765
Current Assets:				
Inventories	10,136.51	12,247.54	2,111.03	20.826
Sundry debtors	3,732.42	6,227.58	2,495.16	66.851
Cash and bank balances	1,835.35	4,280.05	2,444.70	133.201
Other current assets	3.07	72.54	69.47	2,262.866
Loans and advances	12,206.00	18,058.13	5,852.13	47.945
	1,17,353.28	1,49,838.91	32,485.63	27.682

Interpretation:

- (i) The share capital has increased by ₹ 60.18 crores during the current accounting year. This would be a transfer of amount from Equity Share Suspense A/c to Equity Share Capital.
- (ii) During the current year, the company has issued Equity share warrants worth ₹ 1,682.40 crores.
- (iii) The reserves and surplus have increased to ₹ 73,312.81 crores from ₹ 57,513.78 crores.
- (iv) The secured loans have reduced by ₹ 2,968.95 crores over previous year.
- (v) The company has raised unsecured loans amounting to ₹ 11,622.90 crores during the current year which shows an increase over the previous year by 63.66%.
- (vi) The current liabilities and provisions have increased by 24.78% and 74.71% respectively.
- (vii) There is a slight fall in net fixed assets by 2.79%.
- (viii) The company has incurred substantial amount of ₹ 15,477.71 crores on the upcoming projects during the current accounting period.
- (ix) The current assets (except loans and advances) have increased by ₹ 7,120.36 crores which amounts to 45.33% increase.

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- (x) The loans and advances have increased by 47.94% which amounts to ₹ 5,852.13 crores during the current accounting period over the previous year.
- (b) Inventories are not considered as quick assets because:
- There is uncertainty as to whether or not and at what price the inventories can be sold.
 - Time is required to convert the raw materials and work-in-progress into finished goods and to convert the finished goods into debtors.

Question 5.

- (a) The following informations are given regarding Bhor Ltd. Some key ratios are provided for the particular industry to which Bhor Ltd. belongs. You are required to calculate the relevant ratios for Bhor Ltd. compare them with those particular industry norms and give the comments on the performance of the company.

The following balances are available from the Books of Accounts of Bhor Ltd. as at 31st March, 2013:

Equity Share Capital — ₹27,00,000, 12% Debentures — ₹5,00,000, Sundry Creditors — ₹3,80,000, Bills Payable — ₹3,20,000 and Other Current Liabilities — ₹2,00,000, Net Fixed Assets — ₹17,00,000, Cash — ₹4,00,000, Sundry Debtors — ₹7,50,000 and Stock — ₹12,50,000.

The sales for the company for the year ending 31.03.2013 amounted to ₹60,00,000 and the gross profit was 17,00,000.

Industry Norms	Ratio considered
Current ratio	2.4
Sales/Debtors	7.7
Sales/Stock	7.9
Sales/Total assets	2.39
Gross Profit ratio	36%

- (b) What is Financial Modelling? Describe different types of financial models.

[5+5]

Answer:

- (a) Calculation of Ratios:

$$(1) \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{₹ 24,00,000}{₹ 9,00,000} = 2.67$$

$$(2) \text{ Sales / Debtors} = \frac{\text{Sales}}{\text{Debtors}} = \frac{₹ 60,00,000}{₹ 7,50,000} = 8.00$$

$$(3) \text{ Sales / Stock} = \frac{\text{Sales}}{\text{Stock}} = \frac{₹ 60,00,000}{₹ 12,50,000} = 4.80$$

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$$(4) \text{ Sales / Total Assets} = \frac{\text{Sales}}{\text{Total Assets}} = \frac{₹60,00,000}{₹41,00,000} = 1.46$$

$$(5) \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{₹17,00,000}{₹60,00,000} \times 100 = 28.33\%$$

