PAPER – 20: FINANCIAL ANALYSIS & BUSINESS VALUATION

The following table lists the learning objectives and the verbs that appear in the syllabus learning aims and examination questions:

	Learning objectives	Verbs used	Definition
LEVEL C	KNOWLEDGE What you are expected to know	List	Make a list of
		State	Express, fully or clearly, the details/facts
		Define	Give the exact meaning of
	COMPREHENSION What you are expected to understand	Describe	Communicate the key features of
		Distinguish	Highlight the differences between
		Explain	Make clear or intelligible/ state the meaning or purpose of
		Identity	Recognize, establish or select after consideration
		Illustrate	Use an example to describe or explain something
	APPLICATION How you are expected to apply your knowledge	Apply	Put to practical use
		Calculate	Ascertain or reckon mathematically
		Demonstrate	Prove with certainty or exhibit by practical means
		Prepare	Make or get ready for use
		Reconcile	Make or prove consistent/ compatible
		Solve	Find an answer to
		Tabulate	Arrange in a table
	ANALYSIS How you are expected to analyse the detail of what you have learned	Analyse	Examine in detail the structure of
		Categorise	Place into a defined class or division
		Compare and contrast	Show the similarities and/or differences between
		Construct	Build up or compile
		Prioritise	Place in order of priority or sequence for action
		Produce	Create or bring into existence
	SYNTHESIS How you are expected to utilize the information gathered to reach an optimum conclusion by a process of reasoning	Discuss	Examine in detail by argument
		Interpret	Translate into intelligible or familiar terms
		Decide	To solve or conclude
	EVALUATION How you are expected to use your learning to evaluate, make decisions or recommendations	Advise	Counsel, inform or notify
		Evaluate	Appraise or asses the value of
		Recommend	Propose a course of action

Paper – 20: Financial Analysis & Business Valuation

Time Allowed: 3 hours **Full Marks:** 100

This paper contains 4 questions, representing two separate sections as prescribed under syllabus 2012. All questions are compulsory, subject to the specific guidance/ instructions stated against every question. All workings, wherever necessary, must form a part of your answer. Assumptions, if any, should be clearly stated.

Question No. 1. (Answer **all** questions. Each question carries **10 marks**)

1(a). The Balance Sheet of Aadhar Ltd. at the end of 2013-14 and 2014-15 are given below:

(Amount in ₹)

	As at 31.03.2015	As at 31.03.2014
Equity & Liabilities:		
Shareholders' Fund:		
Share capital	**4,50,000**	**3,00,000**
Reserve & surplus:		
Profit & Loss Account	**70,000**	**75,000**
General reserve	**50,000**	**55,000**
Debenture redemption reserve	**9,400**	**5,000**
Non-current Liabilities:		
10% Debentures	**2,00,000**	**1,00,000**
Current liabilities:		
Creditors	**40,000**	**30,000**
Bills payables	**20,000**	**10,000**
Provision for depreciation	**1,10,000**	**60,000**
Total	**9,49,400**	**6,35,000**
Assets:		
Non-current Assets:		
Land	**1,14,000**	**1,14,000**
Buildings	**2,35,000**	**85,000**
Machinery	**2,00,000**	**1,40,000**
Long-term investments	**58,000**	**84,000**
Current assets:		
Stock	**38,000**	**28,000**
Debtors	**60,000**	**50,000**
Bills receivables	**18,400**	**20,000**
Cash & Bank	**2,26,000**	**1,14,000**
Total	**9,49,400**	**6,35,000**

Prepare a Comparative Balance sheet and analyse the financial position of the company. **[5+5]**

Answer:

Comparative Balance Sheet of Aadhar Ltd. as on 31st March, 2015 and 2014

(Amount in ₹)

	As at 31.03.2015	As at 31.03.2014	Absolute Change	Percentage Change
Equity & Liabilities:				
Shareholders' Fund:				
Equity Share Capital	4,50,000	3,00,000	1,50,000	50.00
Reserve & surplus:				
Profit & Loss Account	70,000	75,000	(-) 5,000	(-) 6.67
General reserve	50,000	55,000	(-) 5,000	(-) 9. 09
Debenture redemption reserve	9,400	5,000	4,400	88.00
Non-current Liabilities:				
10% Debentures	2,00,000	1,00,000	1,00,000	100.00
Current liabilities:				
Creditors	40,000	30,000	10,000	33.33
Bills payables	20,000	10,000	10,000	100.00
Provision for depreciation	1,10,000	60,000	50,000	83.33
Total	9,49,400	6,35,000	3,14,400	49.51
Assets:				
Non-current Assets:				
Land	1,14,000	1,14,000	—	—
Buildings	2,35,000	85,000	1,50,000	176.47
Machinery	2,00,000	1,40,000	60,000	42.86
Long-term investments	58,000	84,000	(-) 26,000	(-) 30.95
Current assets:				
Stock	38,000	28,000	10,000	35.71
Debtors	60,000	50,000	10,000	20.00
Bills receivables	18,400	20,000	(-) 1,600	(-) 8.00
Cash & Bank	2,26,000	1,14,000	1,12,000	98.25
Total	9,49,400	6,35,000	3,14,400	49.51

Analysis:

