## Paper – 20: Financial Analysis & Business Valuation

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

**Working Notes should form part of the answer.**

**"Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates."**

## Section A

**(Answer Question No. 1 and Question No. 2 which are compulsory and any two from the rest in this section)**

**Q. 1. From the following Balance Sheet (extract) and Income Statement (extract) of X Ltd. evaluate its financial position and performance with reference to the standard value of ratio.**

**Balance Sheet (Extract)**
**As at 31.3.14**

| Liabilities | ₹ | Assets | ₹ |
|---|---|---|---|
| Equity Share of ₹ 10 each | 10,00,000 | Fixed Assets | 32,50,000 |
| Reserve | 22,50,000 | Inventory | 20,00,000 |
| Long term Debt | 12,50,000 | Receivable | 15,00,000 |
| Bank O/D | 15,00,000 | Cash | 5,00,000 |
| Creditors | 10,00,000 | Prepaid expenses | 2,50,000 |
| Provision | 5,00,000 | | |
| | 75,00,000 | | 75,00,000 |

**Income Statement (Extract)**
**For the year ended 31.3.14**

| | | ₹ |
|---|---|---|
| | Sales | 95,00,000 |
| Less | Cost of goods sold | 72,00,000 |
| | Gross Profit | 23,00,000 |
| Less | Operating expenses | 7,90,000 |
| | Earnings before interest & tax (EBIT) | 15,10,000 |
| Less | Interest | 5,00,000 |
| | Earnings before tax (EBT) | 10,10,000 |
| Less | Tax | 5,00,000 |
| | Net Profit | 5,10,000 |
| Less | Dividend | 1,80,000 |
| | Retained Profit | 3,30,000 |

**Standard values of the ratios are as follows:**

| | Standard Ratio |
|---|---|
| 1. Current Ratio | 1.5 |
| 2. Liquid Ratio | 0.8 |
| 3. Debt-equity Ratio | 1.5 |
| 4. Interest Coverage | 3.6 times |
| 5. Inventory turnover | 4 times |
| 6. Debt Collection period | 60 days |
| 7. Total Asset Turnover | 1 time |
| 8. Net margin on sales | 6% |
| 9. Return on Investment | 10% |
| 10. Return on Equity | 12% |

**Answer the following questions:**

**(a) Calculate the ratios which are relevant for the analysis of liquidity, profitability. Also calculate the Debt-equity ratio as a part of Capital Structure ratio and Interest coverage ratio as a part of Coverage ratio.**

**(b) Analyse and comment of the position of the company as compared to the standard on the basis of those ratios which are calculated in point (a).**

**[10+5]**

**Answer:**

**(a) Evaluation of Financial Position and Performance of X Ltd.**

| Ratio | Formula Used | Value of ratio of X Ltd. | Standard Value of Ratio | Remarks |
|---|---|---|---|---|
| | | | | |
| **(A) Liquid Radio** | | | | |
| (i) Current Ratio | $\frac{\text{Current Assets(CA)}}{\text{Current Liabilitie s(CL)}}$ | $\frac{42.5}{30.0}=1.42$ | 1.5 | Below Standard |
| (ii) Acid test Ratio | $\frac{\text{CA-(Inventory+prepaid expenses)}}{\text{CL-BankO/D}}$ | $\frac{20}{15}=1.33$ | 0.80 | Above Standard |
| (iii) Inventory Turnover Ratio | $\frac{\text{Cost of goods sold}}{\text{Closing Inventory}}$ | $\frac{7.2}{2.0}=3.6$ | 4 times | Below Standard |
| (iv) Average Collection Period | $\frac{\text{Receivables}}{\text{Sales}}\times 365$ | $\frac{\text{Receivables}}{\text{Sales}}\times 365$ = 58 days | 60 days | Near to Standard |
| **(B) Profitability Ratios** | | | | |

| | | | | |
|---|---|---|---|---|
| (i) Return on Investment | $\frac{\text{Earnings after tax + Interest}}{\text{Total Assets- Current Liabilitie s}}$ | $\frac{10.10}{45.00}\times 100$ = 22.4% | 10% | Above Standard |
| (ii) Return on Equity | $\frac{\text{Net Profit}}{\text{Shareholders Fund}}$ | $\frac{5.1}{32.5}\times 100$ = 15.69% | 12% | Above Standard |
| (iii) Net margin on Sales | $\frac{\text{Net Profit after tax}}{\text{Sales}}\times 100$ | $\frac{5.10}{95.00}\times 100 = 5.37$ | 6% | Below Standard |
| (iv) Total Assets Turnover | $\frac{\text{Sales}}{\text{Total Assets}}$ | $\frac{95}{75} = 1.27$ times | 1 time | Above Standard |
| **(C) Capital Structure Ratio** | | | | |
| (i) Debt-Equity Ratio | $\frac{\text{Total debt}}{\text{Shareholders Fund}}$ | $\frac{42.5}{32.5} = 1.31$ | 1.5 | Below Standard |
| **(D) Coverage Ratio** | | | | |
| (i) Interest Coverage | $\frac{\text{EBIT}}{\text{Interest}}$ | $\frac{15.1}{5} = 3.02$ times | 3.6 times | Below Standard |