Comparison of Bhor Ltd.'s ratios with Industry Norms

Ratio	Bhor Ltd.	Industry	Comments
(1) Current Ratio	2.67	2.4	The current ratio of the company indicates better short-term solvency position as compared to the industry. But the composition of the current assets has to be analysed to ascertain any excess investments in current assets.
(2) Sales/Debtors	8.00	7.7	The company's average debtor's collection period is marginally less than the industry and it indicates better management of receivables.
(3) Sales/Stock	4.80	7.9	It indicates excess carrying of inventory as compared to the industry. The low turnover ratio may also be due to lower sales volume.
(4) Sales/Total Assets	1.46	2.39	The company has either excess investments in fixed assets or lower sales performance.
(5) Gross Profit Ratio	28.33%	36%	The gross profit margin is much less than the industry average, it may be due to high cost of production, lower selling price etc.

(b) Financial modeling is the task of building an abstract representation of a real world financial situation. This is a mathematical model designed to represent the performance of a financial asset or portfolio of a business, project or any other investment. This is the process by which a firm constructs a financial representation of some, or all, aspects of the firm or given security. The model is usually characterized by performing calculations, and makes recommendations based on that information. The model may also summarize particular events for the end user and provide direction regarding possible actions or alternatives.

Financial modeling is the task of building a financial model, or the process of using a financial model for financial decision making and analysis. It is an abstract representation of a financial decision making situation. Financial models are not limited to profit making entities. Non-profits, governments, personal finances – all can be represented by financial models.

On the basis of its usage in modeling an economy, industry or company, financial modelling can be divided into three parts, namely:

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- (i) **Macroeconomic Financial Models:** Macroeconomic models are used to analyze the like effect of government policy decisions on variables such as foreign exchange rates, interest rates, disposable income and the gross national product (GNP).
- (ii) **Industry Financial Models:** Industry models are often similar to macroeconomic models, and typically used by industry associations or industry research analysts to forecast key performance indicators within the industry.
- (iii) **Corporate Financial Models:** Corporate financial models are built to model the total operations of a company, and often perceived to be critical in the strategic planning of business operations in large corporations and startup companies alike.

On the other hand, it can be divided in three parts from an economic and financial analysis perspective, such as:

- (i) **Deterministic Financial Models:** In a deterministic model, a financial analyst enters a set of input data into a spreadsheet, programs the spreadsheet to perform a series of mathematical calculations, and displays an output result.
- (ii) **Simulation Based Financial Models:** Simulation based financial models work by entering the likely distribution of key inputs defined by the mean, variance and type of distribution.
- (iii) **Specialized Financial Models:** Specialized financial models are narrower in scope and essentially sophisticated calculators built to address a specific business problem or financial computation. Cost management models, marginal contribution analysis models and option pricing models are examples of specialized financial models.

Section B – Business Valuation (Full Marks: 50)

Answer Question no.6 and 7 and any two from the rest in this section.

6. The balance sheets of Sudha Ltd. for the year ended on 31.3.2011, 31.3.2012 and 31.3.2013 are as follows:

Liabilities	31.03.11 ₹	31.03.12 ₹	31.03.13 ₹
3,20,000 Equity Shares of ₹ 10 each fully paid	32,00,000	32,00,000	32,00,000
General Reserve	24,00,000	28,00,000	32,00,000
Profit & Loss Account	2,80,000	3,20,000	4,80,000
Creditors	12,00,000	16,00,000	20,00,000
	70,80,000	79,20,000	88,80,000

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Assets	31.03.11 ₹	31.03.12 ₹	31.03.13 ₹
Goodwill	20,00,000	16,00,000	12,00,000
Building and Machinery (Less: Depreciation)	28,00,000	32,00,000	32,00,000
Stock	20,00,000	24,00,000	28,00,000
Debtors	40,000	3,20,000	8,80,000
Bank Balance	2,40,000	4,00,000	8,00,000
	70,80,000	79,20,000	88,80,000

	31.03.11 ₹	31.03.12 ₹	31.03.13 ₹
Actual valuation were as under			
Building & Machinery	36,00,000	40,00,000	44,00,000
Stock	24,00,000	28,00,000	32,00,000
Net Profit (including opening balance) after writing off depreciation and goodwill, tax provision and transfer to General Reserve	8,40,000	12,40,000	16,40,000

Capital employed in the business at market values at the beginning of 2010-2011 was ₹ 73,20,000 which included the cost of goodwill. The normal annual return on Average Capital employed in the line of business engaged by Sudha Ltd. is $12\frac{1}{2}\%$.