1. Financing policy of the firm: It is noted in the comparative balance sheet that while a net fund of ₹ 2,44,400 (total of absolute change in the figure of Equity Share Capital, Profit & Loss Account, General reserve, Debenture redemption reserve and 10% Debentures) was obtained from long-term sources during 2014-15, net block i.e. net fixed assets of the company was increased by ₹ 1,60,000 (total of absolute change in the figure of Land, Buildings, Machinery less Provision for depreciation). So the addition to the fixed assets was financed by the fund procured from long-term sources. This was a prudent financing decision as fixed assets should always be financed by long-tem funds.
2. Long-term solvency position: The shareholders' equity increased by only ₹ 1,44,400 (total of absolute change in the figure of Equity Share Capital, Profit & Loss Account, General reserve and Debenture redemption reserve i.e. increase in shareholders' equity). On the other hand, long-term debt (10% Debentures) has increased by ₹ 1,00,000. So, the long-term solvency position of the company is improving.
3. Liquidity position: The liquidity position i.e. short-term debt-paying capacity of the company is improved in 2014-15 with the increase in net working capital (total of absolute change in the figure of Stock, Debtors, Bills receivables, Cash & Bank less Creditors and Bills payables). However, the firm was having current assets more than six times of current liabilities in 2014-

15. Further investigation is required to find out whether that was due to inefficient working capital management or due to the very nature of the firm.

4. Profitability positions: The reserves and surplus position deteriorated in 2014-15. Further investigation is required to see whether it was due to fall in profitability or excessive payment of dividend or bonus issue.

1(b). In connection with a proposal to secure additional finance for meeting its expansion as well as the working capital requirements, the following figures have been projected to a bank by a borrower. The figures have been adjusted for borrowal, debt redemption and interest payments.

		1	2	3	4	5	6	7
Current ratio	Borrower	2.0	2.0	2.5	2.2	2.0	2.5	2.0
	Industry's average	1.8	1.8	2.0	2.0	2.5	2.5	2.5
Debt equity ratio	Borrower	1.8	1.8	1.6	1.6	1.5	1.5	1.2
	Industry's average	1.5	1.5	1.8	1.8	1.8	1.6	1.8
Return on investment	Borrower	20	20	18	18	15	15	18
	Industry's average	18	18	20	20	18	18	18

You are required to ascertain the trend (base year = 1) and interpret the result. Kindly indicate how the bank would react to the proposal of financing put forward by the borrower. [6+3+1]

Answer:

Trend statement (base = year 1)

	Current ratio		Debt equity ratio		Return on investment	
Year	Borrower	Industry	Borrower	Industry	Borrower	Industry
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	125	111	89	120	90	111
4	110	111	89	120	90	111
5	100	139	83	120	75	100
6	125	139	83	107	75	100
7	100	139	67	120	90	100

Interpretation:

(i) **Current ratio :** While the projected industry trend is steadily upward (from 100 in base yr. 1 to 111 in years 3-4 and to 139 in years 5-7), it is likely to witness a fluctuating trend in the case of the borrower. In spite of oscillating position, however, the borrower's current ratio is not likely to decrease below 2:1. The borrower is not likely to encounter any major problems in meeting his short-term debt obligations.

(ii) **Debt – equity (D/E) ratio:** The D/E ratio of the borrower is likely to decrease at a steady pace by one-third over the projected 6-year period. In absolute terms also, D/E ratio of 1.5:1 or 1.2:1 is satisfactory. In contrast, the industry's D/E ratio is marked by an upward trend. The long term solvency position of the borrower is stronger vis-à-vis industry. The margin of safety to the bank seems to be adequate.

(iii) **Return on investment (ROI):** As per the projected trend, the industry figures appear to be better. The ROI is the lowest in years 5 and 6 (15%) and is the highest in years 1 and 2 in the case of the borrower. In contrast, it is maximum (20%) for the industry in years 3-4 and 18% in all other years. The only positive feature for the borrower is that while industry trend reflects decline from year 4 onwards, it is upward for the former from year 7.

Thus, as the current ratios of the borrower are satisfactory in spite of decline, it is safe for the bank to lend for working capital requirements of the borrower. In the case of long-term (expansion) requirements, the bank can seek additional data to determine debt-service coverage ratio, (more appropriate measure), as the projected D/E ratios are satisfactory.

Question No. 2. (Answer **any two** questions. Each question carries **15 marks**)

2(a)(i). Ved Ltd. which is considering two financial plans provides you the following informations:

- **Total funds to be raised, ₹ 4,00,000.**
- **Financing Plans: A – 50% Equity and balance 8% Debt.**
  B – 50% Equity and balance 8% Preference shares.
- **Tax rate: 30%**
- **Equity shares of face value ₹ 10 each.**
- **Expected EBIT, ₹ 2,00,000.**

You are required to determine:

(I) Earnings per share (EPS) and Financial break-even point.

(II) Indicate if any of the plans dominate, and compute the EBIT range among the plans for difference. **[(2+1)+2]**

Answer:

(I) Determination of EPS under A and B

Particulars	Plan A	Plan B
EBIT	₹ 2,00,000	₹ 2,00,000
Less: Interest	16,000	-
EBT	1,84,000	2,00,000
Less : Tax @ 35%	55,200	60,000
EAT	1,28,800	1,40,000
Less: Preference Dividend	-	16,000
Earning for Equity – holders	1,28,800	1,24,000
Number of shares	20,000	20,000
EPS	6.44	6.20

Financial BEP for plans, A and B

$$\text{Financial BEP} = \text{Interest} + \frac{\text{Pref.Dividend}}{(1-t)}$$

For Plan A = ₹ 16,000 + 0 = ₹16,000

For Plan B = ₹0 + $\frac{₹16,000}{1-0.30}$ = ₹ 22,857

(II) Calculation of Indifference Point among A and B:

$$\frac{(X-\text{Interest})(1-t)-\text{Pref.Dividend}}{N_1} = \frac{(X-\text{Interest})(1-t)-\text{Pref.Dividend}}{N_2}$$

$$\frac{(X-₹16,000)(1-0.30)-0}{20,000} = \frac{(X-0)(1-0.30)-₹16,000}{20,000}$$

Or, 0.7X – ₹ 11,200 = 0.7X – ₹ 16,000

Or, 0.7X – 0.7X = ₹ 11,200 – ₹ 16,000

Thus, indifference point between plans A and B is indeterminable.