**(b) Analyse and comment:**

(1) Liquidity Position: The liquidity position, i.e. short term debt paying capacity of X Ltd. appears to be satisfactory as its current ratio is almost near to standard and acid test ratio is far above the standard. The average collection period is also shorter than the standard period thus further improving the liquidity of the firm. The inventory turnover ratio of X Ltd. is little-bit lower than the standard, it indicates that average inventory holding period is relatively lengthier. Inventory holding period should be kept minimum for better liquidity. However, the matter is not serious enough for X Ltd. as other criteria of liquidity test are well-fulfilled by it.

(2) Profitability Position: The overall profitability of the firm is highly satisfactory as is evident from its ROI which is more than two times than the standard. The return on equity of X Ltd. is also higher than the standard. But its net margin on sales is little-bit poorer than standard. This is, however, unlikely to pose any threat as its volume of sales with respect to assets is much higher than the standard.

(3) Long term Solvency: The long term solvency position of the firm appears to be satisfactory as is indicated by its Debt/Equity ratio. It is being noted that for each rupee

of ownership fund while a firm can afford to have debt of ₹ 1.5 as per industry norm. X Ltd. has only ₹ 1.31 debt. So dependence on debt Capital is lower.

(4) Interest Payment Capacity: Interest payment capacity of X Ltd. is to some extent poorer than industry standard. However, this is not likely to pose any problem as the profitability and long term solvency position of the firm are much sounder.

Conclusion: The overall performance and financial position of X Ltd. appears to be quite satisfactory. However our analysis and interpretation are subject to following limitations:

(i) We do not know how the standard ratios have been computed. If the formulas used in computing standard ratios differ from those of ours, the above interpretation may not hold good.
(ii) We are unable to consider several other important ratios, e.g. proprietary ratio, operating ratio, Dividend payout ratio due to either non-availability of data or respective standard ratios.

**Q. 2. From the summarised balance sheets of Sunrise Ltd. as at 31st March 2013 and 31st March 2014 respectively, prepare a cash flow statement and comment on the financial position based on cash flow information.**

**Balance Sheets (Extract) as at 31.03.13 & 31.03.14**

| Liabilities | 31.03.13 ₹ | 31.03.14 ₹ | Assets | 31.03.13 ₹ | 31.03.14 ₹ |
|---|---|---|---|---|---|
| Equity Share Capital | 75,000 | 1,20,000 | Fixed Assets at cost | 2,40,070 | 2,53,730 |
| 8% Redeemable | | | Less: Dep. | 90,020 | 98,480 |
| Preference Share Capital | 1,00,000 | 80,000 | | 1,50,050 | 1,55,250 |
| Reserve for replacement | | | Investments | 61,000 | 76,000 |
| of Machinery | 15,000 | 10,000 | Stock | 98,000 | 1,04,000 |
| Long term Loans | - | 40,000 | Trade Debtors | 88,000 | 85,000 |
| Bank overdraft | 22,000 | - | Bank | 11,750 | 32,000 |
| Trade Creditors | 84,450 | 75,550 | | | |
| Proposed dividends on | | | | | |
| equity Shares | 12,000 | 24,000 | | | |
| Profit & Loss A/c | 1,00,350 | 1,02,700 | | | |
| | 4,08,800 | 4,52,250 | | 4,08,800 | 4,52,250 |

**Additional Information:**

**(1) During the year, additional equity shares were issued to the extent of ₹ 25,000 by way of bonus shares fully paid up.**
**(2) Final dividend on preference shares and an interim dividend of ₹ 4,000 on equity shares were paid 31st March 2014.**
**(3) Proposed dividends for the year ended 31st March 2013 were paid in October 2013.**
**(4) Movement in Reserve for re-placement of machinery account represents transfer to profit and loss Account.**
**(5) During the year, one item of Plant was up valued by ₹ 3,000 and credit for this was taken in the Profit & Loss Account.**
**(6) ₹1,700 being expenditure on fixed assets for the year ended 31st March 2013 wrongly debited to Sundry Debtors then, was corrected in the next year.**
**(7) Fixed assets costing ₹ 6,000 (accumulated depreciation ₹ 4,800) were sold for ₹ 250. Loss**

