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.

Torrent Power Limited
Cash Flow Statement
For the year ended 31st March, 2011

Particulars	Year ended 31st March, 2011	Year ended 31st March, 2010
Cash Flow from operating Activities		
Net Profit before tax	1,428.82	1,186.45
Adjustments for:		
Depreciation	392.68	335.35
Excess provision written back	(195.64)	(1.71)
Interest expenses	338.90	314.06
Loss on Sale/Redemption of investments	—	0.01
Loss on sale of fixed assets	8.24	9.83
Profit on sale of fixed assets	(0.21)	(0.35)
Provision for Bad Debt	65.41	6.81
Dividend/ Interest	(73.80)	(42.85)
Operating Profit before Working capital changes	1,964.40	1,807.60
Adjustments for:		
Trade and other receivables	(160.59)	(116.72)
Inventories	(119.40)	23.91
Current Liabilities and Provisions	229.81	109.03
Service Line and Security Deposits	41.87	69.38
Cash generated from operations	1,956.09	1,893.20
Taxes Paid	(248.01)	(227.35)
Net cash Flow from operating Activities	1,708.08	1,665.85
Cash Flow investing Activities		
Purchase of fixed assets including capital work-in-progress	(865.40)	(560.49)
Sales of fixed assets	3.56	2.48
Purchase of investments	(677.45)	(32.24)
Sale of investments	5.05	0.05
Dividend and Interest received	73.86	42.85
Net Cash used in Investing Activities	(1,460.38)	(547.35)
Cash Flow from Financing Activities		
Long term borrowings	100.00	386.90
Short Term borrowings	185.96	—
Repayment of fixed deposits	*	(0.01)
Repayment of borrowings	(414.80)	(446.28
Repayment of APDRP Loan	(2.95)	(1.64)
Service Line Contribution	86.55	55.09

APDRP Grant	**-**	**16.41**
Dividend paid	**(164.49)**	**(109.94)**
Interest paid	**(347.66)**	**(320.15)**
Net Cash used in Financing Activities	**(557.39)**	**(419.62)**
Net (decrease) / increase in cash and cash Equivalents	**(309.69)**	**698.88**
Cash and Cash Equivalents as at beginning of the year	**1,339.37**	**640.49**
Cash and Cash Equivalents as at end of the year	**1,029.68**	**1,339.37**

Notes:

1. **Cash and Cash Equivalents as at end of the year:**

	31st March, 2011	**31st March, 2010**
Cash and bank balances	**926.27**	**1,171.43**
Current Investments (Investments in Mutual Funds)	**103.41**	**167.94**
Total	**1,029.68**	**1,339.37**

2. **The Cash Flow statement has been prepared under the 'Indirect method' set out in Accounting Standard 3 "Cash Flow statement" issued by The Institute of Chartered Accountants of India.**
3. **Interest paid is exclusive of and purchase of Fixed Assets is inclusive of interest capitalized ₹12.98 crores (previous year ₹56.94 crores).**

After reading the above case thoroughly, answer the following questions:

(a) What will be the impact on financing activities if the long term borrowings amounted to ₹120.00 crores instead of ₹100.00 crores in the year 2010-11?

(b) How Free Cash Flow is calculated? In the present case, if it is assumed that the current investments are made out of cash, what will be the free cash flow?

(c) How cash from operation is calculated as per direct method?

(d) Why interest expenses are added back to Net Profit before Tax? In what manner tax benefit can be gained on interest expenses?

(e) Although Torrent Power Ltd. has no non-cash transaction but what will the treatment if it has?

[3+4+3+3+2]

Answer:

(a)

Torrent Power Limited

Cash Flow Statement

For the year ended 31st March, 2011 **(₹ in crores)**

Net cash Flow from operating Activities	**1,708.08**
Net Cash used in Investing Activities	**(1,460.38)**
Cash Flow from Financing Activities	
Long term borrowings	120.00
Short Term borrowings	185.96
Repayment of fixed deposits	*
Repayment of borrowings	(414.80)
Repayment of APDRP Loan	(2.95)
Service Line Contribution	86.55
APDRP Grant	-

Dividend paid	(164.49)
Interest paid	(347.66)
Net Cash used in Financing Activities	**(537.39)**
Net (decrease) / increase in cash and cash Equivalents	**(289.69)**
Cash and Cash Equivalents as at beginning of the year	**1,339.37**
Cash and Cash Equivalents as at end of the year	**1,049.68**

(b) Free cash flow is the difference between cash flow from operations and cash investment in operations. It is the main focus in DCF analysis, liquidity analysis, and financial planning. Free cash flow is the net cash generated by operations, which determines the ability of the firm to pay off its debt and equity claims.

Free cash flow is operating income (in a reformulated income statement) less the change in net operating assets in the balance sheet.

Free cash flow = Operating income – change in net operating assets

There is a second way to calculate free cash flow from reformulated statements. Free cash flow is used to pay for net financial expense, reduce debt, and pay net dividends.

