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.

CRISIL Limited (December 2010)
Taxes on income

Tax expense comprises current, deferred, and wealth tax. Current income tax and wealth tax is measured at the amount expected to be paid to the tax authorities in accordance with the Indian Income Tax Act of 1961 enacted in India. Deferred income taxes reflects the impact of current year timing differences between taxable income and accounting income for the year and reversal of timing differences of earlier years. Deferred tax is measured based on the tax rates and the tax laws enacted or substantively enacted at the balance sheet date. Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred tax assets and deferred tax liabilities relate to the taxes on income levied by same governing taxation laws.

Deferred tax assets are recognised only to the extent that there is reasonable certainty that sufficient future taxable income will be available against which such deferred tax assets can be realised. In situations where the company has unabsorbed depreciation or carry forward tax losses, all deferred tax assets are recognised only if there is virtual certainty supported by convincing evidence that they can be realised against future taxable profits.

At each balance sheet date, the company re-assesses unrecognised deferred tax assets. It recognises unrecognised deferred tax assets to the extent that it has become reasonably certain that sufficient future taxable income will be available against which such deferred tax assets can be realised.

The carrying amount of Deferred Tax Assets is reviewed at each Balance Sheet date. The company writes down the carrying amount of a Deferred Tax Asset to the extent it is no longer reasonably or virtually certain, as the case may be, that sufficient future taxable income will be available against which Deferred Tax Asset can be realised. Any such write down is reversed to the extent that it becomes reasonably or virtually certain, as the case may be, that sufficient future taxable income will be available.

Income Tax

The tax year of the company being the year ending March 31, 2011, the provision for tax for the year is the aggregate of the provision made for the three months ended March 31, 2010 and the provision for the nine months up to December 31, 2010. The tax provision for nine months has been arrived at using the effective tax rate for the period April 1, 2010 to March 31, 2011, the ultimate tax liability of which will be determined for the period April 1, 2010 to March 31, 2011.

Components of Deferred Tax Assets and Liabilities are: (₹)

Particulars	As on Dec 31, 2010	As on Dec 31, 2009
Deferred Tax Liability		
Depreciation/ Amortisation	(67,477,222)	(29,313,871)
Tax attributable towards tax holiday deduction	(6,500,000)	-
Disallowance under section 40 (a)	-	(728,727)
Total (A)	(73,977,222)	(30,042,598)
Deferred Tax Asset		

Provision for Leave Encashment	**55,498,929**	**44,590,724**
Provision for Gratuity	**15,186,273**	**2,007,830**
Lease Rent amortisation	**32,016,485**	**18,606,511**
Provision for Bonus and Commission	**67,865,625**	**29,096,571**
Provision for bad debts	**14,307,731**	**14,892,808**
Deferment of Rating fees	**8,826,779**	**8,756,658**
Disallowance under section 40 (a)	**2,038,599**	**-**
Total (B)	**195,740,421**	**117,951,102**
Net Deferred tax Asset / (Liabilities) (A – B)	**121,763,199**	**87,908,504**

Read the above paragraphs carefully and answer the following questions —

(a) How effective tax rate is calculated? How it differs from marginal tax rate?
(b) What is a deferred tax asset? In the present case how deferred tax assets/liabilities are arrived?
(c) "At each balance sheet date, the company re-assesses unrecognised deferred tax assets." — Describe how the timing difference helps to re-assess the unorganized deferred tax assets in the instant case.
(d) Although preference dividends are not deductible in calculating taxes but tax benefit is recognised while preference dividends paid to an ESOP. — Justify it.

[4+5+3+3]

Answer:

(a) Income taxes are recorded by matching taxes with the income that draws the tax, so the analyst understands the after-tax consequences of earnings income (or losses). As the income may not be taxed (on the firm's tax return) at the same time as it is reported (in the income statement), this matching leads to deferred tax liabilities and deferred tax assets. The tax allocation produces a revised effective tax rate that applies to the operations as follows:

$$\text{Effective tax rate for operations} = \frac{\text{Tax on operating income}}{\begin{array}{c}\text{Operating income before tax, equity income,}\\ \text{and extraordinary and dirty - surplus items}\end{array}}$$

The average rate at which an individual or corporation is taxed. The effective tax rate for a corporation is the average rate at which its pre-tax profits are taxed. For corporations, the effective tax rate is computed by dividing total tax expenses by the firm's earnings before taxes. The effective tax rate is tax expense divided by income before tax in the income statement and incorporates any tax benefits which the firm generates. This tax rate is reported in footnotes, but it is not to be used for the tax allocation.

The marginal tax rate will increase as income rises. Firms are taxed on a schedule of tax rates, depending on the size of their income. The tax rate used in the calculation is the marginal tax rate, the highest rate at which income is taxed, for interest expense reduces taxes at this rate.