The balance in the General Reserve account on 1st April, 2010 was ₹ 20 lakhs.

The Goodwill shown on 31.3.2011 was purchased on 1.4.2010 for ₹ 20,00,000 on which date the balance in the Profit and Loss Account was ₹ 2,40,000. Find out the average capital employed each year.

Calculate the value of goodwill which is to be valued at 5 years purchase of super profits (Simple average method).

Also find out the total value of the business as on 31.3.2013.

[15]

Answer:

- I. Since goodwill has been paid for, it is taken as part of capital employed. Capital employed at the end of each year is shown below.
- II. Assumed that the building and machinery figure as revalued is after considering depreciation.

	31.3.2011 ₹	31.03.2012 ₹	31.03.2013 ₹
Goodwill	20,00,000	16,00,000	12,00,000
Building and Machinery (revalued)	36,00,000	40,00,000	44,00,000
Stock (revalued)	24,00,000	28,00,000	32,00,000
Debtors	40,000	3,20,000	8,80,000
Bank Balance	2,40,000	4,00,000	8,00,000
Total Assets	82,80,000	91,20,000	1,04,80,000
Less: Creditors	12,00,000	16,00,000	20,00,000
Closing Capital	70,80,000	75,20,000	84,80,000

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Opening Capital	73,20,000	70,80,000	75,20,000
	1,44,00,000	1,46,00,000	1,60,00,000
Average Capital	72,00,000	73,00,000	80,00,000

Maintainable profit has to be found out after making adjustments as given below:

	31.3.2011 ₹	31.03.2012 ₹	31.03.2013 ₹
Net profit as given	8,40,000	12,40,000	16,40,000
Less: Opening Balance	2,40,000	2,80,000	3,20,000
	6,00,000	9,60,000	13,20,000
Add: Under valuation of closing stock	4,00,000	4,00,000	4,00,000
	10,00,000	13,60,000	17,20,000
Less: Adjustment for valuation in opening stock		4,00,000	4,00,000
	10,00,000	9,60,000	13,20,000
Add: Goodwill written-off		4,00,000	4,00,000
	10,00,000	13,60,000	17,20,000
Add: Transfer to Reserves	4,00,000	4,00,000	40,00,000
	14,00,000	17,60,000	21,20,000
Less 12 ½% Normal return	9,00,000	9,12,500	10,00,000
Super Profit	5,00,000	8,47,500	11,20,000

$$\begin{aligned} \text{Average super profits} &= (\text{₹}5,00,000 + \text{₹}8,47,500 + \text{₹}11,20,000)/3 \\ &= 24,67,500/3 = \text{₹}8,22,500 \end{aligned}$$

$$\begin{aligned} \text{Goodwill} &= 5 \text{ years purchase} \\ &= 8,22,500 \times 5 = \text{₹}41,12,500 \end{aligned}$$

Total Net Assets on 31/03/2012	84,80,000
(-) Goodwill	<u>12,00,000</u>
	72,80,000
+ Goodwill	<u>41,12,500</u>
Value of Business	<u>₹ 1,13,92,500</u>

7. **Mr. Tapan stated at the paper in front of him. He has just finished projections for his startup company, Export Dotcom Pvt. Ltd. He was in need of money and intended to use his valuations for this purpose. He was almost convinced that he would be able to influence lenders about the potential of this startup firm in online-export documentation. However, he was not sure about whether the lenders would accept his valuations. He considered the options in front of him.**

He considered his projections to be reasonable, although he guessed that he only had a 30% chance of hitting those numbers and an equal 30% chance of achieving half of the projected cash flows. He is also aware that there is a relatively high probability (40%) of not getting any cash flow at all.