Domination of Plan: Plan A dominates plan B as the financial BEP of plan A is lower.

2(a)(ii). Home Grades Co. is considering building an assembly plant. The decision has been narrowed down to two possibilities. The company desires to choose the best plants at a level of operation of 10,000 gadgets a month. Both plants have an expected life of 10 years and are expected not to have any salvage value at the time of their retirement. The cost of capital is 12%. Assuming a Zero income-tax rate, suggest what would be the durable choice? Cost of 10,000 gadgets per month output level:

	Large Plant ₹	Small Plant ₹
Initial Cost	**30,00,000**	**22,93,500**
Direct Labour:		
First Shift	**15,00,000 (p.a.)**	**7,80,000 (p.a.)**
Second Shift	**—**	**9,00,000 (p.a.)**
Overheads	**2,40,000 (p.a.)**	**2,10,000 (p.a.)**

The present value of an ordinary annuity of ₹ 1 for 10 years, at 12%, is 5.6502. [5]

Answer:

Annual savings of installing large plant

Savings—

	₹
In direct labour (both shift) [₹ 9,00,000 + ₹ 7,80,000 = ₹ 16,80,000 - ₹ 15,00,000]	1,80,000
In overhead cost (₹ 2,40,000 - ₹ 2,10,000)	(-) 30,000
Annual Savings	1,50,000
P.V. of Annual Savings of ₹ 1,50,000 at 12% = ₹ 1,50,000 x 5.6502	8,47,530

Now, the additional outlay for the large plant is:

	₹
Cost of large plant	30,00,000
Less: Cost of small plan	22,93,500
	7,06,500

Since the present value of annual savings amounting to ₹ 8,47,530 against the large plant is more than the additional outlay for the large plant, viz., ₹ 7,06,500, it is advisable to undertake the large plant.

2(a)(iii). From the information given below relating to Bad Past Ltd., calculate Altman's Z-score and comment:

$$\left(\frac{\text{Working capital}}{\text{Total assets}}\right) = 25\%$$

$$\left(\frac{\text{Retained earnings}}{\text{Total assets}}\right) = 30\%$$

$$\left(\frac{\text{Earnings before interest and taxes}}{\text{Total assets}}\right) = 15\%$$

$$\left(\frac{\text{Market value of equity}}{\text{Book value of total debt}}\right) = 150\%$$

$$\left(\frac{\text{Sales}}{\text{Total assets}}\right) = 2 \text{ times}$$

[5]

Answer:

As per Altman's Model (1968) of Corporate Distress Prediction

$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 1.0 X_5$

Here, the five variables are as follows:

X_1 = Working Capital to Total Assets = 25%

X_2 = Retained Earnings to Total Assets = 30%

X_3 = EBIT to Total Assets = 15%

X_4 = Market Value of Equity Shares to Book Value of Total Debt= 150%

X_5 = Sales to Total Assets = 2 times

Hence, Z-score = (1.2 x 0.25) + (1.4 x 0.30) + (3.3 x 0.15) + (0.6 x 1.50) + (1 x 2).

= 0.300 + 0.420 + 0.495 + 0.900 + 2.000 = 4.115

Note:

As the calculated value of Z-score is much higher than 2.99, it can be strongly predicted that the company is a non-bankrupt company (i.e., non-failed company).

2(b). Cash Flow Statement

for the year ended 31st March, 2015

	₹	₹	₹
Cash Flows from Operating Activities :			
Net Profit during the year :			
Net Profit for the year 2014-15	**70,000**		
Less : Net Profit for the year 2013-14	**28,000**		
		42,000	
Add : Non-Operating Expenses:			
Depreciation (₹ 15,000 + ₹ 4,000)	**19,000**		
Loss on Sale of Fixtures	**2,000**		
Discount on Debenture	**1,000**		
Proposed Dividend	**20,000**		
Debenture Interest (15% on ₹ 30,000)	**4,500**		

		46,500	
		88,500	
Less : Non-Operating Income:			
Profit on Sale of Plant		1,000	
		87,500	
Add : Decrease in Current Assets or Increase in Current Liabilities			
Decrease in Current Assets		Nil	
Increase in Current Liabilities:			
Increase in Creditors	14,000		
		14,000	
		1,01,500	
Less: Increase in Current Assets or Decrease in Current Liabilities			
Increase in Current Assets			
Increase in Stock	1,000		
Increase in Debtors	14,000	15,000	
Net Cash Flows from Operating Activities			86,500
Cash Flows from Investing Activities:			
Sale of Plant & Machinery	3,000		
Sale of Fixture & Fittings	1,000	4,000	
Less: Purchase of Plant & Machinery	39,000		
Purchase of Fixture & Fittings	10,000		
Purchase of Freehold Properties	20,000	69,000	
Net Cash Flow from Investing Activities			(-)65,000
Cash Flows from financing Activities :			
Issue of Share		70,000	
Less: Redemption of Debenture (including Premium)	42,000		
Dividend Paid	15,000		
Debenture Interest	4,500	61,500	
Net Cash Flows from Financing Activities			8,500
Net Increase in Cash or Cash Equipment			30,000
Less: Cash and Cash equivalent at the beginning– Bank Overdraft			(-)14,000
Cash or Cash equivalent at the end – Cash at Bank			16,000