(b) Deferred tax assets can arise due to net loss carryovers, which are only recorded as assets if it is deemed more likely than not that the asset will be used in future fiscal periods. An asset that is used to reduce the amount of tax that a company will have to pay in a later tax period. Deferred tax assets are recognised only to the extent that there is reasonable certainty that sufficient future taxable income will be available against which such deferred tax assets can be realised. In situations where the company has unabsorbed depreciation or carry forward tax losses, all deferred tax assets are recognised only if there is virtual certainty supported by convincing evidence that they can be realised against future taxable profits.

In the case of CRISIL Ltd., deferred tax assets are consist of provision for leave encashment, provision for gratuity, lease rent amortisation, provision for bonus and commission, provision for bad debts and deferment of rating fees. But it excludes the items which are disallowed by section 40(a). on the other hand, deferred tax liabilities are consist of Depreciation/ Amortisation expenses, tax attributable towards tax holiday deduction etc and it also excludes the items which are disallowed by section 40(a).

After deducting the deferred tax liabilities for the deferred tax assets, we can arrive at the net deferred tax assets or vice versa. For CRISIL Ltd. the net deferred tax assets are amounted to ₹8,79,08,504 for 2009 and ₹12,17,63,199 for 2010.

(c) Deferred income taxes reflects the impact of current year timing differences between taxable income and accounting income for the year and reversal of timing differences of earlier years. Deferred tax is measured based on the tax rates and the tax laws enacted or substantively enacted at the balance sheet date. At each balance sheet date, the company re-assesses unrecognised deferred tax assets. It recognises unrecognised deferred tax assets to the extent that it has become reasonably certain that sufficient future taxable income will be available against which such deferred tax assets can be realised.

The carrying amount of Deferred Tax Assets is reviewed at each Balance Sheet date. The company writes down the carrying amount of a Deferred Tax Asset to the extent it is no longer reasonably or virtually certain, as the case may be, that sufficient future taxable income will be available against which Deferred Tax Asset can be realised. Any such write down is reversed to the extent that it becomes reasonably or virtually certain, as the case may be, that sufficient future taxable income will be available.

(d) It is very much common that the firms will get the benefit of tax deduction if they have interest expenses. The one circumstance where this tax calculation is not done is when the firm cannot get the benefit of tax deduction for interest expense because it has losses for tax purposes. In this case the marginal tax rate is zero.

Preference dividends typically are not deductible in calculating taxes, so no benefit arises. An exception is preference dividends paid to an ESOP for which the tax benefit is recognized as a dirty-surplus item and brought into the income statement. In a recent innovation, firms issue preference share through a wholly owned trust from which firms borrow the proceeds of the issue. In the consolidation of the trust into the firm's accounts, the firm gets the tax benefits of interest paid to the trust and recognizes the preference dividends paid by the trust. This effectively gives the firm a tax benefit for the preference dividends paid. In this situation, any firm can gain the tax benefit for the dividend amount of preference shares.

Question 2.

Nature Care India Ltd.

Incorporated in 1974, Nature Care India Ltd. is a nature-based solutions company. The products manufactured by Nature Care India Ltd are broadly categorized into health care, personal care, and foods. The company has a far-reaching penetration into urban as well as rural India. Besides this it has global distribution networks spread across Central, North and

South America, Australia, Asia, Middle East, North and South Africa, and East and West Europe.
From a strategic perspective, 2011-12 can be considered a positive inflexion point in Nature Care's long-term growth path. Having delivered good results in the last four years, even when the industry was undergoing adverse demand conditions, the company has spelt out its intent to entering a new growth trajectory. The new four-year plan aims at continuing the growth momentum across businesses so as to outperform the sector as a whole. Business strategies have been developed in consonance with the growth objectives, focusing on three key elements – expansion, innovation, and acquisition.

In view of this emerging growth potential across the various segments of its products the Board of Directors of Nature Care have decided to invest 150 crore in its different product segments during in the next two years. The investments will be made primarily to spruce up its R&D, supply chain, and IT infrastructure. The extremely high debt-equity ratio is evident from Table A. the extremely comfortable position in terms of coverage of its interest reflected in the excerpts of its income statement in Table B have been the key factors that have convinced the company management to raise the funds through public issue of non-convertible debentures (NCD).