In estimating cash flow, Tapan thought that he would only need ₹ 5 million in cash to run the business. Anything above ₹ 5 million would be considered as excess cash. Because the firm was just getting off the ground, there was no working capital and no fixed assets at the beginning of 2012. Any working capital and net fixed at the end of year 2012 would be a net investment.

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Mr. Tapan has made projections for next six years (Exhibit 1) and he thought that after six year the net earnings firm is expected to grow at around 7% per year, although he wondered what a somewhat more modest growth rate of 4% would do to the expected value of the firm.

Mr. Tapan thought of approaching venture capitalists too for raising money. He is fully aware that traditional lending institutions are averse to lending in his kinds of business. But he was aware that venture capitalists are always skeptical about any projections made by the prospective borrower and hence he has decided to show only the best case projections to the venture capitalists. He approached one venture capitalist with his cash flow projections and the venture capitalist has flatly said that they would require a 51% rate of return on their investment in his type of firm.

Mr. Tapan knew that he would not be taking on any debt for the foreseeable future. However, he was wondering how being an all equity firm would affect his cost of capital. The long term equity risk premium is around 7.5%. However, illiquid stocks carry 100 basis point more premium. Current 364-day treasury bills yield 7% on an effective annual rate. Swarup a friend of Tapan has suggested that Export Dotcom might be able to take on debt later once it has stabilized.

Tapan knew that in order to value a startup, he has to gather information on existing pure players or at least comparable firms. He found three publicly traded firms directly comparable to his kind of business (pure players) (Exhibit 2). He wondered how he should use this information in determining value of his firm. The following questions came to his mind:

- (i) Should he use beta of these publicly traded firms? What about the fact that he was still private? [2]
- (ii) What is the value of the firm based on discounted cash flows? (Use market value weighted beta of the pure players.) [10]
- (iii) Does venture capital method of valuation give any better insight? (Use average P/E multiple-equally weighted.) [3]

Help Mr. Tapan find answer to these questions. (Refer Exhibits 1 & 2 given below):

Exhibit 1: Projected Financials (best case) of Export Dotcom Pvt. Ltd.

(Figs. In ₹ '000s)

	2012	2013	2014	2015	2016	2017
Income Statement						
Net Sales	42,500	75,000	1,77,500	2,30,000	2,60,000	3,00,000
Cost of goods sold	16,000	28,000	70,000	90,500	1,00,500	1,22,500
Selling and general admn. Exp.	17,500	27,050	32,000	26,500	36,000	39,000
R & D expenses	5,500	12,500	20,500	27,000	32,500	35,000
EBIT	3,500	7,450	55,000	86,000	91,000	1,03,500
Tax (35%)	1,225	2,607.5	19,250	30,100	31,850	36,225
Net earnings	2,275	4,842.5	35,750	55,900	59,150	67,275

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Balance Sheet						
Cash	5,000	5,000	23,965	69,535	1,23,495	1,85,210
Accounts receivable	7,085	12,500	29,585	38,335	43,335	50,00
Inventories	2,000	3,500	8,750	11,315	12,565	15,315
Other	1,770	3,125	7,400	9,585	10,835	12,500
Net Fixed Assets	4,530	11,500	16,000	20,000	21,500	22,500
Total Assets	20,385	35,625	85,700	1,48,770	2,11,730	2,85,525
Accounts payable	2,665	4,665	11,665	15,085	16,750	20,415
Accrued expenses	3,035	5,355	12,680	16,430	18,570	21,430
Net worth	14,685	25,605	61,355	1,17,255	1,76,405	2,43,680
Total liabilities and net worth	20,385	35,625	85,700	1,48,770	2,11,725	2,85,525

Exhibit 2: Financial details of pure players for the year 2011
(Figs. In ₹ Lakhs)

	Player 1	Player 2	Player 3
Net earnings	26.35	108.75	7.5
Debt	35.9	34	0.85
Net worth	60.5	1056	187.8
Equity beta	1.4	1.3	1.2
P/E Ratio	20	37	20

Answer:

- (i) Since Export Dotcom Pvt. Ltd. is an unlisted company; Mr. Tapan can use the equity beta or the comparable firms (pure players) to estimate the cost of capital of his own firm.