Additional information:

- **Total assets as at 31.03.2015 amounting to ₹ 4,21,000.**
- **Equity share capital, Securities Premium Account and Profit & Loss Account as at 31.03.2015 are amounted to ₹ 1,50,000, ₹ 35,000 and ₹ 69,000 respectively.**

From the above calculate the relevant ratios to analyse the cash flow statement and interpret the result. [8+7]

Answer:

$$\text{Rate of Dividend to Operating Cash Flow (OCF)} = \frac{\text{Dividend}}{\text{Operating Cash Flows (OCF)}} \times 100$$

$$= \frac{₹15,000}{₹86,500} \times 100 = 17.34\%$$

$$\text{Rate of Depreciation to Operating Cash Flow} = \frac{\text{Depreciation}}{\text{Operating cash flow}}$$

$$= \frac{₹19,000}{₹86,500} \times 100 = 21.97\%$$

$$\text{Debts Coverage Ratio} = \frac{\text{OCF - Interest - Dividend}}{\text{Debts}}$$

$$= \frac{₹86,500 - ₹4,500 - ₹15,000}{₹30,000}$$

$$= \frac{₹67,000}{₹30,000} = 2.23 \text{ times}$$

$$\text{Interest Coverage Ratio} = \frac{\text{Operating Cash Flows (OCF)}}{\text{Interest Payment}}$$

$$= \frac{₹86,500}{₹4,500} = 19.22 \text{ times}$$

$$\text{Return of Cash to Total Assets} = \frac{\text{Operating Cash Flows}}{\text{Total Assets}} \times 100$$

$$= \frac{₹86,500}{₹4,21,000} \times 100 = 20.55\%$$

$$\text{Dependence of Capital Investment on Internal Fund} = \frac{\text{OCF - Increment in Cash Balance}}{\text{Investing Cash Flow}}$$

$$= \frac{₹86,500 - ₹30,000}{₹65,000} \times 100 = 86.92\%$$

$$\text{Return of Cash on Net Worth} = \frac{\text{Operating Cash Flow - Interest}}{\text{Net Worth}} \times 100$$

$$= \frac{₹86,500 - ₹4,500}{(₹1,50,000 + ₹35,000 + ₹69,000)}$$

$$= \frac{₹82,000}{₹2,54,000} \times 100 = 32.28\%$$

$$\text{Dependence of External Funds for Capital Expenditure Ratio} = \frac{\text{Financing Cash Flow}}{\text{Investing Cash Flow}} \times 100$$

$$= \frac{₹8,500}{₹65,000} \times 100 = 13.08\%$$

Comments and Interpretation

Rate of Dividend to Operating Cash Flow is found to be 17.34% which indicates that percentage of cash generated through operational activities which may be considered as good. But if it is found to be 'good', more cash will be required for paying dividend.

Similarly, Rate of Depreciation of Operating Cash Flow ratio is computed as only 21.97% which reveals percentage of cash used to replace fixed assets. It may be considered as normal.

The debt Coverage Ratio is found to be 2.23 times which is very poor and the same is used to redeem the existing debts by the amount of net cash generated from operation.

Interest Coverage Ratio, on the other hand, is found to be 19.22 times. It means ability of the firm to repay interest and also indicates the proportion of interest of 'cash generated from operation'. This ratio is high which invites obstruction to take the benefit of trading on equity.

Return of cash to total assets ratio is found to be satisfactory, i.e. percentage of OCF to total assets is 20.55% which is considered as good. Similarly, dependence of capital investments on internal funds ratio is taken as 86.92% which reveals that percentage of OCF less increment in cash balance to Investing Cash Flow is 86.92% i.e. 86.92%, of capital expenditure has been founded out of cash to be generated from internal funds.

Return of Cash to Net worth Ratio is found to be 32.28% which may be considered as good, and it indicates that shareholders' fund is efficiently used.

Dependence of External Funds to Capital Expenditure Ratio is found to be 13.08% which reveals that external funds are used only a little portion and the rest is used as Working Capital.

From the discussion made so far, it may be concluded that the overall position to be measured in terms of Cash Flow Statement may be considered as sound. But whether such ratios are satisfactory or not can be measured by making proper comparison with the industry average ratio.

2(c)(i). The following Financial Statement is summarised from the books of Neel Ltd. as at 31st March, 2015:

Equity and Liabilities	₹	Assets	₹
Shareholders' Fund:		**Non-current Assets:**	
Paid-up Capital	**15,00,000**	**Fixed Assets (at cost)**	**25,00,000**
Reserves and Surplus	**6,00,000**	**Current Assets:**	
Non-current Liabilities:		**Stock-in-trade**	**9,10,000**
Long-term borrowings:			
Debentures	**5,00,000**	**Book Debts**	**12,40,000**
Long term Provision:			
Accumulated depreciation on Fixed Assets	**8,50,000**		
Current Liabilities:		**Investment (Short-term)**	**1,60,000**
Bank Overdraft	**12,00,000**	**Cash**	**40,000**
Sundry Creditors	**2,00,000**		
	48,50,000		**48,50,000**

Annual Sales — ₹ 74,40,000. Gross Profit — ₹ 7,44,000.