Free cash flow = Net financial expense – Change in net financial obligations + Net dividends

If it is assumed that the current investment is made out of cash, the free cash flow will be calculated as under:
For 2009-10,
Free Cash Flow = ₹ (1,665.85 – 167.94) crores = ₹ 1,497.91 crores
For 2010-11,
Free Cash Flow = ₹ (1,708.08 – 103.41) crores = ₹ 1,604.67 crores

(c) Under this method, the net cash flow from Operating activities is to be calculated directly by deducting the cash outflow from the Operating activities from cash inflows from the operating activities.

Cash Flow Statement of _____ for the period ended _____
(Under Direct Method)

	₹	₹	₹
A. Cash Flows from Operating Activities:			
Cash Receipts from Customers		–	
Less: Cash paid to Suppliers & Employees		–	
Cash paid for other operating activities		–	
Cash Generated from Operation		–	
Less: Income Tax Paid		–	
Cash Flows from Operation before Extraordinary Items		–	–

Add: Proceeds from any Disaster Settlement **Net Cash Flow from Operating Activities**			

(d) Interest expense is an item of financing activity of cash flow statement. Cash interest payments and receipts for financing activities are included in cash flow from operations rather than classified as a financing flow. In Torrent Power Limited's statement they are in cash flow from operations because they are in net income from which the accruals are subtracted. For this reason, interest element is added back to net profit before tax and should be posted in the financing section.

Just as cash from interest income and expense is confused with operating cash flows, so are taxes paid on financing and operating income are also to be separated. All tax cash flows are included in cash from operations, even though some apply to financial income or are reduced by financial expenses. Convert interest payments to an after-tax basis at the marginal tax rate.

Tax benefit on interest payment can be shown as follows:

Interest payments	***
Less: Interest income	***
Net interest payments before tax	***
Less: Tax benefit	***
Net interest payments after tax	***

(e) In a noncash transaction, an asset is acquired or an expense is incurred by the firm by assuming a liability (by writing a note, for example) or by issuing shares. An acquisition of another firm for share is a noncash transaction. Capitalized leases are recorded as assets and liabilities, but there is no cash flow for the purchase. A noncash transaction can involve an asset exchange (one asset for another) or a liability exchange, or a conversion of debt to equity or vice versa.

- Debt that is converted to equity is not indicated as a payment of a loan (in the financing section) in a GAAP statement even though the proceeds from the loan were recorded there in an earlier year when the debt was issued.
- For leases, nothing is recorded at the inception of the lease, but subsequent lease payments are divided between interest and principal repayments and recorded in the operating and financing sections, respectively, in the GAAP statement. The firm appears to be paying off a phantom loan.

Question 2.

Proxy Casting Limited (PCL) had been doing excellent business for the last four years. It share value had increased four times in four years, from ₹25 to ₹100, providing returns much beyond the expectations of shareholders and management. The earnings level had jumped by about 25%. The shareholders had seen about 100% rises over the last year due to enhanced earning and re-rating of the company on the market. The price of the share was hovering around ₹100 in early March 2014 when the market was expecting an earning level of ₹23 crore and an EPS of

₹8.32. The performance of the firm for the last year and the current year, on the verge of completion, is presented in Table A.

Table A Select financial data-Proxy Casting Limited (₹ lakh)

	March 2013	March 2014 Estimated
EBIT	1,850	2,300
Interest	1,000	1,000
EBT	850	1,300
Taxes	306	468
EAT	544	832
Nos. of Shares (lakh)	100.00	100.00
EPS (₹/share)	5.44	8.32
PE Multiple	10.00	12.10
Price (₹/share)	54.40	100.67
Value of Equity (₹ lakh)	5,440	10,067

Buoyed by the excellent returns, the promoters of the firm assumed an aggressive stand, and were on a shopping spree for enhancing business. They were then operating at about 80% capacity utilization, and had an order book that would require production in excess of 100% capacity. They seemed to have no choice but to go for inorganic growth. Ravi Prakash (RP), the Managing Director, and his younger sibling Kavi Prakash (KP), the Dy. Managing Director, who held about 40% of the equity, were negotiating with the neighbouring First Casting Limited (FCL), a closely held company that was almost three-fourth of the size of PCL. The promoters of FCL were demanding ₹100 crore. Both the brothers thought it to be an excellent bargain, and were very keen to acquire the firm in view of promising business opportunities and the scope for enhancing their capacity, something that was needed to fulfill the orders expected in the near future.

The need for acquisition was well established, but the question of funding it was a lingering issue. The firm had always believed in the philosophy of maintaining a reasonable level of debt and equity while funding growth and business operations. KP always believed in an equal proportion of equity and debt. According to him, there could not be a finer or better balance between the two sources of funding. Their philosophy had been to pay earnings in dividend after retaining the funds required for growth, based on a debt-equity ratio of 1:1. There were no administrative or fundamental hurdles from the banks and financial institutions providing the loans. The plan was to retain only half as much money as required for growth and distribute the remaining as dividend, and thus, PCL had no ready cash available that could be used for acquisition. The elder brother was indifferent to financing questions, as he concentrated more on technical, marketing, and operational aspects.