Table A Own funds to borrowed funds

	Mar 2011 (₹ crore)	Mar 2012 (₹ crore)
Net worth	338.07	447.87
Reserves & surplus	309.43	390.54
Total borrowings	48.63	20.57
Secured borrowings	15.70	19.23
Unsecured borrowings	32.93	1.34
Current portion of long-term debt	8.06	00

Table B Excerpts of income statement

Profits/losses	Mar 2011 (₹ crore)	Mar 2012 (₹ crore)
PBDIT	186.72	239.85
Financial charges (incl. Lease rent)	4.65	5.73
PBDT	182.07	234.12
Depreciation	17.10	19.05
PBT	164.97	215.07
Tax provision	17.00	25.78
PAT	147.97	189.29

Appropriation of profits		
Dividends	**81.37**	**114.39**
Retained earnings	**66.6**	**74.90**

On 15th January 2013, the company management announced the public issue of debt to fund their capacity enhancement initiative. The debt offering was given AAA credit rating by CRISIL. The details of the financing plans of the firm are as follows:

Issue 1,50,00,000 non-convertible debentures with fixed interest rates. The issue price of debentures is ₹100, maturity is 9 years, and the rate of interest offered is 10.2%. The debentures have a call option and company can call the debentures anytime after 5 years. During January 2013, the following debt issues were made (Table C):

Table C Debt Issues

Name of the issuer	Rate	Maturity (Years)	Rating by the rating agency	Amount (₹ crore)	Type of instrument
LIC Housing Finance	9.10	10	AAA	265	Bonds
Punjab State Industrial Development Corn.	9.32	10	n.a.	30	Bonds
Rural Electrification Corporation Ltd.	8.85	10	AAA	500	Bonds
Sundaram Finance Ltd.	9.60	5	AA+	100	NCD
Yes Bank Ltd.	9.60	15	A+	75	Bonds
Bank of Rajasthan	9.50	10	A	100	NCD

Key market ratios (%) as on 31st January 2013 were as follows:

Type of Debt Securities	Rate of Interest
Government Securities	
10 Years	7.62
11 Years	7.79
15 Years	8.07
PSU Bonds (AAA) – 5 years	8.79
Treasury Bill	
91 days	6.98
182 days	7.32
364 days	7.39
Bank Rate	6.00

Commercial Paper (PR+1) – 90 days	**9.40**

A research report titled 'FMCG sector in India: Current Status and Future Outlook' released in the December 2012 read as follows:

Although the growth rate of FMCG sector came down to 11.3% in 2012-13 from 13.5% in 2011-12, India's fast moving consumer goods (FMCG) sector still remains the fourth largest sector in the economy with a total market size in excess of US$13.1 billion. The top 15 FMCG companies clocked sales and profit growth of 23% and 12% respectively for the quarter ended September 2012, compared with the corresponding period for the previous year.

The FMCG sector is set on a rapid growth trajectory with the sector projected to grow by over 60% by 2016. This will translate into an annual growth of 10% over a 5 year period.

Hair care, household care, mail grooming, female hygiene, chocolates, and confectioneries are estimated to be the fastest growing segments, says the report. The report estimates that the total size of the FMCG sector will rise from around ₹56,500 crore in 2011 to ₹92,100 crore in 2016.

While the current year is expected to be excellent for rural income growth and increase of rural buying power, urban demand will be the key growth driver over the long-term, says the report. Long-term urban penetration-led growth categories will outperform other categories and urban spend on new category growth will outpace rural spend. This, the report, says will occur due to rising urban incomes, increasing urban population and launch of more affordable products as well as the availability of new categories in urban area.

Answer the following questions —

(a) What is the present value of non-convertible debenture?
(b) What is the possibility to capture the market in the rural areas?
(c) Analyse the financial performance and the financial position of the company.
(d) An analytical approach is required to find out the growth opportunity in FMCG sector.
(e) Is the intention of the company to raise loan funds to emerge the growth potential of its different products is tenable? Justify on the basis of debt-equity ratio.

[3+3+3+3+3]

Answer:

(a) Yearly receipt of interest = ₹10.20

Present value of ₹1 received annually for 9 years @10.2% p.a. is 6.091

Present value of interest payment	(₹10.20 × 6.091)	₹62.13
Present value of principal payment	(₹100 × 0.379)	₹37.90
Present value of non-convertible debenture		₹100.30

(b) Nature Care India Ltd. has a far-reaching penetration into urban as well as rural India. As the Board of Directors of Nature Care have decided to invest ₹150 crores in different segments for the next two years, the investment will be made mainly to the supply chain, IT infrastructure etc. which will be very helpful for the company to expand and capture the market in the rural areas.

Some business costs are higher in rural areas, but for some businesses costs such as rent, rates and parking charges can be lower. Broadband has become an essential business tool. Without it, or with a slow and unreliable connection, rural micro-businesses are at a competitive disadvantage compared to urban businesses. Research should be continued to explore the rural market on the basis of the interdependencies between rural and urban economies and the impact of public, private and voluntary sector support programmes on rural business.

As per the report of Nature Care, the current year is expected to be excellent for rural income growth and increase of rural buying power but urban demand will be the key growth driver over the long-term.

(c) Reserves & Surplus is the undistributed profits. From this some amount can be distributed to the shareholders as dividends when the company makes profit. Reserves & Surplus is equal to the Net Worth of the company or the shareholders' fund or the owners' fund.