You are required to calculate the following ratios for the year and comment on the financial position as revealed by these ratios:

A. Debt Equity Ratio,
B. Current Ratio,
C. Proprietary Ratio,
D. G. P. Ratio,
E. Debtors' Turnover Ratio,
F. Stock Turnover Ratio.

Bank Overdraft is payable on demand. **[6+6]**

Answer:

Before making any comment on the ratios, the ratios should be computed first along with their components which are:

1. Long-term Debts

	₹
Debentures	5,00,000
	5,00,000

2. Shareholders' or Proprietor's Fund

	₹
Share Capital	15,00,000
Reserves & Surplus	6,00,000
	21,00,000

3. Current Assets

	₹
Stock	9,10,000
Book Debts	12,40,000
Investment (Short-term)	1,60,000
Cash	40,000
	23,50,000

4. Current Liabilities

	₹
Bank Overdraft	12,00,000
Sundry Creditors	2,00,000
	14,00,000

5. Total Assets

	₹
Fixed Assets (₹ 25,00,000 – ₹ 8,50,000)	16,50,000
Current Assets	23,50,000
	40,00,000

6. Cost of Goods Sold

= Sales – G.P.
= ₹ 74,40,000 – ₹ 7,44,000

= ₹ 66,96,000

Computation of Ratios and Comments on them:

(A) Debt-Equity Ratio

$$\text{Debt - Equity Ratio} = \frac{\text{Long - term Debts}}{\text{Proprietor's Fund}} = \frac{₹5,00,000}{₹21,00,000} = 0.24 : 1$$

This ratio expresses the claims of Long-term Creditors and Debentureholders against the Assets of the company. Since it is very low it is favourable from the standpoint of Long-term Creditors which supplies maximum safety for them, i.e., they are highly secured.

(B) Current Ratio

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{₹23,50,000}{₹14,00,000} = 1.68 : 1$$

Since this ratio is less than the normal Current Ratio of 2 : 1, it reveals that the liquidity position is not at all satisfactory, i.e., the company is able to pay its maturing obligations as soon as it becomes due as only ₹ 1.68 paise of Current Assets are available against each rupee of Current Liability.

(C) Proprietary Ratio

$$\text{Proprietary Ratio} = \frac{\text{Proprietor's Funds}}{\text{Total Assets}} = \frac{₹21,00,000}{₹40,00,000} = 0.53 : 1$$

This ratio indicates that the company is not so dependent on outsiders' fund or external equities as more than 50% is being contributed by the shareholders.

(D) G. P. Ratio

$$\text{G.P. Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{₹7,44,000}{₹74,40,000} \times 100 = 10\%$$

This ratio is very low and, as such, not at all satisfactory since it is less than the normal ratio of 25%. This low ratio indicates that there are unfavourable conditions like increase in cost of production or sales and decrease in management efficiency and so on.

(E) Debtors Turnover Ratio

$$\text{Debtors' Turnover Ratio} = \frac{\text{Debtors}}{\text{Sales}} \times 365 = \frac{₹12,40,000}{₹74,40,000} \times 365 = 61 \text{days}$$

This ratio indicates that the collection policy of the company is faulty since it exceeds its normal level.

(F) Stock-Turnover Ratio

$$\text{Stock - Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{(Average) Stock}} = \frac{₹66,96,000}{₹9,10,000} = 7.36 \text{ times}$$

Since this ratio satisfies the normal ratio of 5 times on an average and, hence, the efficiency of the management is found to be good.

2(c)(ii). State Sustainable Growth Rate and its importance in relation to the growth of a firm. Also state the formula which is to be used in this context. [1+1+1]

Answer:
The sustainable growth rate is the maximum growth rate that a firm can achieve without resorting to external equity finance. This is the growth rate that can be sustained with the help of retained earnings matched with debt financing, in line with the debt-equity policy of the firm.

This is an important growth rate because firms are reluctant to raise external equity finance (even though they may not mind raising debt finance, in line with their debt - equity policy) for the following reasons: (i) The dilution of control, consequent to the external equity issue, may not be acceptable to the existing controlling interest, (ii) There may be a significant degree of underpricing when external equity is raised, (iii) The cost of issue tends to be high.

The sustainable growth rate is calculated the way in which the internal growth rate is calculated, except for one difference: To calculate the sustainable growth rate we have to consider retained earnings plus matching debt, in line with the firm's debt equity (D/E) ratio.

$$\text{Sustainable growth rate} = \frac{\text{Net Profit Margin x Asset turnover}}{\text{1- Net profit margin x Asset turnover}} \times \frac{\text{(1+ Debt - equity ratio) x Plough back ratio}}{\text{(1+ Debt - equity ratio) x Plough back ratio}}$$

Return on equity = Net profit margin x Asset turnover x (1 + Debt-equity ratio)
Thus,

$$\text{Sustainable growth rate} = \frac{\text{Return on equity x Ploughback ratio}}{\text{1- Return on equity x Ploughback ratio}}$$

Question No. 3. (Answer **all** questions. Each question carries **10 marks**)

3 (a). The following information has been extracted from the Annual Report 2014-15 of Hudco Limited:

Balance Sheet of Hudco Limited as at 31st March 2015

Particulars	(₹ in crores) 2015
EQUITY AND LIABILITIES	
Shareholder's Funds	
Share Capital	**8,245.46**
Reserves and Surplus	**65,045.71**
	73,291.17
Non-Current Liabilities	
Long- Term Borrowings	**47,975.23**
Other long term liabilities	**2, 332.76**
	50,307.99
Current Liabilities	
Trade payables	**4,468.07**