Faced with an inadequate cash balance, mobilizing funds to the extent of ₹100 crore for the acquisition posed a major challenge. They passed on the task of finding the requisite funds, and more importantly the policy for funding, to their long-time associate and trusted Vice President Finance, Kevin Xavier (KX).

After considerable discussion regarding the expected level of earning after the acquisition of FCL, the management was convinced that EBIT would jump to about ₹35 crore from the current level of ₹23 crore. After lot of thought and lengthy deliberations with bankers, KX had three possible alternatives before him for funding the acquisition. These were:

All equity option One option was to fund the entire ₹100 crores by way of equity. This was possible by placing the shares privately with the institutional investors for the required ₹100 crore.

Considering the market capitalization of ₹100 crore for the existing equity, it was indeed a difficult task. However, discussions with some private investors who looked for promising returns and not for management control had assured him that the placing of equity of an amount equivalent to the current market capitalization was possible provided the shares were offered at a discount of a minimum of 5% on the current market price. About 105 lakh additional shares would be needed, at ₹95 per share.

Debt and equity in equal proportions Another alternative was to continue with the existing funding philosophy of PCL: equal amounts of equity and debt. Assuming the same market conditions, KX believed that private investors would have no problems in subscribing ₹50 wore at ₹95 per share. Apart from issuing about 63 lakh additional shares, KX had to mobilize an equivalent amount by way of loans. Given PCL's excellent track record with lenders and its promising future, the existing lenders would gladly provide the required ₹ 50 crore.

All debt option Although this option was not initially in the scheme, KX thought of it when his talks with the banks revealed that they were not averse to accepting a debt-equity ratio of 2:1. As such, the funds could be made available by the existing lenders, or syndicated by them. KX was more than pleased to hear such commendations from his lenders. KX presented an analysis of the three alternatives, as shown in

Table B Comparison of financing schemes (₹ Lakh)

Projected	All equity	Equal	All Debt
Funds required	10,000	10,000	10,000
Fresh equity	10,000	5,000	—
No. of fresh shares (lakh)	105.26	52.63	—
Debt issued	—	5,000	10,000
Interest rate	10%	10%	10%
Additional interest cost	—	500	1,000
EBIT	3,500	3,500	3,500
Interest	1,000	1,500	2,000
EBT	2,500	2,000	1,500
Taxes	900	720	540
EAT	1,600	1,280	960
No. of shares (lakh)	205.26	152.63	100.00
EPS (₹/share)	7.79	8.39	9.60
Expected PE multiple	15.00	12.00	9.00
Expected price (₹/share)	116.92	100.63	86.40
Value of equity (₹ lakh)	24,000	15,360	8,640

Read the above case carefully and answer the following questions:

(a) Analyse the implications of the three financial options.

(b) Find out the financial leverage for the above three plans and comment on it.

(c) If 30% of the total fund requirement is financed by debt, then what will be the EBIT (Earnings before interest and tax), EBT (Earnings before tax) and EPS (Earnings per share)?

[9+3+3]

Answer:

(a) Proxy Casting Limited (PCL) which had been doing excellent business for the last four years, the shareholders of which had seen about 100% rises over the last year due to

enhanced earning and re-rating of the company on the market. PCL were negotiating with the neighbouring First Casting Limited (FCL), a closely held company that was almost three-fourth of the size of PCL. The promoters of FCL were demanding ₹100 crore. PCL thought it to be an excellent bargain, and were very keen to acquire the firm in view of promising business opportunities and the scope for enhancing their capacity, something that was needed to fulfill the orders expected in the near future. The possible three alternatives to raise the required funds are:

All Equity Option: The entire fund requirement of ₹100 crores can be arranged by way of equity after placing the shares privately with the institutional investors. Some private investors looked for promising returns and not for management control. PCL has philosophy to pay earnings in dividend after retaining the funds required for growth, based on a debt-equity ratio of 1:1. In this option, the shares may be offered at a discount of a minimum 5% on the current market price. About 105 lakh additional shares would be needed, at ₹95 per share.

As per Table B, the expected PE multiple will be and it may be higher. The expected price of share is estimated at ₹116.92 which is good enough than other two options. The value of equity would be ₹24,000 lakhs and it is possible as the shareholders had seen about 100% rises over the last year due to enhanced earning and re-rating of the company on the market.

However, any issue of fresh capital to new shareholders mean a dilution in management control. The 40% combined holding of the equity at present by Ravi Prakash (the Deputy Director of PCL) and Kavi Prakash (the Deputy Managing Director) would fall to 20%.

Debt and Equity in Equal Proportion: Going for equity and debt in equal proportions would be an ideal situation. It would capture the virtue of equity in one side, and it is also consistent with the current financing policy of the company. Even though this option also meant the dilution in the controlling stake but that would be reasonable and can be defendable.