As per Table A, the net worth of the company is increased by 32.48% for the 2011-12. As net worth is also known as book value or shareholders' equity a consistent increase in net worth indicates good financial health. Reserve and surplus is also increased by ₹81.11 crores or 26.21% in 2011-12. The total loans and borrowings are divided by two parts, viz secured borrowings and unsecured borrowings. Although the secured borrowings are increased from ₹15.70 crores to ₹19.23 cores, i.e. ₹3.53 crores or 22.48% but the unsecured borrowings are reduced from ₹32.93 crores to ₹1.34 crores, i.e. ₹31.59 crores or 95.93%.

The table B analyse the income statement for 2010-11 and 2011-12. The profit before depreciation, interest and tax (PBDIT) has increased from ₹186.72 crores to ₹239.85 crores in the year 2011-12. The financial charges (which include interest mainly) are also increased from ₹4.65 crores to ₹5.73 crores but the total borrowings are decreased by ₹28.06 crores. This is may be due to lease rent which is included in the financial charges. The amount of depreciation and tax provision are increased by ₹1.95 crores and ₹8.78 crores. The profit after tax (PAT) is increased by ₹41.32 crores in the year 2011-12 showing an overall increase in profit by 27.92% which indicate a growth in financial position of the company. The dividend policy which is followed by the company shows an increment of 5% in 2011-12 over the year 2010-11. The company apportions 55% of its profit to its shareholders as the way of dividend and retained the rest portion for its growth opportunities. But in the year 2011-12, the company allows 60% of its profit to its shareholders as dividend.

(d) The Fast Moving Consumer Goods (FMCG) sector in India is the fourth largest sector in the economy. But it should be noted that the growth rate of FMCG sector has came down to 11.3% in 2012-13 from 13.5% in 2011-12. As the sector has a large market size of US$13.1 billion in India, the top 15 FMCG companies clocked sales and profit growth of 23% and 12% respectively for the quarter ended September 2012, compared with the corresponding period for the previous year.

A research report titled 'FMCG sector in India: Current Status and Future Outlook' released in the December 2012 which says that the Hair care, household care, male grooming, female hygiene, chocolates, and confectioneries are estimated to be the fastest growing segments. The sector has seen the emergence of new product categories and products that seek to fulfill the increasing aspirations of a new generation of Indians, who are turning out to be very demanding consumers. The FMCG sector's sustained growth has been possible due to continuous and steady improvement in consumer incomes. Owing to the huge opportunities in this segment, many retail players are setting up fresh food stores, supermarkets and hypermarkets across cities and smaller towns. The report estimates that the total size of the FMCG sector will rise from around ₹56,500 crore in 2011 to ₹92,100 crore in 2016.

(e) The products manufactured by Nature Care India Ltd are broadly categorized into health care, personal care, and foods. The new four-year plan aims at continuing the growth momentum across businesses. As the Board of Directors of Nature Care have decided to invest ₹150 crore in its different product segments during in the next two years, the company management to raise the funds through public issue of non-convertible debentures (NCD).

As part of the initiative which enhances their capacity, the company management announced the public issue of debt to fund their expansion project. The debt offering was given AAA credit rating by CRISIL. The company issue 1,50,00,000 non-convertible debentures with fixed interest rates. The issue price of debentures is ₹100, maturity is 9 years, and the rate of interest offered is 10.2%. The debentures have a call option and company can call the debentures anytime after 5 years.

If we calculate the debt-equity ratio after making an assumption that the Net Worth is consist of equity share capital, preference share capital and reserve & surplus and the secured borrowings and unsecured borrowings are part of long-term debt, then the ratio will come at 0.12:1 for 2010-11 and 0.05:1 for 2011-12. The firm is very much low geared and it can take the opportunity of borrowed funds.

Notes:

Debt-equity ratio = $\frac{\text{Long} - \text{term debt}}{\text{Shareholders funds}}$

$$= \frac{\text{Secured borrowings} + \text{Unsecured borrowings} - \text{Current portion of long} - \text{term debt}}{\text{Net worth}}$$

$$= \frac{₹(15.70 + 32.93 - 8.06)\text{crores}}{₹338.07\text{crores}} = 0.12 : 1 \text{ (for 2010} - \text{11)}$$

$$= \frac{₹(19.23 + 1.34 - 0.00)\text{crores}}{₹447.87\text{crores}} = 0.05 : 1 \text{ (for 2011} - \text{12)}$$

Question 3.

(a) The annual sales of a company are as follows:

Year	2008-09	2009-10	2010-11	2011-12	2012-13
Sales (₹ in lakhs)	50	65	80	55	75

Find the trend value of each year by using Least Square method and also estimate the sales for the year 2016-17.

(b) How income can be defined from the Accounting point of view?

[7+3]

Answer:

(a) Let the trend equation be S=a+bt. Here 2010-11 is taken as base year. Also the 1 year be 1 unit and here x=5 years.