Other current Liabilities	12,770.57
Total	17,238.64
	1,40,837.80
ASSETS	
Non-Current Assets	
Fixed Assets:	
Tangible assets	45,046.47
Intangible assets	211.89
Capital work-in-progress	41, 827.82
Intangible assets under Development	0.04
	87,086.22
Non-current investments	9,583.92
Long-term loans and advances	3,883.26
Other non-current assets	1,371.88
	14,839.06
Current Assets:	
Current investments	1,622.46
Inventories	3,702.85
Trade receivables	5,832.51
Cash and bank balance	16,146.11
Short- term loans advances	2,754.73
Other current assets	8,853.86
	38,912.52
Total	1,40,837.80

Statements of Profit and Loss of Hudco Limited for the year ending on 31st March 2015

Particulars	(₹ in crores) 2015
Revenue from operations (Gross)	62,480.88
Less: Excise Duty	428.65
Revenue from operations (Net)	62, 052.23
Other Income	2,778.42
Total Revenue	64,830.65
EXPENSES:	
Fuel	41, 635.46
Employee benefits expense	3, 090.48
Finance Costs	1, 711.64
Depreciation and amortization expense	2,791.70
Administration & other expenses	3,588.79
Total Expenses	52,818.07
Profit/ (Loss) Before Tax	12,012.58
Note: Profit on sale of Non-Current Assets (included in Other Income above) being exceptional items.	313.58

Tax expense is 30% of the profit.

The directors of Tentex Ltd. are considering a takeover of Hudco Ltd. As the consultant of Tentex Ltd., determine the value of a share of Hudco Limited on the basis of the Profit-Earning Capacity (Capitalization) Method by considering the following additional information:

(i) The face value of the share is ₹ 10.

(ii) Profit on sale on Non-current Assets is an exceptional item of the profit and it is expected that in future no such profits are likely to occur.

(iii) In subsequent years, additional expenses on advertisements of ₹ 25 crores and on depreciation of ₹ 50 crores each year are expected to be incurred.

(iv) The Capitalization rate on the similar business is 9.50%.

(v) All other items of the above financial statements are expected to remain same in the future.

[10]

Answer to 3(a):

Profit- Earning Capacity (Capitalization) Method

		₹ in crores
Profit Before Tax excluding exceptional items (12, 012.58 - 313.58)		11,699.00
Less:		
Additional Expenses on Advertisement		25.00
Depreciation		50.00
	Expected Profit before Tax	11,624.00
Less: Tax @30%		3,487.20
	Expected Maintainable Profit	8,136.80
Capitalization Rate		9.50%
	Value of Business	**85,650.53**
Less: Outsiders and external Liabilities		
NON-CURRENT LIABILITIES		
Long-Term Borrowings		47,975.23
Other Long term liabilities		2,332.76
CURRENT LIABILITIES		
Trade payables		4,468.07
Other current liabilities		12,770.57
	Total Outsiders Liabilities	67,546.63
	Value of Equity	**18,103.90**
Share Capital		8,245.46
No. of share (Face Value ₹ 10)		824.546
	Value per Share	**21.96**

3 (b). ABC Ltd. wants to acquire PQR Ltd. The cash flow of ABC Ltd. & the merged entity is given as follows:

Year (₹ in Lakhs)	1	2	3	4	5
ABC Ltd.	**275**	**302.5**	**324.5**	**641**	**357.5**
Merged entity	**440**	**495**	**563.75**	**591.25**	**618.75**

After 5 years, earnings would have witnessed 5% constant growth rate without merger and 6% with merger on account of economies of operation. The cost of capital is 15%. The exchange

ratio agreed upon is 0.6. From the viewpoint of ABC Limited, find out the value of acquisition, make suitable assumptions. [10]

Answer to 3(b):

Assumption:
Total number of shareholding in both companies is taken as 1.
Post merger – Total shareholding = 1+0.6 = 1.6

		ABC Ltd.		Merged Entity	
Year	**PV @15%**	**Cash flow**	**PV of CF**	**Cash Flow**	**PV of CF**
1	0.8696	275	239.14	440	382.62
2	0.7561	302.5	228.72	495	374.27
3	0.6575	324.5	213.36	563.75	370.67
4	0.5718	341	194.98	591.75	338.36
5	0.4972	357.5	177.75	618.75	307.64
6	0.4972	*3753.75	1866.36	**7287.50	3623.35
	Total		**2920.31**		**5396.91**

*Terminal value ABC = $\frac{CF(1+g)}{k_e - g} = \frac{357.5 \times 1.05}{0.15 - 0.05} = 3753.75$

**terminal value Merged Entity = $\frac{CF(1+g)}{k_e - g} = \frac{618.75 \times 1.06}{0.15 - 0.06} = 7287.5$

Value of shareholders of ABC [after merger] = 5396.91/1.6 = ₹33730.6
Value of shareholders of ABC [before merger] = 2920.31/1.0 = ₹2920.31 lacs
Cost of acquisition payable for Merger by ABC Ltd. = (₹3373.06 – ₹2920.31) = ₹452.75 lacs

Question No. 4. (Answer **any two** questions. Each question carries **15 marks**)

4(a)(i). XYZ Ltd Company currently sells for ₹ 32.50 per share. In an attempt to determine if XYZ Ltd is fairly priced, an analyst has assembled the following information.