If the same market conditions exist, KX (Vice President Finance) believed that private investors would have no problems in subscribing ₹50 wore at ₹95 per share. Apart from issuing about 63 lakh additional shares, the company is required to arrange an equivalent amount by way of loans. Given PCL's excellent track record with lenders and its promising future, the existing lenders would gladly provide the required ₹ 50 crore.

The more concentration can be given on the level of EPS. It would decline from the current level of ₹8.32 to the projected level of ₹7.79 in all equity option. But it would be ₹8.39 in debt-equity equal proportion. The price appreciation is expecting to improve PE multiple.

All Debt Option: The primary advantage of debt financing is that it allows the founders to retain ownership and control of the company. Debt obligations are limited to the loan repayment period, after which the lender has no further claim on the business. Furthermore, a debt that is paid on time can enhance a small business's credit rating and make it easier to obtain various types of financing in the future. Debt financing tends to be less expensive for small businesses over the long term.

In this option the debt-equity ratio would be of 2:1 which of this the banks were not averse to accept the proposal. As such, the funds could be made available by the existing lenders, or syndicated by them.

The controlling stake of equity can be retained if the 100% debt option is followed. The best advantage is the EPS would show a considerable increase from the existing ₹8.32 to ₹9.60. Even though the debt-equity ratio of 2:1 would not be seen favourably by the market, but the loan would stand liquidated over a period of time and there should have no problem in coming back to the desired long-term debt-equity level of 1:1. But the expected PE multiple would be 9.00 and the expected price per share would fall to ₹86.40.

(b) Computation of Financial Leverage: (₹ in lakhs)

	All Equity	Equal Debt & Equity	All Debt
EBIT (Earnings before Interest and Tax)	3,500	3,500	3,500
EBT (Earnings before Tax)	2,500	2,000	1,500
Financial Leverage	1.4	1.75	2.33

Among all the plans above, the financial leverage is highest in the case of all debt option. This results in maximization of earnings per share (₹ 9.60). the degree of financial risk is also the greatest in this case.

(c) Computation of EBIT, EBT & EPS in 30% Debt Financing

	₹ in lakhs
Funds required	10,000
Fresh equity	7,000
No. of fresh shares (lakh)	73.68
Debt issued	3,000
Interest rate	10%
Additional interest cost	300
EBIT	**3,500**
Interest	1,300
EBT	**2,200**
Taxes	792
EAT	1,408
No. of shares (lakh)	173.68
EPS (₹/share)	**8.11**

Question 3.

From the following information of Rajarshi Ltd. for the years that ended on 31st march, 2012 and 31st march, 2013, find out the cost of goods sold for both of the years, prepare a Comparative Income Statement and comment on the financial performance of the company.

	2011-12 (₹)	2012-13 (₹)
Gross sales	**4,80,000**	**5,27,000**

Sales return	**27,000**	**12,000**
Purchases made during the year	**3,25,000**	**3,45,000**
Opening stock	**53,000**	**62,000**
Closing stock	**11,000**	**13,000**
Direct wages paid	**500**	**700**
Administrative expenses	**17,000**	**23,000**
Selling & distribution expenses	**33,000**	**24,000**
Interest paid	**8,000**	**10,000**
Tax paid	**14,000**	**19,000**

[10]

Answer:

Comparative Income Statement of Rajarshi Ltd. for the year ended on 31.03.2012 and 31.03.2013

	31.03.2012 (₹)	31.03.2013 (₹)	Absolute Change (₹)	% Change
Gross Sales	4,80,000	5,27,000	47,000	9.79
Less: Sales Return	27,000	12,000	(15,000)	(55.56)
Net Sales	4,53,000	5,15,000	62,000	13.69
Less: Cost of Goods Sold (Note)	3,67,500	3,94,700	27,200	7.40
Gross Profit	85,500	1,20,300	34,800	40.70
Less: Operating Expenses				
Administrative Expenses	17,000	23,000	6,000	35.29
Selling & Distribution Expenses	33,000	24,000	(9,000)	(27.27)
Operating Profit	35,500	73,300	37,800	106.48
Less: Interest Paid	8,000	10,000	2,000	25%
Net Profit before Tax	27,500	63,300	35,800	130.18
Less: Tax Paid	14,000	19,000	5,000	35.71
Net Profit after Tax	13,500	44,300	30,800	228.15

Note:

Calculation of Cost of Goods Sold:

Cost of Goods Sold = Opening Stock + Purchases + Direct Expenses – Closing Stock

Cost of Goods Sold for the year ended on 31.03.2012 = ₹ (53,000 + 3,25,000 + 500 – 11,000)
= ₹3,67,500.

Cost of Goods Sold for the year ended on 31.03.2013 = ₹ (62,000 + 3,45,000 + 700 – 13,000)
= ₹3,94,700.

Analysis and comment on financial performance of Rajarshi Ltd.

(i) Gross profit for the current year (2012-13) has increased by 40.70% as a result of greater increase in net sales by 13.69% over a lower increase in cost of goods sold by 7.40%.