Year	t	s	$x = \frac{s-65}{5}$	tx	t^2
2008-09	-2	50	-3	6	4
2009-10	-1	65	0	0	1
2010-11	0	80	3	0	0
2011-12	1	55	-2	-2	1
2012-13	2	75	2	4	4

—	$\sum t = 0$	—	$\sum x = 0$	$\sum tx = 8$	$\sum t^2 = 10$

Now, we have $\sum x = ax + b\sum t$

Or, 0 = 5.a + 0.b

And $\sum xt = a\sum t + b\sum t^2$

Or, 8 = a.0 +b.10

∴ a = 0 and b = 0.8t

∴ x = 0.8t or, $x = \frac{s-65}{5}$ = 0.8t

Or, S = 65 + 4t and this is the equation of the trend line.

Now, the calculation will be as under:

For 2008-09, t = -2 or S = 65 + 4(-2) = ₹57 lakhs.

For 2009-10, t = -1 or S = 65 + 4(-1) = ₹61 lakhs.

For 2010-11, t = 0 or S = 65 = ₹65 lakhs

For 2011-12, t = 1 or S = 65 + 4 = ₹69 lakhs

For 2012-13, t = 2 or S = 65 + 4(2) = ₹73 lakhs

For 2016-17, t = [2016-17 (-) 2010-11] = 6.

∴ For 2016-17, S = 65 + 4(6) = ₹89 lakhs.

(b) Generally income refers to the excess of revenue over expense. Income of a concern changes due to changes in revenue or due to changes in expense or due to changes in both. *Income* is the consumption and savings opportunity gained by an entity within a specified timeframe, which is generally expressed in monetary terms.

From the accounting perspective, income is defined as the excess of total revenue earned over expired cost. Here, total revenue includes the revenue earned from operating activities and gains from other incidental activities of the concern. On the other hand, expired cost consists of expenses incurred for generating revenue for the business and losses from other incidental activities of the concern. Therefore, Accounting Concept of Income can be mathematically expressed as follows:

Accounting Income (I) = [Revenue earned from operating activities (R) + Other incidental gains (G)] - [Expenses (E) + Other incidental losses (L)]

i.e., I = (R + G)-(E + L)

Therefore, from the accounting viewpoint, income is the excess of revenue earned from operating activities and gains from other incidental activities of the concern over the expenses incurred for generating revenue and losses from other incidental activities of the concern.

Question 4.

(a) "Financial analysis is the selection, evaluation and interpretation of financial data, along with other pertinent information, to assist in investment and financial decision-making." — specify the sources of financial data and also state the objectives of such analysis towards goal congruence.

(b) Analyse the cash flow statement on the basis of ratio analysis and make the comments on the position and performance of the company.

In the books of Akriti Ltd.
Cash Flow Statement
For the year ended 31st March 2013

Particulars	₹	₹	₹
Cash Flows from operating Profit			
Operating Profit		**2,75,000**	
Add: Non- operating expenses			
Debenture Interest		**20,000**	
		2,95,000	
Less: Increase in Working Capital (Other than cash and Cash equivalent = (₹ 2,75,000 – ₹ 2,19,500)		**55,500**	
		2,39,500	
Less: Income Tax paid		**1,39,500**	
Net Cash Flow from Operating activities			**1,00,000**
Cash Flows from Investing activities			
Purchase of Fixed Assets		**2,95,000**	
Net Cash Flows for Investing Activities			**(-) 2,95,000**
Cash Flows from Financing activities			
Issue of Shares		**85,000**	
Less: Redemption of Debentures	**1,20,000**		
Payment of dividend	**24,000**		
Interest paid	**17,000**		
		1,61,000	
Net Cash Flows from Financing activities			**(-) 76,000**
Net decrease in cash and cash equivalent			**(-) 2,71,000**
Add: Cash and Cash Equivalent at the beginning			**1,95,000**
Cash or cash Equivalent at the end			**(-)76,000**

[3+7]

Answer:

(a) The financial analysis of companies is beneficial for the investors, creditors, and other stakeholders. They can make decisions about companies. Financial analysis may be used internally to evaluate issues like employee performance, operating efficiency, credit policies and extremely to evaluate potential investments and credit-worthiness of borrowers, among other things.

There are various sources from where the analysts can collect financial data needed in financial analysis. The analyst draws the financial data needed in financial analysis from many sources. The primary source is the data provided by the company itself in its annual report and required disclosures. The annual report comprises of balance sheet, income statement, the statement of cash flows as well as footnotes to these statements. These are very important document to analyse the financial statement effectively.

The objective of financial analysis is to assess the performance of a firm in the context of its stated goals and strategy. There are two principal tools of financial analysis: ratio analysis and cash flow analysis. Ratio analysis involves assessing how various line items in a firm's financial statements relate to one another. Cash flow analysis allows the analyst to examine the firm's liquidity, and how the firm is managing its operating, investment, and financing cash flows.

Financial analysis is used in a variety of contexts. Ratio analysis of a company's present and past performance provides the foundation for making forecasts of future performance.