- **The before-tax required rates of return on XYZ Ltd debt, preferred stock, and common stock are 7.0 percent, 6.8 percent, and 11.0 percent, respectively.**
- **The company's target capital structure is 30 percent debt, 20 percent preferred stock, and 50 percent common stock.**
- **The market value of the company's debt is ₹145 million and its preferred stock is valued at ₹65 million.**
- **XYZ Ltd's FCFF for the year just ended is ₹28 million. FCFF is expected to grow at a constant rate of 4 percent for the foreseeable future.**
- **The tax rate is 35 percent.**
- **XYZ Ltd has 8 million outstanding common shares.**

Compute XYZ Ltd's estimated value per share. Is XYZ Ltd's stock under priced? [5+1]

Answer to 4(a)(i):

The weighted-average cost of capital for XYZ Ltd Company is:
WACC = 0.30(7.0%) (1 - 0.35) + 0.20(6.8%) + 0.50(11.0%) = 8.225%

The firm value is:
Firm value = $FCFF_0$ (1 + g) / (WACC - g)
Firm value = 28(1.04) / (0.08225 - 0.04) = 29.12/0.04225 = ₹689.23 million
The value of equity is the firm value minus the value of debt minus the value of preferred stock: Equity = 689.23 - 145 - 65 = ₹479.23 million. Dividing this by the number of shares gives the estimated value per share of ₹479.23 million/8 million shares = ₹59.90.

The estimated value for the stock is greater than the market price of ₹32.50, so the stock appears to be undervalued.

4(a)(ii). State Slump Sale. Give one examples. [3]

Answer to 4(a)(ii):

Slump sale means transfer of undertaking or unit or division or business activity as a whole for lump sum consideration without values being assigned to individual assets and liabilities. Profits or gains arising from slump sale shall be chargeable as long term capital gain.

Examples: (write any one)

(i) Sterlite Industries and Sterlite Optical: Sterlite which was a diversified company with presence both in non-ferrous metal as well as Telecom cables decided to de-merger both the business into separate companies. The spin off was done in the ratio of 1:1.

(ii) Raymonds Ltd: Raymonds sold of Cement and Steel business to become one again, a purely fabric and garment company. The whole exercise fetched Raymonds ₹1140 crores. This enabled it to reduce high cost debts as well as buyback its own shares. Thus financially as well as in terms of shareholder value it was a correct step.

(iii) GE Shipping: The company has interests in shipping, property development,trading and finance. It was decided to de-merger property development business strategically with effect from 1st April,1999.

(iv) ABB and ABB Alstom Power India Ltd. : As a result of the global de-merger of ABB group and its hiring off power generation business with Alstom of France,ABB India was also de-merged in 1999. The objective was to remain in areas of power distribution and transmission services. The independent profitability of both the companies increased due to greater focus.

4(a)(iii). Sentek Ltd furnishes the following Cash Flows estimate -

Year 1	**₹ 20.00 Lakhs**
Years 2 to 4	**Compounded Growth Rate 6.5%**
Years 5 to 8	**Compounded Growth Rate 9.5%**

Apply 18% Discount Rate and determine the Value of Business. [6]

Answer to 4(a)(iii):

(₹ 000's)

Year	Cash Flows	Discount Factor at 18%	Discounted Cash Flows
1	2,000.00	0.847	16,94.00
2	20,00.00 + 6.5% = 2,130.00	0.718	15,29.34
3	21,30.00 + 6.5% = 2,268.45	0.609	13,81.49
4	22,68.45 + 6.5% = 2,415.90	0.516	12,46.60
5	24,15.90 + 9.5% = 2,645.41	0.437	11,56.04
6	26,45.41 + 9.5% = 2,896.72	0.370	10,71.79
7	28,96.72 + 9.5% = 3,171.91	0.314	9,95.98
8	31,71.91 + 9.5% = 3,473.24	0.266	9,23.88
Total			**99,99.12**

Value of Business is based on discounted value of 8 years Cash Flows (CFAT) is ₹ 99,99.12 Lakhs.

4(b)(i). The following financial data pertaining to ZIZO LTD. an IT company are made available

Year ended 31st March	**2015**	**2014**	**2013**
EBIT (₹)	**696.03**	**325.65**	**155.86**
Non-branded income (₹)	**53.43**	**35.23**	**3.46**
Inflation compound factor @ 8%	**1.000**	**1.087**	**1.181**
Remuneration of capital	**5% of average capital employed**		
Average capital employed(₹)	**1112.00**		
Corporate tax rate	**30%**		
Capitalization factor	**16%**		

You are required to calculate the Brand Value for ZIZO Ltd. [7]

Answer to 4(b)(i):

ZIZO LTD.

Computation of Brand Value

Year ended 31st March	**2015**	**2014**	**2013**
EBIT (₹)	696.03	325.65	155.86
Less: Non-branded income (₹)	53.43	35.23	3.46
Adjusted Profits	642.60	290.42	152.40
Inflation compound factor @ 8%	1.000	1.087	1.181
Present value of profits for the brand	642.60	315.69	179.98
Weight age factor	3	2	1
Weight age profits	1927.8	631.38	179.98
Profits	456.53		
Remuneration of capital (5% of average capital employed)	55.60		
Brand related	400.93		
Corporate tax @ 30%	120.28		
Brand earning	280.65		

Capitalization factor	16%		

Brand Value= (Return/capitalization rate) = (280.65/0.16)= ₹1754.06.