(ii) Administrative expenses and selling & distribution expenses are part of operating expenses. Although the administrative expenses are increased by 35.29% but the selling & distribution expenses reduced by 27.27%. As a result the operating profit has remarkably increased by 106.48%.

(iii) The increment in operating profit has resulted a more increased Net Profit before Tax by 130.18% although the payment of interest is also gone up by 25%.

(iv) So we can conclude that the overall performance of Rajarshi Ltd. is very impressive and the company is progressing strongly.

Question 4.

(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 — ₹16.34, 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 Capital Employed? What is the significance to find out the ratios related to capital employed?

[6+4]

Answer:

(a) **Income Statement of Zed Ltd.**
For the year ended 31.03.2013 **₹ in lakhs**

Sales		16.34
Less: Cost of Goods Sold		10.25
Gross Margin		6.09
Less: Administrative Expenses	0.46	
Selling and Distribution Expenses	1.47	
Depreciation	1.05	
Interest on debt	1.13	4.11
Profit before Tax		**1.98**
Less: Tax Provision		1.08
Net Profit		**0.90**

Computation of the ratios of Zed Ltd.:

(i) Book value per share $= \frac{\text{Shareholders' Fund}}{\text{No. of Shares}}$

$$= \frac{₹8.15 \text{ lakhs}}{7{,}000} = ₹116.43$$

(ii) Earnings per share $= \frac{\text{Profit after Tax}}{\text{Total Number of Shares}}$

$$= \frac{₹0.90 \text{ lakhs}}{7{,}000} = ₹12.86$$

(iii) Dividend Yield $= \frac{\text{Dividend per Share}}{\text{Market Price per Share}}$

$$= \frac{₹12.86}{₹247} = 5.21\%$$

(iv) Earning Yield $= \frac{\text{Earnings per share}}{\text{Market Price per Share}}$

$$= \frac{₹12.86}{₹247} = 5.21\%$$

(v) Price-earnings Ratio $= \frac{\text{Market Price per Share}}{\text{Earnings per share}}$

$$= \frac{₹247}{₹12.86} = 19.21 \text{ or } 19 \text{ times}$$

(vi) Price-Book Value Ratio $= \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$

$$= \frac{₹247}{₹116.43} = 2.12$$

(b) The amount of capital which is invested or employed in the business in order to maintain the normal activities of an enterprise is called capital employed (i.e. to meet the day –to-day operating expenses). In other words, the total capital introduced by the owner including reserve and surplus, long- term loans, if any, may be called capital Employed.

Capital employed may be classified into the following categories:

A. Gross capital Employed

Under Assets Approach	= Total Fixed Assets + Total Current Assets.
	*Excluding non- trading assets i.e. Investment.
Under Liability Approach	= Owned capital + Loan capital + Long- term Loans + current Liabilities – Fictitious assets – Investments.

B. Net Capital Employed

Under Assets Approach	= Total Fixed Assets (revalued figures) + Total current Assets (market value) – Total current Liabilities.
	Or, Total Fixed Assets + working capital
Liabilities Approach	= Owned capital + Borrowed capital i.e. share capital + reserves and surplus + Long- term debts – preliminary Expenses – Investment – Fictitious Assets.

C. Proprietor's Capital Employed

Under Assets Approach = Total Fixed Assets (market value) + Total current Assets (market value) – External Liabilities.

Under Liabilities approach = Owned capital – Fictitious assets – Investment etc.

Average Capital Employed= $\frac{\text{Opening Capital employed} + \text{closing Capital Employed}}{2}$

Or, capital employed - $\frac{1}{2}$ of Current Year's Profit.

Significance of Capital Employed

Practically, the true test of efficiency is measured by this ratio and that is why it is the most significant ratio among all ratios. It measures overall efficiency of the firm and evaluates the performance of various parts of the firm. The shareholders are interested in this in this ratio since their return on their investment dependent on it. Naturally a high return will satisfy them and, at the same time the same will increase the market value of shares. Performance of the firm can be compared with the other firm by making inter-firm comparison. The outsiders (e.g. creditors, bankers, financial institutions) are also interested in this ratio since they will decide whether they will extend fresh loans or not. Moreover, it helps the management to take future course of action for promotion, extension and development in future, special attention must be given while calculating net profit of the firm, otherwise this ratio will give a misleading result.

Question 5

(a) "There are a number of factors responsible for Corporate Distress/Sickness. These factors may be classified into two parts, namely, internal factors and external factors." — Write down the causes of corporate distress from both the internal and the external perspectives.

(b) Write a short note on Market Related Off-Balance Sheet Items.

[6+4]

Answer:

(a) Distress Analysis refers to the process of analysis of financial crisis/hardship faced by a concern. It analyses various causes responsible for the Financial Distress/ Sickness of a firm, provides effective tools for prediction of distress and advocates remedial measures to get out of financial hardship. The causes within the company responsible for Corporate Distress are the internal factors, while the causes outside the company responsible for Corporate Distress are the external factors.