**arising therefrom was written off.**

**(8) Preference shares redeemed in the year (June 13) were out of a fresh issue of equity shares. Premium paid on redemption was 10%.**

**Answer the following questions:**

**(a) Prepare cash flow statement for the year ended 31.03.14. also show the necessary workings.**

**(b) Analyse and interpret the cash flow statement on the basis of the relevant ratios and comment on them.**

**[8+7]**

**Answer:**

**(a)**

**Sunrise Ltd.**
**Cash Flow Statement for the year ended 31.03.2014**

| | | (₹ in lakhs) | |
|---|---|---|---|
| | ₹ | ₹ | ₹ |
| **1. Cash flows from Operating Activities:** | | | |
| Operating profit | | 71,560 | |
| Add : Decrease in Sundry debtors | | 1,300 | |
| [(88,000-1700)- 85,000)] | | 72,860 | |
| Less : Increase in Stock | 6,000 | | |
| Decrease in Trade Creditors | 8,900 | | |
| | | 14,900 | |
| Net Cash from Operating Activates | | | 57,960 |
| **2. Cash flows from Investing Activities :** | | | |
| Sale of fixed assets | | 250 | |
| Less : Purchase of fixed assets | 14,960 | | |
| Purchase of investment | 15,000 | 29,960 | |
| Net cash used in Investing Activities | | | (-) 29,710 |
| **3. Cash flows from Financing Activities** | | | |
| Proceeds from issue of equity share | 20,000 | | |
| Proceed from long term borrowing | 40,000 | | |
| | | 60,000 | |
| Less : Redemption of Preference shares — | 22,000 | | |
| — (including Premium) | | | |
| Dividend on equity shares for 2012- 13 | 12,000 | | |
| Interim dividend on equity shares for 2013-14 | 4,000 | | |
| Final dividend on Preference Share | 8,000 | 46,000 | |
| **Net cash from Financing Activities** | | | 14,000 |
| Increase in cash and cash equivalent over the year | | | 42,250 |
| Add: cash and cash equivalent at the beginning of the year (11,750 – 22,000) | | | (-) 10,250 |
| Cash and cash equivalent at the end of the year | | | 32,000 |

**Working notes:**

**Dr. Fixed Assets A/c Cr.**

| | ₹ | | ₹ |
|---|---|---|---|
| To Balance b/d | 2,40,070 | By Bank—Sale proceeds | 250 |

| | | | |
|---|---|---|---|
| " Adjusted P & L A/c | 3,000 | " Depreciation Provision | 4,800 |
| —revaluation | | " Adjusted P & L A/c | 950 |
| " Trade debtors—Rectification | 1,700 | —loss on disposal | |
| " Bank—Purchase (Balancing figure) | 14,960 | By Balance c/d | 2,53,730 |
| | 2,59,730 | | 2,59,730 |

**Dr. Depreciation Provision A/c Cr.**

| | ₹ | | ₹ |
|---|---|---|---|
| To Fixed Assets | 4,800 | By Balance b/d | 90,020 |
| Balance c/d | 98,480 | " Adjusted P & L A/c | 13,260 |
| | | —Current Depn. (Bal. figure) | |
| | 1,03,280 | | 1,03,280 |

**Dr. Equity Share Capital A/c Cr.**

| | ₹ | | ₹ |
|---|---|---|---|
| To Balance c/d | 1,20,000 | By Balance b/d | 75.000 |
| | | " Adjusted P&L A/c | 25,000 |
| | | " Bank A/c—Fresh issue | 20,000 |
| | 120,000 | | 1,20,000 |

**Dr. Adjusted Profit & Loss A/c Cr.**

| | ₹ | | ₹ |
|---|---|---|---|
| To Depreciation Provision | 13,260 | By Balance b/d | 1,00,350 |
| " Fixed Assets | 950 | " Fixed Assets | 3,000 |
| —loss on sale | | —Revaluation profit | |
| " Equity Share Capital | | By Reserve for replacement of | |
| —Bonus issue | 25,000 | Machinery | 5,000 |
| " Premium on redemption | 2,000 | " Operating Profit (Bal. figure) | 71,560 |
| " Interim dividend on Equity shares | 4,000 | | |
| " Proposed dividend on | | | |
| Equity shares | 24,000 | | |
| " Dividend on Preference Shares | 8,000 | | |
| To Balance c/d | 1,02,700 | | |
| | 1,79,910 | | 1,79,910 |

**Note :**

1. As per AS-3, interest paid on long term loan should be considered in Financing Activities. But the amount of this interest is not given in the problem. So, it is assumed that the loan was taken on the last date of the accounting year and no interest was paid or accrued during the year.