Financial forecasting is useful in company valuation, credit evaluation, financial distress prediction, security analysis, mergers and acquisitions analysis, and corporate financial policy analysis.

(b) Firstly we are to compute the following ratios which relate to the Cash Flow Statement. The related ratios and their interpretations are as follows:

(i) Interest Coverage Ratio = $\frac{\text{Operating Cash Flow}}{\text{Interest Payment}}$

$$= \frac{\text{Operating Cash Flow}}{\text{Interest Payment}}$$

$$= \frac{₹1,00,000}{₹17,000} = 5.88 \text{ or } 6 \text{ times}$$

This ratio highlights the firm's ability to pay interest and indicates the proportion of interest to the generation of cash from operational activities. In short, the debt paying capacity may be considered as satisfactorily.

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

$$= \frac{₹24,000}{₹1,00,000} \times 100$$

$$= 24\%$$

This ratio is found to be 24% which indicates that percentage of cash generation through operational activities is moderate.

(iii) Dependence on Extra Funds for Capital Expenditure Ratio

$$= \frac{\text{Financing Cash Flow}}{\text{Investing Cash Flow}} \times 100$$

$$= \frac{₹(-)76,000}{₹(-)2,95,000} \times 100$$

$$= 25.76\%$$

This ratio is found to be 25.76% which indicates that external funds are used only a little portion.

Besides the above ratios, Debt Coverage Ratio is used to redeem the existing debts by the amount of the amount of net cash generated from the operating activities. The rate of dividend to operating cash flow ratio which is also used indicates the percentage of cash generation through operational activities.

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 that 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) Write down the issues related to the expected return on the plan assets in identifying sustainable earnings.

[7+3]

Answer:

(a) Calculation of Ratios:

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

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

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

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

(5) 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) The main issues in identifying sustainable operating income are:

(i) Restructuring charges, asset impairments, and special charges: These are mostly unusual but firms can have repetitive restructuring charges. Restructuring charges and asset impairments must be handled with care. If a firm writes down inventory, future cost of goods sold will be lower if the inventory is subsequently sold. If a firm writes down property, plant, and equipment, future depreciation will be lower. Lower expenses mean higher future core income; the perceptive analyst recognizes this and adjusts his forecasts accordingly. The accounting based valuation models protect us from paying too much for the earning generated by these write- downs, but the analyst must identify the multiperiod effects in his forecasts to be protected. Merger charges taken to cover the costs of mergers and acquisition also require scrutiny.

(ii) Changes in estimates: Some expenses like bad debts, warranty expenses, depreciation, and accrued expenses are estimates. When estimates for previous years turn out to be incorrect, the correction is made in the current year. Bad debts are usually estimated as a percentage of accounts receivable that is likely to go bad. If it is discovered that the estimate for last year was too high, fewer debtors went bad than expected the correction is made to the current year's bad debt expense. . The effect of these changes in estimates should be classified as unusual, leaving the core expense to reflect current operations.

(iii) Realized gains and losses: Many realized gains and losses (for example, sale of assets) are not detailed in the income statement. But they can be found in the cash flow statement in the reconciliation of cash flow from operations and net income.

Section B – Business Valuation

(Full Marks: 50)

Answer Question no.1 and 2 and any two from the rest in this section.

1. Mr. Khan 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, Khan 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.

Mr. Khan 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. Khan 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. Khan 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 khan has suggested that Export Dotcom might be able to take on debt later once it has stabilized.

Khan 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:

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

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

Exhibit 1: Projected Financials (best case) of Exp[ort Dotcom Pvt. Ltd.
(Figs. In ₹ '000s)

	2002	2003	2004	2005	2006	2007
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
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:

1. (a) Since Export Dotcom Pvt. Ltd. is an unlisted company; Mr. Khan 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%).

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

	Player1	**Player 2**	**Player 3**	**Total MV**
Market capitalization of pure				
Players(MV) Weight of MV Average equity beta (MV weight) (Note – 1) 1.31	527 0.1121	4023.75 0.8560	150 0.0319	4700.75 1.0000
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 x1.4 + 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 Net Fixed Assets	2275 4530	4842.5 11500	35750 16000	55900 20000	59150 21500	67275 22500
2. Change in Fixed Assets Net working capital	4530 10155	6970 14105	4500 45355	4000 97252	1500 154910	1000 221180
3. Change in Net Working Capital Free cash Flow (1-2-3) Terminal value at 7% growth (note – 3 Terminal value at 4% growth PV factor @ 17.95% PV of Free cash Flow Cum PV of free cash flow PV of terminal value at g = 7% (Note – 4 Total PV	10155 -12410 0.8478 -10521 -14889 18 -14871	3950 -6078 0.7188 -4368	31250 0 0.6094 0	51900 0 0.5167 0	0.438 -2	0.3714 2

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	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**

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					

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.