A. Internal Causes:

1. Planning:

(i) Technical Feasibility: Inadequate technical know-how, locational disadvantage, outdated production process etc.

(ii) Financial Management: Poor resource management and financial planning, faulty costing, liberal dividend policy, inadequate working capital, overtrading, keeping adverse debt-equity ratio.

2. **Implementation:** Cost over-runs resulting from delays in getting licences/ sanctions etc., inadequate mobilization of finance etc.
3. **Production:**
   - **(i) Production Management:** Inadequate product mix, poor quality control, high cost of production, poor inventory management, inadequate maintenance etc.
   - **(ii) Labour Management:** Excessive high wage structure, inefficient handling of labour problems, excessive manpower, poor labour productivity, lack of trained or skilled component personnel.

B. External Causes:

1. **Infrastructural Bottlenecks:** Non-availability or irregular supply of raw materials or other inputs, chronic power shortage, transport bottlenecks etc.
2. **Government Controls and Policies etc.:** Government price controls, fiscal duties, abrupt changes in Government policies affecting costs, price, imports, exports, licencing etc.
3. **Market constraints:** Market saturation, revolutionary technological advances rendering the products obsolete, recession – fall in domestic or export demand.

(b) Market Related Off-Balance Sheet Items:

A. NBFCs (Non Banking Financial Companies) should take into account all market related off-balance sheet items (OTC derivatives and Securities Financing Transactions such as repo / reverse repo/ CBLO etc.) while calculating the risk weighted off-balance sheet credit exposures.

B. The credit risk on market related off-balance sheet items is the cost to an NBFC of replacing the cash flow specified by the contract in the event of counterparty default. This would depend, among other things, upon the maturity of the contract and on the volatility of rates underlying the type of instrument.

C. Market related off-balance sheet items would include:

   I. Interest rate contracts - including single currency interest rate swaps, basis swaps, forward rate agreements, and interest rate futures;

   II. Foreign exchange contracts, including contracts involving gold, - includes cross currency swaps (including cross currency interest rate swaps), forward foreign exchange contracts, currency futures, currency options;

   III. Credit Default Swaps; and

   IV. Any other market related contracts specifically allowed by the Reserve Bank which give rise to credit risk.

D. Exemption from capital requirements is permitted for —

   I. Foreign exchange (except gold) contracts which have an original maturity of 14 calendar days or less; and

   II. Instruments traded on futures and options exchanges which are subject to daily mark-to-market and margin payments.

Section B – Business Valuation

(Full Marks: 50)

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

6. X Ltd is a firm which in order to increase its market share is considering the proposal to acquire Y Ltd, which is considered as a very promising prospect due to its excellent R&D team. If X Ltd acquires Y Ltd, it will be a backward integration for X Ltd, a manufacturer, with R&D firm and is likely to drive significantly the growth rate of X Ltd that has been presently languishing at 11-12%. If the acquisition takes place the cash flows are projected to grow @ 25% per annum post-acquisition for the next five years, after which, cash flow of the combined firm are expected to grow at a rate of 9% per annum, which is the expected growth rate of economy.

The projected post-tax cash flows for X Ltd for the next five years (without acquisition) are as follows:

(₹ in lakhs)

Year	Cash Flow
1	500.00
2	557.50
3	621.61
4	693.10
5	772.80

If the acquisition takes place the expected cash flows (after tax) of the combined firm (X')* are projected as:

(₹ in lakhs)

Year	Cash Flows
1	637.00
2	796.25
3	995.31
4	1244.14
5	1555.18

The acquired rate of return for the firms that have risk-return characteristics similar to X Ltd is 14%. The number of equity shares outstanding in X Ltd are 2,00,000 while those in Y Ltd are 1,00,000. If the acquisition takes place, the exchange ratio is likely to be 0.5 in the combined firm for the shareholders of Y Ltd. What is the expected NPV for X Ltd from acquisition? **[15]**

Answer: **Step 1:**

Since the benefit of acquisition will be availed over an infinite period of time, the period of evaluation has been divided into two phases; abnormal growth phase (year one through five) and the normal growth phase (year five onwards).

Step 2:
Projected after-tax cash flows of the acquiring Firm X have already been given in the problem.

Step 3:
The discount rate has been stated as 14%

Step 4:
The present value of cash flows of the acquiring firm (without acquisition) has been estimated as follows:

$$PV(X)\frac{500.00}{(1.14)^1}+\frac{557.50}{(1.14)^2}+\frac{621.61}{(1.14)^3}+\frac{693.10}{(1.14)^4}+\frac{772.80}{(1.14)^5}+\frac{772.80(1.09)}{0.14-0.09}$$

= 2098.89 + 16847.13
= ₹ 18946.02 lakhs

Step 5:
The post-,merger projected cash flows of the combined firm(X') have already been estimated and given in the problem above