2. While finding out the difference in debtors balance over the year, the balance of debtors as on 31st march 2013 has been rectified for error of last year.
3. Bank overdraft has been considered as negative component of cash and cash equivalent.

**(b) Comments on the financial position of Sunrise Ltd.:**

Following ratios based on the cash flow information will enable us to comment on the financial position of Sunrise Ltd.:

1. Ratio of Dividend to opening cash flow (OCF) = $\frac{\text{Dividend payment}}{\text{operating cashflow}} = \frac{24,000}{57,960} \times 100$

   = 41.40%

2. Debt coverage ratio = $\frac{\text{Operating cash flow (OCF)}}{\text{Long term debt}} = \frac{57,960}{40,000}$ = 1.44 times

3. Quality of earning ratio = $\frac{\text{OCF}}{\text{Operating Profit}} = \frac{57,960}{71,560} \times 100$ = 80.99%

4. Rate of dependence on external fund for capital expenditure

$$= \frac{\text{Financing cash flow before dividend}}{\text{Investing cash flow}} \times 100$$

$$= \frac{14,000 + 24,000}{29,210} \times 100 = 130.09\%$$

5. Cash return on net worth

$$= \frac{\text{Operating cash flow}}{\text{Net Worth}} \times 100$$

$$= \frac{57,960}{\text{Total assets} - (\text{Outside liabilities} + \text{Prop. div.})} \times 100$$

$$= \frac{57,960}{4,52,250 - 1,39,550} \times 100$$

$$= \frac{57,960}{3,12,700} \times 100$$

$$= 18.53\%$$

Based on the above ratios, the financial position may be interpreted as below :

1. The ratio of dividend to OCF reveals that as much as 41.40% of cash generated through operation has been disbursed outside the business in the form of dividend. So the rate of drainage of cash for non- earning purpose seems to be high.
2. The quality of earnings ratio indicates that 80.99% of operating profit has been realised in cash. This ratio should be further improved by more efficient working capital management.
3. The long term solvency position of the firm is quite comfortable as is indicated by debt coverage ratio which is 1.44 times. It signifies that the firm is more than able to redeem the debt at once by internally generated fund.
4. From the ratio of external fund to investing cash flows, it appears that the entire capital expenditure has been financed by fund from outside. The rate of dependence on external sources could have been reduced had the quality of income ratio been better.
5. The cash return to net worth ratio 18.53% appears to be satisfactory.

The overall financial position appears to be satisfactory. However if these ratios are compared with the industry's average ratios they would be more informative.

**Q. 3. (a) From the ratios and other data set forth below for the Marine Accessories Ltd., indicate your interpretation of the company's financial condition:**

| Particulars | Year 3 | Year 2 | Year 1 |
|---|---|---|---|
| **Current ratio (per cent)** | **302** | **278** | **265** |
| **Acid-test ratio** | **99** | **110** | **155** |

| | | | |
|---|---|---|---|
| **Working capital turnover (times)** | **3.25** | **3.00** | **2.75** |
| **Receivable turnover (times)** | **7.2** | **8.41** | **9.83** |
| **Collection period (days)** | **50** | **43** | **37** |
| **Inventory to working capital (per cent)** | **110** | **100** | **95** |
| **Inventory turnover (times)** | **5.41** | **6.01** | **6.11** |
| **Income per equity share (₹)** | **2.5** | **4.05** | **5.10** |
| **Net income to net worth (per cent)** | **7** | **8.5** | **11.07** |
| **Operating expenses to net sales (per cent)** | **25** | **23** | **22** |
| **Sales increase during the year (per cent)** | **23** | **16** | **10** |
| **Cost of goods sold to net sales (per cent)** | **73** | **71** | **70** |
| **Dividend per share (₹)** | **3** | **3** | **3** |
| **Fixed assets to net worth (per cent)** | **22.7** | **18.0** | **16.4** |
| **Net profit on net sales (per cent)** | **2.0** | **5.09** | **7.03** |
| **Gross profit on net sales (per cent)** | **26.5** | **28.0** | **29.6** |

**(b) Prepare the income statement of a firm which gives the following details relating to its operations:**

| | |
|---|---|
| **Operating leverage** | **4** |
| **Financial leverage** | **2** |
| **Annual interest paid** | **₹ 10 lakhs** |
| **Contribution/sales** | **0.4** |
| **Tax rate** | **30%** |

**[6+4]**

**Answer 3(a):**

The interpretation of the financial condition of Marine Accessories Ltd, as revealed by the ratios and other data, yields the following inferences:

**(i)** Declining profitability is evident from the following:

(1) Decrease in gross profit ratio from 29.6 in year 1 to 26.5 per cent in year 3, (2) decrease in net profit ratio from 7.03 in year 1 to 2.0 in year 3 and (3) decrease in rate of return on net worth from 11.07 per cent in year 1 to 7 per cent in year 3. This is in spite of increase in sales from 10 per cent in year 1 to 23 per cent in year 3.