4(b)(ii). A company needs ₹12.75 crores to finance its investments for which ₹2.75 crore is available out of profits. The market price per share at the end of the current financial year is expected to be ₹100. If the discount rate is 10%, determine the present value of a share using the M-M Model. (Outstanding shares=5 lakhs). [8]

Answer to 4(b)(ii):

Given that profits = E = ₹2.75 crore.

Company needs total = I= ₹12.75 crores.

The balance would be raised by issuing new shares (m) at price (P_1 of ₹100)

= 10,00,00,000 /100 = 10,00,000 shares

Original shares (n) = 5,00,000

Total no. of shares after issue (m+n)= 15,00,000 shares

k=10%

According to the MM Model

We have $nP_O = \frac{(m+n)P_1 + nD_1 - mP_1}{1+k}$

Now, mP_1 = Amount raised = Investment – [Earnings – Dividend distributed]

$= I - [E - nD_1]$

Substituting in the above equation, we have

$$nP_O = \frac{(m+n)P_1 + E - I}{1+k}$$

$$\text{Or, } 5,00,000 \times P_o = \frac{15,00,000 \times 100 + 2,75,00,000 - 12,75,00,000}{1+0.10}$$

$$\text{Or, } P_0 = \frac{15,00,00,000 - 10,00,00,000}{1.10 \times 5,00,000}$$

Substituting we get P_o = ₹90.90

4 (c). The following Balance Sheet of Forex Ltd. is given:

Balance Sheet of Forex Ltd. as on 31st March, 2015

Equity and Liability	₹	Assets	₹
(1) Shareholders Fund:		**(1) Non-Current Assets:**	
(a) Share Capital		**(a) Fixed Assets**	
Equity Share Capital of ₹ 10 each	**50,00,000**	**(i) Tangible Assets:**	
(b) Reserve & Surplus		**—Land and Building**	**32,00,000**
P & L Appropriation Account	**21,20,000**	**—Plant and Machinery**	**28,00,000**
		(ii) Intangible Assets:	
(2) Current Liabilities:		**—Goodwill**	**4,00,000**
(a) Short Term Borrowings – Bank O/D	**18,60,000**		

(b) Trade Payables		**(2) Current Assets:**	
— Sundry Creditors	**21,10,000**	**(a) Inventories**	**32,00,000**
(c) Short Term Provision		**(b) Trade Receivables**	
— Provision for Taxation	**5,10,000**	**— Sundry Debtors**	**20,00,000**
Total	**1,16,00,000**	**Total**	**1,16,00,000**

In 1995 when the company commenced operation the paid up capital was same. The Loss/Profit for each of the last 5 years was - years 2010-2011 - Loss (₹ 5,50,000); 2011-2012 ₹ 9,72,000; 2012-2013 ₹ 11,70,000; 2013-2014 ₹ 14,60,000; 2014-2015 ₹ 17,00,000;

Although income-tax has so far been paid @ 40% and the above profits have been arrived at on the basis of such tax rate, it has been decided that with effect from the year 2014-2015 the Income-tax rate of 30% should be taken into consideration. 10% dividend in 2011-2012 and 2012-2013 and 15% dividend in 2013-2014 and 2014-2015 have been paid. Market price of shares of the company on 31st March, 2015 is ₹ 125. With effect from 1st April, 2015 Managing Director's remuneration has been approved by the Government to be ₹ 8,00,000 in place of ₹ 6,00,000. The company has been able to secure a contract for supply of materials at advantageous prices. The advantage has been valued at ₹ 4,00,000 per annum for the next five years.

Ascertain goodwill at 3 year's purchase of super profit (for calculation of future maintainable profit weighted average is to be taken). [15]

Answer to 4 (c):

(1) Future Maintainable Profit

Year	Profit (P) ₹	Weight (W)	Product (PW) ₹
2011-2012	9,72,000	1	9,72,000
2012-2013	11,70,000	2	23,40,000
2013-2014	14,60,000	3	43,80,000
2014-2015	17,00,000	4	68,00,000
		10	1,44,92,000

$$\text{Weighted average annual profit (after tax)} = \frac{\sum PW}{\sum P} = \frac{₹1,44,92,000}{10} = 14,49,200$$

Particulars	₹
Weighted average annual profit before tax $\left(₹14,49,200 \times \frac{100}{60}\right)$	24,15,333
Less: Increase in Managing Director's remuneration	2,00,000
	22,15,333
Add: Saving in cost of materials	4,00,000

	26,15,333
Less: Taxation @ 30%	7,84,600
Future maintainable profit	18,30,734

(ii) Average Capital Employed

Particulars	₹	₹
Assets:		
Land and Buildings		32,00,000
Plant and Machinery		28,00,000
Stock		32,00,000
Sundry Debtors		20,00,000
		1,12,00,000
Less: Outside liabilities:		
Bank overdraft	18,60,000	
Creditors	21,10,000	
Provision for taxation	5,10,000	44,80,000
Capital employed at the end of the year		67,20,000
Add: Dividend @ 15% paid during the year		7,50,000
		74,70,000
Less: Half of the profit (after tax) for the year i.e. ₹ 17,00,000 x ½		8,50,000
		66,20,000

(iii) Normal Profit

Average dividend for the last 4 years = 12.5%
Market price of share = ₹ 125
Normal rate of return = = 10%
Normal profit (10% of ₹ 66,20,000) = ₹ 6,62,000

(iv) Valuation of goodwill

Particulars	₹
Future maintainable profit	18,30,734
Less: Normal profit	6,62,000
Super profit	11,68,734
Goodwill at 3 years' purchase of super profits (₹ 11,68,734 x 3)	35,06,202