Step 6:
The present value of the cash flows of combined can be estimated as follows:

$$PV(X')\frac{637.00}{(1.14)^1}+\frac{796.25}{(1.14)^2}+\frac{995.31}{(1.14)^3}+\frac{1244.14}{(1.14)^4}+\frac{1558.18}{(1.14)^5}+\frac{1555.18(1.09)}{(0.14-0.09)}$$

=3387.609 + 33902.832
= ₹ 37290.44 lakhs

Step 7:
Ownership position for the shareholders of X Ltd in the combined firm can be estimated as follows:

$$OP=\frac{2,00,000}{[2,00,000+0.5(1,00,000)]}=0.8$$

Step 8:
NPV of the merger proposal from the point of view of X can be computed as follows:
NPV (X) = (37290.44 x 0.8) – 18946.02
= ₹10886.34 lakhs
Thus, the acquisition is likely to create value of ₹ 10886.34 lakh for the acquiring firm.

7. Last year, Mr. Amit was engaged as a consultant to the Expert Electricals and prepared some analysis of its cost-volume –profit-relationships. Among his findings was that the profit volume ratio was 40% at the firm's planned selling price of ₹ 50. The firm expected to sell 8,000 units, at the price of ₹ 50, which would result in an income of ₹96,000. Amit stressed the point in his report to the chief executive of the Company that profits would change at the rate of Re. 0-40 per rupee change in sales. The chief executive called Amit to tell him that the result did not come out as were told to him. The firm earned profits of ₹ 1,26,400 on sales volume of

₹4,53,600. Although variable costs per unit were incurred at expected, the firm had higher fixed costs than expected because of a ₹ 4,000 advertising campaign during the year. The campaign was coupled with an increase in selling price and the chief executive was very pleased with the results. However, Amit is asked to explain why profits did not increase by 40% of the added sales volume of ₹53,600 but rather somewhat more.

You are required to do the following:

(i) Reconstruct the income statement for the year based on the actual results.

(ii) Determine (a) the number of units sold and (b) the selling price per unit.

(iii) Explain to the chief executive why the results were at variance with the planned. **[6+4+5=15]**

Answer:

(i) Income statement contains sales revenue, variable costs, fixed costs and profit (loss).

In the problem, sales and income are known. We are required to determine variable costs and fixed costs. Given the P/V ratio of 40% the expected contribution margin is ₹1,60,000 i.e. (40% x 8,000 x ₹50) and the expected profit is ₹ 96,000. Hence expected fixed costs would be ₹ 64,000 (₹ 1,60,000 – ₹96,000). The actual fixed costs were higher by the amount of advertisement expenditure of ₹ 4,000 I.e. actual fixed costs would be ₹68,000. Since actual income was ₹1,26,400 and fixed costs were ₹68,000, total actual contribution must have been ₹1,94,400 (₹ 1,26,400 + ₹ 68,000). Variable costs, then should be ₹2,59,200 i.e. (₹2,59,200 i.e.(₹4,53,600 – ₹ 1,94,400).

The income statement for the year would be as follow.

Particulars	Amount (₹)
Sales	4,53,600
Less: Variable costs	2,59,200
Contribution	1,94,400
Less: Fixed costs	68,000
Net Income	1,26,400

(ii) **(a)** Since variable costs per unit were as expected, variable costs per unit were (60% x ₹50)i.e. ₹ 30. Total actual variable costs were ₹2, 59,200. Units sold were (₹2,59,200)/ ₹30 = 8,640.

(b) Sales price per unit = Total sales revenue/ No. of units sold = ₹4,53,600/8,640 = ₹52.50

(iii) Mr. Amit's answer to the chief executive should highlight the changes in the selling price and fixed costs. In the cost-volume-profit-relationship, assumptions are critical. If the vary, the planned and actual results are bound to differ. Here, selling price has gone up causing higher P/V ratio (variable cost per unit remains constant) and hence, more profit rate than re. 0.40 per rupee of additional sales, revised P/V ratio is 42.86% (9/21 per rupee of sales). Furthermore additional fixed

casts have been incurred. These two factors distorted the cost-volume profit relationship stipulated by Mr. Amit.

8. SDN Corporation acquired Swat's Ltd. business on 31-3-2010 for ₹5,000 lakhs. The details of acquisition are as under:-

Fair value of identifiable asset	4,000 lakhs
Goodwill (to be amortised in 5 years)	1,000 lakhs

The anticipated useful life of acquired assets is 8 years. SDN Corporation uses straight-line method of depreciation with no residual values is anticipated. On 31-3-2012 SDN Corporation estimated the significant decline in production due to changed Government policies, the net selling price of identifiable asset is not determinable. The cash flow forecast based on recent financial budget for next 6 years after considering changed Govt. policies are as follows, incremental financing cost is 10% which represent current market assessment of the time value of money.