In interpreting the profitability of the company, another relevant factor is the expenses ratios. The ratio of cost of goods sold to net sales has gone up from 70 to 73 per cent during the period. Likewise, there has been an increase in operating expenses ratio from 22 to 25 per cent. The high inventories as reflected in lower inventory turnover ratio of 5.41 in year 3 as compared to 6.11 in year 1 have also adversely affected the profit margin.

As a consequence, the EPS has declined by more than 50 per cent during year 1-3 from ₹ 5.1 in year 1 to ₹ 2.5 in year 3.

**(ii)** The emerging liquidity position of the company appears to be highly satisfactory. The current ratio has increased from 2.65 in year 1 to 3.02 in year 3. Though, the acid-test ratio has

declined from 1.55 in year 1 to 0.99, it meets the standard. The company is unlikely to encounter any serious difficulty in paying the short-term obligations as and when they become due for payment.

However, the management should realise that the policy relating to collection of debt is not sound as reflected in the declining trend of receivables turnover from 9.83 in year 1 to 7.2 in year 3. In other words, the average debt collection period has increased from 37 days to 50 days. There is carelessness either (i) in collecting the payments from debtors, or (ii) in extending credit sales to customers leading to an increase in bad debts and thereby an increase in the expenses ratio. Further, the inventory holding period requires investigation as the consistent increase in the current ratio and the consistent decrease in the acid-test ratio result from large accumulation of inventories. The excessive investment in current assets seems to be affecting the rate of return.

The investment in fixed assets appears excessive as shown by a consistent increase in the ratio of fixed assets to net worth. However, the overinvestment in fixed assets is not as clear as the overinvestment in working capital.

The stable dividend policy of the company is commendable and is likely to have a salutary effect on the market price of its shares.

In conclusion, the firm's financial position has not become so bad that it cannot be cured. What is required is a thorough probe into overinvestment in working capital, particularly inventories and fixed assets.

**Answer 3(b):**

Financial Leverage = 2 (given)

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBIT - Interest}}$$ [Here, EBIT = Earnings before Interest and Tax]

$$2 = \frac{\text{EBIT}}{\text{EBIT - ₹ 10,00,000}}$$

$\therefore$ EBIT = ₹ 20,00,000

Operating Leverage = 4 (given)

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}}$$

$$4 = \frac{\text{Contribution}}{₹20,00,000}$$

$\therefore$ Contribution = ₹ 80,00,000

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Contribution - Fixed Cost}}$$

$$4 = \frac{₹\ 80,00,000}{₹\ 80,00,000 - \text{Fixed Cost}}$$

$\therefore$ Fixed Cost = ₹ 60,00,000

$$\frac{\text{Contribution}}{\text{Sales}} = 0.40$$

$$\frac{₹\ 80,00,000}{\text{Sales}} = 0.40$$

$\therefore$ Sales = ₹ 2,00,00,000

| Income Statement | (₹) |
|---|---|
| Sales | 2,00,00,000 |
| Less: Variable cost (@ 60%) | 1,20,00,000 |
| Contribution | 80,00,000 |
| Less: Fixed cost | 60,00,000 |
| EBIT | 20,00,000 |
| Less: Interest | 10,00,000 |
| EBT (Earnings before Tax) | 10,00,000 |
| Less: Tax @ 30% | 3,00,000 |
| EAT (Earnings after Tax) | 7,00,000 |

**Q. 4. (a) From the following income statement (extract) prepares a common-size income statement and also interprets the result.**

| Particulars | 2012-13 (₹ crores) | 2013-14 (₹ crores) |
|---|---|---|
| **Sales/Income from operations** | **1,18,353.71** | **1,39,269.46** |
| **Excise duty, sales tax etc.** | **6,660.99** | **5,826.46** |
| **Net sales** | **1,11,692.72** | **1,33,443.00** |
| **Other income** | **478.28** | **5,628.79** |
| **Total income** | **1,12,171.00** | **1,39,071.79** |
| **Variation in stocks** | **(654.60)** | **1,867.16** |
| **Purchases** | **1,821.28** | **6,007.71** |