(c) 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

2. Supreme Toy Ltd., a toy manufacturing company, has aggressive plans for expending its market share. To get faster market access the management of the company has decided in favour of takeover. The research wing of Supreme Toy Ltd. has undertaken a detailed study of prospective takeover targets and finally identified Ginger Ltd., a company based in Baroda. Supreme Toy Ltd. has already collected the following relevant information about Ginger Ltd. It is now to assess the value of Ginger's to start negotiation for the takeover.

Balance Sheet of Ginger Ltd. as on 31st March, 2012

(₹ in lakhs)

Liabilities	Amount	Assets	Amount
Share Capital	**80**	**Land**	**4**
Reserves	**6**	**Buildings**	**40**
Term Loan:		**Plant and Machinery**	**100**
IDBI	**100**	**Other Fixed Assets**	**6**
Other	**20**	**Gross fixed assets**	**150**
Current Liabilities	**300**	**Less: Accumulated depreciation**	**64**
			86
		Add: Capital WIP	**16**
		Total Fixed Assets	**102**
		Inventories	**120**
		Receivables	**160**
		Other	**124**
	506		**506**

Capital expenditure of ₹ 86 lakhs will be incurred in 2013 and ₹ 280 lakhs in 2014.

Other information:

(₹ in lakhs)

Particulars	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Net sales	**1,100**	**1,160**	**1,600**	**2,100**	**2,400**	**2,500**
Raw materials cost	**480**	**500**	**660**	**880**	**940**	**960**
Power	**20**	**23**	**32**	**43**	**44**	**48**
Employee related cost	**56**	**61**	**80**	**88**	**100**	**110**
Administrative expenses	**21**	**24**	**32**	**37**	**39**	**41**
Depreciation	**10**	**14**	**41**	**42**	**42.4**	**42.8**

The tax rate for the company is 30%. There is no change on deferred taxes. The stock is currently trading at ₹ 25 per share. The cost of equity is 20%.

Bank finance carries an interest rate of 20%. Based on the information given use the discounted cash flow approach to value Ginger Ltd.

Note: **Additional capital (issued at par) ₹ 260 lakhs**

Term loan ₹ 220 lakhs

[15]

Answer:

(₹ In Lakhs)

Particulars	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Net sales	1100	1160	1600	2100	2400	2500
Less: Expenses – raw mat. Cost	480	500	600	880	940	960
Power	20	23	32	43	44	48
Employer related cost	56	61	80	88	100	110
Administration Expenses	21	24	32	37	39	41
Total Expenses	577	608	804	1048	1123	1159
EBDIT	523	552	796	1052	1277	1341
Depreciation	10	14	41	42	42.4	42.8
EBIT	513	538	755	1010	1234.6	1298.2
NOPLAT (EBIT (1-t)]	359.1	376.6	528.5	707	864.2	908.7
Gross CF	369.1	390.6	569.5	749	906.6	951.5
Gross Investment		86	280			
Free cash flow	369.10	304.60	289.50	749	906.6	951.50

Number of equity share = ₹ 80 + ₹260) / 10 = 34 lakh
Market value of equity 34 x ₹ .25 = ₹ 850 lakhs
Market Value of debt ₹ 100 + ₹20 + ₹ 220 = ₹ 340 Lakhs.
Cost of equity = 20%
Cost of debt = 20% x 0.70 = 14%
WACC = 20% x 850/1190 + 14% x 340 / 1190 = 18.285% (say 18.28%)
Computation of continuing or value

$$CV_6 = \frac{951.5 \times 1.16}{(0.1828 - 0.16)} = ₹\ 48{,}409.65 \text{ lakhs}$$

Value of company = Present value of cash flow + Non – operating assets – debt

$$= \frac{369.10}{(1.1823)} + \frac{304.6}{(1.1828)^2} + \frac{304.6}{(1.1828)^3} + \frac{304.6}{(1.1828)^4} + \frac{304.6}{(1.1828)^5} + \frac{304.6}{(1.1828)^6} - 340$$

= ₹ 19,495 – 340 = ₹19,155.75 lakh.

3. (a) Briefly discuss reasons for the existence of alpha values and whether or not the same alpha values should be expected to exist in a year's time. [4]

(b) Many Pharmaceuticals firms have historically been able to maintain high returns on equity and earn surplus returns. Many have argued that this is due to the protection the patent system offers them against competition. Why would patents lead to higher returns on equity and capital? Assume that a law is passed weakening patent protection against competition. What implications would this law have for the profitability of pharmaceutical firms? In the absence of patent protection, what differential advantages would a pharma firm have over its competitors? [6]

Answer:

(a) Because share prices fluctuate, shares will show temporary positive or negative alpha value most of the time. However, if the CAPM is a valid model, positive alpha values should be eroded by investors by buying the shares, causing a price increase and hence reducing the expected future returns for the investors selling the shares. The same alpha values would not therefore be expected to exist in a year's time.