The fact that Export Dotcom is still private would increase the required rate of return of any investor because of illiquid stock. In fact, the computed beta of export Dotcom (1.29) is lower than the equity beta of only player. As export dotcom's stocks are illiquid (because it is not listed), the investors would ask for an illiquidity premium. Hence, the applicable equity premium for Export dotcom is 8.5% (7.5% + 1%).

(ii) Computation of cost capital of Export dotcom Pvt. Ltd.

	Player1	Player 2	Player 3	Total MV
Market capitalization of pure				
Players(MV)	527	4023.75	150	4700.75
Weight of MV	0.1121	0.8560	0.0319	1.0000
Average equity beta (MV weight)				
(Note – 1)	1.31			

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Unlevered Beat: Market value of pure players (v) (MV + Debt.)	562.9	4057.75	150.85	4771.50
Average unlevered beta (note – 2) 1.29				
Equity cost of capital 17.95 (7% + 1.29*8.5%)				
Average P/E (equal weight) (20+37+20)/3 = 25.67. say 26 Note - 10.1121 x 1.4 + 0.8560 x 1.3 + 0.0319 x 1.2 = 1,308, say 1.31 Note- 21.31 x 4700.75/4771 x 50				

Export Dotcom – Discounted cash flow – based valuation (best case)

Particulars	2012	2013	2014	2015	2016	2017
1. Net earnings	2275	4842.5	35750	55900	59150	67275
Net Fixed Assets	4530	11500	16000	20000	21500	22500
2. Change in Fixed Assets	4530	6970	4500	4000	1500	1000
Net working capital	10155	14105	45355	97252	154910	221180
3. Change in Net Working Capital	10155	3950	31250	51900	0.438	0.3714
Free cash Flow (1-2-3)	-12410	-6078	0	0	-2	2
Terminal value at 7% growth (note – 3 Terminal value at 4% growth						
PV factor @ 17.95%	0.8478	0.7188	0.6094	0.5167		
PV of Free cash flow	-10521	-4368	0	0		
Cum PV of free cash flow	-14889					
PV of terminal value at g = 7% (Note – 4	18					
Total PV	-14871					

Note – 3 $(5 * 1.07) / (0.1795 - 0.07)$

Note – 4 since PV with 7% growth of net earnings from year 7 is negative, the PV with 4% growth of net earnings from year 7 will be worse, hence, it is not taken into consideration.

Export Dotcom – Valuation on the basis of half – free cash

Particulars	2012	2013	2014	2015	2016	2017
Half-free cash flow	-6205	-3039	0	0	-2.5	2.5
Terminal value at 7% growth						24.43
Terminal value at 4% growth						18.64
PV factor @17.95%	0.8478	0.7188	0.6094	0.5167	0.438	0.3714
PV of Free cash flow	-5261	-2184	0	0	-1	1
Cum PV of Free cash flow	-7445					
PV of terminal value at g = 7%	9					
Total PV @ year 2001	-7436					

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Weighted Average Value Estimate of Estimate of Export Dotcom Private Ltd.:

		Weight	Weighted Value ₹
Full cash-flow	-14871	0.3	-4461
Half cash-flow	-7436	0.3	-2231
No cash - flow	0	0.4	0
			-6692

Value is negative.

(iii) Venture capital valuation Method

Net earnings at the end of year 2007	67,275
Average P/E multiple	26
Discount rate (%)	51
As required by Venture capitalist.	
Terminal value in year 6 (67275*26)	17,49,150
Present value ₹ [1749150*(1/1.5)6]	₹ 1,47,559

8.