| | | |
|---|---|---|
| **Raw material consumed** | **76,871.66** | **90,303.85** |
| **Manufacturing expenses** | **5,855.06** | **4,074.66** |
| **Payment for employees** | **2,094.09** | **2,119.33** |
| **Sales and distribution expenses** | **3,661.45** | **3,229.59** |
| **Establishment expenses** | **2,108.76** | **2,710.31** |
| **Preoperative expenses of projects under commissioning** | **(111.21)** | **(175.46)** |
| **Total Expenditure** | **91,646.49** | **1,10,137.15** |
| **Profit before Interest, Depreciation and Tax** | **20,524.51** | **28,934.64** |
| **Interest and Finance charges** | **1,188.89** | **1,077.36** |
| **Profit before Depreciation and Tax** | **19,335.62** | **27,857.28** |
| **Depreciation** | **4,815.15** | **4,847.14** |
| **Profit before tax** | **14,520.47** | **23,010.14** |
| **Provision for tax : Current** | **1,657.44** | **2,651.96** |
| **Deferred** | **919.63** | **899.89** |
| **Profit after tax** | **11,943.40** | **19,458.29** |

**(b) There are two types of models generally used for prediction of Corporate Distress, viz. Univariate Model and Multivariate Model. Write down the steps which are followed under Univariate Model of Distress Prediction.**

**[8+2]**

**Answer 4(a):**

**Common-size Income Statement**

| **Particulars** | **2012-13 % of sales** | **2013-14 % of sales** |
|---|---|---|
| Sales/Income from operations | 100.00 | 100.00 |
| Excise duty, sales tax etc. | 5.63 | 4.18 |
| Net sales | 94.37 | 95.82 |
| Other income | 0.40 | 4.04 |
| Total income | 94.78 | 99.86 |
| Variation in stocks | (0.55) | 1.34 |
| Purchases | 1.54 | 4.31 |
| Raw material consumed | 64.95 | 64.84 |

| | | |
|---|---|---|
| Manufacturing expenses | 4.95 | 2.93 |
| Payment for employees | 1.77 | 1.52 |
| Sales and distribution expenses | 3.09 | 2.32 |
| Establishment expenses | 1.78 | 1.95 |
| Preoperative expenses of projects under commissioning | (0.09) | (0.13) |
| Total Expenditure | 77.43 | 79.08 |
| Profit before Interest, Depreciation and Tax | 17.34 | 20.78 |
| Interest and Finance charges | 1.00 | 0.77 |
| Profit before Depreciation and Tax | 16.34 | 20.00 |
| Depreciation | 4.07 | 3.48 |
| Profit before tax | 12.27 | 16.52 |
| Provision for tax : Current | 1.40 | 1.90 |
| Deferred | 0.78 | 0.65 |
| Profit after tax | 10.09 | 13.97 |

**Interpretation:**

(i) There is no change in raw material consumption rate which is stayed at 65% of total sales.

(ii) The manufacturing expenses have reduced from 4.95% to 2.93% during current accounting year.

(iii) The payments for employees have also shown reduction from 1.77% to 1.52% of total sales.

(iv) The establishment expenses have increased from 1.78% to 1.95%.

(v) Due to exceptional items, the other income has risen from 0.40% to 4.04%.

(vi) The content of excise duty, sales tax etc. has reduced from 5.63% to 4.18%.

(vii) The interest and finance charges have reduced from 1.00% to 0.77% due to redemption of non-convertible debentures.

(viii) The proportion of depreciation to total sales has reduced from 4.07% to 3.48%.

(ix) The profit before interest, depreciation and tax has increased to 20.78% from 17.34%, and the profit after tax has increased from 10.09% to 13.97%.

**Answer 4(b):**
**Steps Followed Under Univariate Model of Distress Prediction —**

Techniques used under Univariate Model of Distress Prediction are as follows:

i. An Accounting Ratio, viz. Current Ratio or Debt-Equity Ratio or Total Debt to Total Asset, etc., is selected for analysis of financial distress of companies.

ii. A number of distressed companies (i.e., failed companies) and non-distressed companies (i.e., non-failed companies) are arbitrarily chosen for analysis.

iii. The Accounting Ratio as selected for analysis of the companies as chosen under (ii) is calculated.

iv. Comparison of Accounting Ratios as calculated under (iii) for the companies chosen for analysis are made for prediction of their Financial Distress.

v. Conclusion is made about the prediction of Financial Distress of the companies on the basis of the comparison done under (iv).