(₹ in lakhs)

Year	Cash Flow
2013	700
2014	700
2015	700
2016	500
2017	500
2018	500

Acquired business is a cash-generating unit required:-

(a) Value in use
(b) Impairment loss
(c) Revised carrying amount assets on 31-3-2012 **[4+3+3=10]**

Answer:

Calculation of value in use

(₹ in lakhs)

Year	Future cash flows	P.V. factor @ 10%	Discount cash flows
2013	700	0.909	636.3
2014	700	0.826	578.2
2015	700	0.751	525.7
2016	500	0.683	341.5
2017	500	0.621	310.5
2018	500	0.564	282.0
			2,674.20

Rounded off to ₹ 2,674 lakhs

Calculation of impairment loss

Particulars	Goodwill	Identifiable Asset	Total
Acquisition cost on 31-3-2010	1000	4000	
Depreciation/amortization for 2 years	400	1000	
Carrying amount	600	3000	3600
Recoverable amount (value in use as net selling price is not available)			2674
Impairment loss			926
Allocation of impairment loss	600	326	
Carrying amount after Impairment loss	Nil	2674	2674

9.

(a) Discuss the major aspects, assumptions and decision rules of the discounted cash flow model.

(b) Why are sector specific multiples used by analysts? **[5+5=10]**

Answer:

(a) Major aspects of DCF:

1. It weights the time value of money explicitly while evaluating the costs and benefit of a project
2. Focus is on relevant cash inflows and outflows and outflows during the entire life of the project as against income as computed in the accrual accounting sense.

Two main Variations of DCF

1. **NPV**
2. **IRR**

Assumptions of DCF Model

1. Assumed a world of certainty
2. The original amount of investment can be looked upon as being either borrowed or loaned at some specified rate of return

Decision rules of DCF Model

1. If NPV is greater than 0, accept the project. If NPV is <0, reject. If NPV = 0, the project may be accepted specially when non- financial considerations are strong enough
2. Rank the projects according to their NPVs and select the project at or above the cut off rate of return
3. Select the project if IRR> cost of capital

(b) There are several reasons why analysts use sector specific multiples:

1. Sector specific multiples link firm value to operating details and output. For analysts who begin with these forecasts, - e.g., predicted number of subscribers for an internet service provider – are provided a much more intuitive way estimating value.

2. Sector specific multiples can often be computed with no reference to accounting statements or measures. Consequently, they can be estimated for firms where accounting statements are non-existent, unreliable or just not comparable.
3. Though this is hardly admitted, sector specific multiples are sometimes employed in desperation because none of the other multiples can be estimated or used. For instance, an impetus for the use of sector specific multiples for new economy firms was that they often had negative earnings and little in terms of book value or revenues, in order to work out any projections.

10. X Ltd gives the following information about production and sales:

Month	Production Units	Cost ₹	Sales Units
July '12	10,000	25,000	8,000
August '12	15,000	38,500	12,500
September '12	27,000	66,200	24,500

Costs include raw material, wages and direct expenses. Variable production overhead was 20% of prime cost (Pre-determined rate) and monthly fixed overhead was ₹ 14,000.

Find out the value of inventory assuming that either there is no under-or-over – recovery or any under-or-over-recovery is transferred to profit and loss account directly. **[10]**

Answer:

Computation of cost per unit

Particulars	July 12	Aug 12	Sept.12
a. Prime cost	25,000	38,500	66,200
b. Add: variable overhead (20% of prime cost	5,000	7,700	13,240
c. Total variable cost	30,000	46,200	79,440
d. Add: Fixed cost	14,000	14,000	14,000
e. Total cost	44,000	60,000	93,440
f. No. of units	10,000	15,000	27,000
g. Cost per unit (e/f)	4,400	4.013	3.461

Valuation of inventory

Assuming that the inventory are ordinarily interchangeable, the following two methods are recognised as per revised AS – 2 on "Valuation of inventories"

a. First In First Out (FIFO) method
b. Weighted Average Cost (WAC) method

a. FIFO method

As per this method, the entire closing inventory would relate to production of September 2012.

Closing inventory (units) = All production – All sales = (10,000 + 15,000 + 27,000) – (8,000 + 12,500 + 24,500) = 7,000 units
Hence value of closing inventory = 7000 x ₹3.461 = ₹24,227.

b. WAC method ₹

Particulars	Receipts			Issues			Balance		
	Units	Rate	Amount	Units	Rate	Amount	Units	Rate	Amount
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
					Previous (i)	(e) x (f)	Previous (h) + (b) - (e)	(j) ÷ (h)	previous (j) +(d) – (g)
July Production	10,000	4.400	44,000				10,000	4.400	44,000
July sales				8,000	4.400	35,200	2,000	4.400	8,800
August Production	15,000	4.013	60,200				17,000	4.059	69,000
August sales				12,500	4.059	50,738	4,500	4.059	18,262
September Production	27,000	3.461	93,440				31,500	3.546	1,11,702
September sales				24,500	3.546	86,877	7,000	3.546	24,825

As per revised AS – 2, both fixed and variable overheads that are incurred in converting materials into finished goods are to be allocated.
The value of inventory at the end of September 2012 is as follows.

(i) Under FIFO method : ₹24,227
(ii) Under weighted average cost method : ₹ 24,825