(a) The settlement price of sensx futures contract on a particular day was ₹ 4,600. The initial margin was set at ₹ 10,000, while the maintenance margin was fixed at ₹ 8,000. The multiple of each contract is 50.

The settlement prices on the following four days were as follows:

Day	Settlement Price ₹
1	4,700
2	4,500
3	4,650
4	4,750
5	4,700

Calculate the mark to market cash flows and the daily closing balances in the accounts of

- (i) An investor who has gone long, and
- (ii) An investor who has gone short at 4600.

Calculate net profit (loss) on each of the contracts.

(b) What factors are considered for selecting a target in a business acquisition strategy?

[7+3=10]

Answer: 8 (a)

(i) Status of the investor who has gone long on the contract

Margin Account

Day	Settlement Price	Op. Balance	Mark to Market	Margin Call	Cl. Balance
1	4700	10,000	5000	-	15,000
2	4500	15,000	(-)10,000	5,000	10,000
3	4650	10,000	7,500	-	17,500
4	4750	17,500	5,000	-	22,500

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

5	4700	22,500	(-)2,500	-	20,000
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Net profit (loss) on the contract = +5000-10,000+7500+5000-2500= ₹ 5000

(ii) Status of the Investor who has gone short on the contract

Margin Account

Day	Settlement Price	Op. Balance	Mark to Market	Margin Call	Cl. Balance
1	4700	10,000	(-)5000	5000	10,000
2	4500	10,000	10,000		20,000
3	4650	20,000	(-)7,500	-	12,500
4	4750	12,500	(-)5,000	2500	10,000
5	4700	10,000	2,500	-	12,500

Net profit (loss) on the contract.

= -5,000 + 10,000 - 7,500 - 5,000 + 2,500 = (₹5,000) loss.

Answer: 8 (b)

Factors to be considered for selecting a target in a business acquisition strategy:

- (i) The target fits well with the acquisition objective
- (ii) The target has growth potential but faces some solvable managerial problems
- (iii) The market value of the target is lower than the acquirer
- (iv) The target does not have too much ongoing litigation with substantial financial impact.
- (v) The target's market to book value ratio is less than one.
- (vi) Avoidance of current cut-throat competition
- (vii) Acquisition of brand names, patent rights, etc,

9.

(a) In valuing a firm should you use the marginal or effective tax rate?

(b) Explain how would you value a business and the component of value that is attributable to the key person? [5+5=10]

Answer: 9 (a)

The most widely reported tax rate in financial statements is the effective tax rate. It is computed as under:

Taxes due /Taxable income

The second choice on tax rate is the marginal tax rate, which is the tax rate the firm faces on its last rupee of income. The reason for the choice, of marginal tax rate lies in the fact that marginal tax rate for most of firms remains fairly similar but wide differences in effective tax rates are noted across firms. In valuing firms, if the same tax rate has to earnings of every period, the safer choice is the marginal tax rate.

Answer: 9 (b)

A business is generally valued on yield basis. That is, the present value of future economic income is determined and is taken as representative of the value of the business.

Normally, when future revenues and economic income depend on a key person the presence or absence of such a person will have an impact of the business valuation. In this situation if the objective is to value the business for the existing owner, we may separate out the portion of value due to the owner's personal connections and skill, but there are no immediate

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

consequences. If the objective is to value the business for a potential buyer, the simplest way to avoid overpaying is to do two valuations:

One with the business as is, with the existing owner, and one without the owner, making reasonable assumptions about the degree to which business will drop off. The latter will be much lower than the former and will represent the price one would be willing to pay for acquiring the business minus the key person/owner. There are intermediate steps that one can take to minimize the slippage in value in the course of the acquisition:

- I. The intending buyer could contract with the owner to remain with the firm after the change in ownership, for a certain period of time which should reduce the drop-off in customers.
- II. The would-be buyer should ensure that the owner cannot start a competing business and extract business from the buyer for the foreseeable future.

10.