**Q. 5. (a) Following figures have been extracted from the records of Agni Ltd.:**

| Year | 2012 | 2013 |
|---|---|---|
| **Sales (₹)** | **2,60,000** | **3,60,000** |
| **Cost of Goods Sold (₹)** | **2,00,000** | **3,30,000** |
| **Gross Profit (₹)** | **60,000** | **30,000** |

**It is learnt that cost price for the year 2013 has increased by 10% over the year 2012. Show changes in gross profit in the year 2013.**

**(b) Rowdy Company's equity shares are being traded in the market at ₹ 54 per share with a price-earnings ratio of 9. The Company's dividend payout is 75%. It has 1,00,000 equity shares of ₹ 10 each and no preference shares. Book value per share is ₹ 47.**

**Calculate: (i) Earnings per share, (ii) net income, (iii) Dividend yield, and (iv) return on equity.**

**[6+4]**

**Answer 5(a):**

Let the cost price per unit in 2012 be ₹ 100.

Then, the cost price per unit in 2013 = ₹ 100 + 10% of ₹ 100 = ₹ 110

| Particulars | 2012 | 2013 | Changes |
|---|---|---|---|
| (a) Sales (₹) | 2,60,000 | 3,60,000 | (+) 1,00,000 |
| (b) Cost of Goods Sold (₹) | 2,00,000 | 3,30,000 | (+) 1,30,000 |
| Gross Profit (₹) [a - b] | 60,000 | 30,000 | (-) 30,000 |
| (c) Cost Price per Unit (₹) | 100 | 110 | (+)10 |
| (d) Units Sold [b ÷ c] | 2,000 | 3,000 | (+) 1,000 |
| (e) Selling Price per Unit (₹) [a ÷ d] | 130 | 120 | (-)10 |

**Statement showing changes in Profit**

| **Particulars** | ₹ | ₹ |
|---|---|---|
| Changes in profit due to changes in sales: | | |
| 1. Increase in profit due to increase in quantity<br>[Change in quantity x Base year's unit selling price<br>= (3,000 - 2,000) x ₹ 130] | | 1,30,000 |
| 2. Decrease in profit due to decrease in unit selling price<br>[Change in unit selling price x Base year's quantity<br>= (₹ 120 - ₹ 130) x 2,000] | | (20,000) |
| 3. Decrease in profit due to change in price and quantity<br>[Changes in unit selling price x Change in quantity<br>= (₹ 120 - ₹ 130) x (3,000 - 2,000)] | | (10,000) |
| | | 1,00,000 |
| Changes in profit due to changes in cost: | | |
| 1. Decrease in profit due to increase in quantity<br>[Change in quantity x Base year's unit cost price<br>= (3,000 - 2,000) x ₹ 100] | (1,00,000) | |
| 2. Decrease in profit due to increase in unit cost price<br>[Change in unit cost price x Base year's quantity<br>= (₹ 110 - ₹ 100) x 2,000] | (20,000) | |
| 3. Decrease in profit due to change in price and quantity<br>[Change in unit cost price x Change in quantity<br>= (₹ 110 - ₹ 100) x (3,000 - 2,000)] | (10,000) | |
| | | (1,30,000) |
| **Net Increase in Gross Profit** | | **(30,000)** |

**Note:** Here, the base year is 2012.

**Answer 5(b):**

The calculation of ratios of Rowdy Company as follows:

(i) Earnings per Share

Price/ Earnings Ratio (given) = 9

$$\text{P/E ratio} = \frac{\text{Market Price}}{\text{EPS}}$$

$$9 = \frac{₹54}{\text{EPS}}$$

$$9 \times \text{EPS} = ₹54$$

$$\text{EPS} = ₹54/9 = ₹6$$

(ii) Net Income = EPS x No. of shares

= EPS x No. shares

= ₹ 6 x 1,00,000 Equity shares = ₹6,00,000

(iii) $$\text{Dividend Yield} = \frac{\text{Dividend per share}}{\text{Market price per share}}$$

$$\text{Dividend per share} = \frac{\text{Net income} \times \text{Dividend payout}}{\text{No. of equity shares}}$$

$$= \frac{₹6,00,000 \times 0.75}{1,00,000 \text{ Equity shares}} = ₹4.50$$

Dividend yield = $\frac{₹4.50}{₹54} x100$ = 8.33%

(iv) Return on Equity = $\frac{\text{net Income}}{\text{Equity}}$

= $\frac{₹6,00,000}{₹54 \times 1,00,000 \text{ Equity shares}} x100$ = 11.11% (based on market price)

= $\frac{₹6,00,000}{₹47 \times 1,00,000 \text{ Equity shares}} x100$ = 12.77% (based on book value)