(b) Patents provide explicit protection against competition, allowing the firms that process them to charge higher prices and earn higher returns. If patent protect ion were weekend, excess returns in the pharmaceutical industry might drop.

If there is no patent protection, pharmaceutical firms will have to compete like all other consumer product firms- with advertising to create brand name – by reducing costs and establishing a cost advantage or buy offering products tailored to market segments that are not being served. Firms with low cost structures and good marketing teams are likely to be winner. There is also the danger of more spurious drugs being marketed.

4. (a) Soft Solution is a small software firm with high growth rate. It has existing assets in which it has capital invested of ₹ 100 lakh. The other information about Soft Solution is as follows:

The after tax operating income on assets in place is ₹ 15 lakh. This return on capital of 15% is expected to be sustained in the future. Cost of capital of Soft Solution is 10%.

At the beginning of each of the next five years Soft Solution is expected to make new investments of ₹ 10 lakh each. These investments are also expected to earn 15% as a return on capital, and the cost of capital is expected to remain 10%.

After the year 5, Soft Solution will continue to make investments, and earnings will grow 5% a year, but the new investments will have a return on capital of only 10%, which is also the cost of capital.

All assets and investments are expected to have infinite lives. The assets in place and the investments made in the first five years will make 15% a year in perpetuity, with no growth.

Based on the information given estimate the value of Soft Solution, How much of this value comes from the EVA and how much from capital invested? [5]

(b) A Company is considering raising ₹ 100 lakh by one of the two alternative methods, viz., 14percent institutional term loan and 13 percent non-convertible debentures. The term loan portion would attract no major incidental cost. The debentures would have to be issued at a discount of 2.5 percent and would involve ₹ 1 lakh as cost of issue.

Advice the Company as to the better option based on the effective cost of capital in each case. Assume tax rate of 35 percent. [5]

Answer:

(a) Soft Solution can be valued using an Economic value added (EVA) approach, as follows:

(₹ in lakhs)

Capital invested in assets in place	100
+ EVA from assets in place {(0.15-0.10)/0.10}×100	50
+ PV of EVA from new investments in year 1 (0.15-0.10)×100	5
+ PV of EVA from new investments in years 2 through 5 $\dfrac{(0.15-0.10)\times 100}{1.1+1.1^2+1.1^3+1.1^4}$	15.85
~~Value of Soft Solutions~~	170.85

The value of existing assets is therefore ₹ 150 lakh and the value of future opportunities is ₹ 20.85 lakh.

(b) **(i)** Cost of 14% Institutional term loan =

$$\frac{14}{100}\times(1-0.35) = 0.091 = 9.1\%$$

(ii) Cost of 13% non-convertible debentures =

$$\frac{13}{96.50}\times(1-0.35) = 0.0876 = 8.76\%$$

Decision: Rising of funds through non-convertible debenture is a better option.

5. (a) Is hostile takeover legally allowed in India? If yes, what are bases of arriving at the public offer price? Are these bases applicable for acquisition of an unlisted target company? [5]

(b) As a 'Financial Analyst' you are analyzing the performance of two companies, a Biotechnology firm and a mobile telephone manufacturer. You have collected the following information about the two companies:

Company	Actual ROE	Beta	ROE of Peer Group	Forecasted ROE
Biotech Firm	**20.5%**	**1.2**	**16%**	**22%**
Mobile Firm	**12.5%**	**1.4**	**10%**	**10.5%**

The risk free rate of return is 7%. Evaluate the performance of each of these companies relative to

(i) The required rate of return
(ii) The return on equity of the peer group
(iii) The forecasted return on equity

What conclusions would you draw about the investment choices made by these firms? [5]

Answer:

(a) Hostile takeover is legalized as per the SEBI (Substantial Acquisition of shares and Takeovers) Regulations. The offer price shall be the highest of:

1) The negotiated price

2) Highest price paid by the acquirer person acting in concern with him for acquisition including by way of allotment in a public or rights issue during the twenty six weeks period prior to the date of the public announcement

3) The average of weekly high and low of the closing prices of the shares of the target company as quoted on the stock exchange where the shares of the company are most frequently traded during the twenty six weeks preceding the date of public announcement.

The SEBI regulation does not apply where the target is an unlisted company. However, this exemption will not be available of by virtue of acquisition or change of control of any unlisted company, the acquirer acquires shares or voting rights or control over a listed company.

(b)

	ROE	**Cost of Equity**	**Peer Group ROE**	**Forecast ROE**
Bio Tech Firm	20.5%	13.6%	16%	22%
Mobile Phone Firm	12.5%	14.7%	10%	10.5%

(i) The Bio Tech firm did better than its required rate of return, whereas the Mobile Telephone firm lagged its required return.

(ii) The Bio Tech firm did better than its peer group, as did the Mobile Telephone firm.

(iii) The Bio Tech firm did less well than the market had expected of it, whereas the Mobile Telephone firm did better.