(a) Mr. R. K. Sinha had purchased 500 shares of the Company X at the rate of ₹ 60 per share. He held the shares for 2 years and got a dividend of 15% and 20%, in the first year and second year respectively on the face value of ₹ 10 each share. At the end of the second year, the shares are sold at the rate of ₹ 75 per share. Determine the effective rate of return per year which Mr. Sinha has earned on this share.

(b) The following information along with other necessary information has been extracted from the Annual Report-2012 of Supreme Limited:

Profit and Loss Account of Supreme Limited for the year ending on March 31,2012

Particulars	Amount (₹ in millions)
INCOME:	
Domestic Sales	13156.183
Export Sales	<u>2283.370</u>
Total Sales	15439.553
Other Income	<u>82.637</u>
Total	<u>15522.190</u>
EXPENDITURE	
Material Consumed and Purchase of goods	6922.881
Manufacturing and Other Expenses	5198.698
Interest	265.289
Depreciation	793.258
Other Expenses	461.366
Impairment Loss on Fixed Assets	123.192
Adjustment due to (increase)/decrease in stock of finished goods and work-in-progress	<u>175.843</u>
	<u>13940.527</u>
PROFIT/(LOSS) BEFORE TAXATION	1581.663
Provision for Tax	<u>597.000</u>

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

PROFIT/(LOSS) AFTER TAXATION	<u>984.663</u>
Balance brought forward	<u>499.218</u>
PROFIT/(LOSS) AVAILABLE FOR APPROPRIATION	<u>1483.881</u>
APPROPRIATION	
Dividends:	
Interim	337.468
Final Proposed	433.871
Corporate Dividend Tax	<u>86.776</u>
Total Dividend	858.115
General Reserve	98.466
Balance Carried to the Balance Sheet	527.300
Total	1483.881

Other Information:

- (i) The company had declared total dividend (interim plus final) of 80% for the year 2011-12 on a share with face value of ₹ 10.
- (ii) Net Worth of the company -- ₹ 2887.355 million.
- (iii) Interest on Risk Free Debt – 7.50%.
- (iv) Company's Beta – 1.15.
- (v) Rate of Return on Equity Benchmark Index – 15.50%.

Assuming that the Constant Dividend Growth Model is an appropriate model for determining the value of the company's share, you are required to use the above information and determine the value of the company's share. [4+6=10]

Answer: 10 (a)

To solve this problem, one can use the following approach:-

Time Period	Particulars	₹
0	Purchase 500 shares @ ₹ 60 each share	(30,000.00)
1	Dividend on 500 shares @ ₹ 1.50 per share	750.00
3	Dividend on 500 shares @ ₹ 2 per share + Sale proceeds of 500 shares @ ₹ 75 per share	38500.00

Assuming that Mr. Sinha is earning r rate of effective on his equity shares per year, Then from above we get:

$$- 30,000 + [750/(1+r)] + [38500/(1+r)^2] = 0$$

Solving the above equation for r we get the value of $r = 14.54\%$

Hence, the effective rate of return p.a. = 14.54%.

Answer to MTP_Final_Syllabus 2012_Dec2013_Set 1

Answer: 10 (b)

SUPREME LTD.

Particulars	(₹ in million)
Dividend per share paid during 2011-12 (₹10×80%)	8.00
Profit After Tax	984.663
Net Worth	2887.355
Return on Equity (ROE) (PAT/Net Worth)	34.10%
Total Dividend Paid including the Corporate Dividend tax	858.115
Payout Ratio (Total Payout/PAT)	87.15%
Retention Ratio (1-Payout Ratio)	12.85%
Growth Rate ($g = \text{ROE} \times \text{Retention Ratio}$)	4.38%

Calculation of Cost of Equity Using CAPM:

Risk Free Rate	7.50%
The Company's Beta	1.15
Return on Equity Benchmark	15.50%
Index Using CAPM, the cost of equity is-	16.70%

Using the Constant Growth Dividend Model, the value of the share will be -
= $(₹ 8 \times 1.0438) / (16.70\% - 4.38\%)$ ₹ 67.78.