## Section B

**(Answer Question No. 6 and Question No. 7 which are compulsory and any two from the rest in this section)**

**Q. 6. The following is the Balance Sheet as at 31st December 2013 of Techno group Ltd.**

| Liabilities | Amount (₹) | Assets | Amount (₹) |
|---|---|---|---|
| **Share Capital:** | | **Fixed Assets:** | |
| **8000 Equity shares of ₹10 each fully paid up** | **80000** | **Goodwill** | **10000** |
| **5000 Equity shares of ₹10 each ₹8 paid up** | **40000** | **Plant & Machinery** | **80000** |
| **3600 Equity shares of ₹5 each fully paid up** | **18000** | **Land and Building** | **100000** |
| **3000 Equity shares of ₹5 each ₹4 paid up** | **12000** | **Furniture and Fixtures** | **10000** |
| **300, 10% Preference shares of ₹100 each fully paid up** | **30000** | **Vehicles** | **20000** |
| | | **Investments** | **30000** |
| **Reserve and Surplus:** | | | |
| **General reserve** | **14000** | **Current Assets:** | |
| **Profit & Loss account** | **21000** | **Stock** | **21000** |
| **Secured loan; 12% Debenture** | **20000** | **Debtors** | **19500** |
| **Unsecured loan : 15% term loan** | **15000** | **Prepaid Expenses** | **4000** |
| **Deposits** | **10000** | **Advances** | **4500** |
| **Current Liabilities:** | | **Cash and Bank balance** | **20000** |
| **Bank Loan** | **5000** | **Preliminary expenses** | **1000** |
| **Creditors** | **15000** | | |
| **Outstanding expenses** | **2000** | | |
| **Provision for tax** | **20000** | | |
| **Proposed Dividend:** | | | |
| **Equity** | **15000** | | |
| **Preference** | **3000** | | |
| | **320000** | | **320000** |

**Additional Information**

**(a) In 2011 a new machinery costing ₹5000 was purchased, but wrongly charged to revenue (no rectification has yet been made for the same)**

**(b) Stock is overvalued by ₹1000 in 2012. Debtors are to be reduced by ₹500 in 2013, some old furniture (Book value ₹1000) was disposed of for ₹600.**

**(c) Fixed assets are worth 5 per cent more than their actual book value. Depreciation on appreciated value of Fixed assets except machinery is not be considered for valuation of goodwill.**

**(d) Of the investment 20 per cent is trading and the balance is non-trading. All trade investment are to be valued at 20 per cent below cost. Trade investment were purchased on 1st January, 2013. So per cent of the non-trade investments were acquired on 1st January, 2012 and the rest on 1st January, 2011. As uniform rate of dividend of 10 per cent is earned on all investments.**

**(e) Expected increase in expenditure without commensurate in selling price is ₹2000.**

**(f) Research and Development expenses anticipated in future ₹3000 per annum.**

**(g) In a similar business a normal return on capital employed is 10%.**

**(h) Profit (after tax) are as follows:**
**In 2011 – ₹ 21,000, in 2012 – ₹ 19,000 and in 2013 ₹ 20,000.**

**(i) Current income tax rate is 50%, expected income tax rate will be 45%.**

**From the above, ascertain the ex-dividend and cum-dividend intrinsic value for different categories of equity shares. For this purpose goodwill may be taken as 3 years purchase of super profit. Depreciation is charged on machinery @ 10% on reducing system. [15]**

**Answer: 6**

**Calculation of future maintainable profits:-**

| | 2011 (₹) | 2012 (₹) | 2013 (₹) |
|---|---|---|---|
| Profits after tax | 21000 | 19000 | 20000 |
| Add: tax @ 50% | 21000 | 19000 | 20000 |
| Profit before tax | 42000 | 38000 | 40000 |
| Less: Income from non-trade investments | | | |
| For 2011 = (30000 × 0.08 × 0.50 × 0.10) | (1200) | | |
| For 2012 = [12000 + 12000] × 0.10 | | (2400) | |
| For 2013 = [12000 + 12000] × 0.10 | | | (2400) |
| Add: Machinery wrongly charged to revenue | 5000 | | |
| Less: Depreciation on above Machinery | | | |
| In 2011 = [5000 × 0.10] | (500) | | |
| In 2012 = [5000 – 500] × 0.10 | | (450) | |
| In 2013 = [4500 – 450] × 0.10 | | | (405) |
| Less: Debtors decreased | ---- | ---- | (500) |
| Add/Less: Over valuation of closing stock in 2012 | | (1000) | 1000 |
| Add: Loss on sale of furniture (non-recurring) [1000 – 666] | | | 400 |
| Adjusted profit before tax | 45300 | 34150 | 38095 |

| | ₹ |
|---|---|

| | |
|---|---|
| Average adjusted Profits = $\left[\frac{45300+35150+38095}{3}\right]$ = | 39182 |
| Less: Expected increase in expenses | (2000) |
| Less: Research & Development Expenses | (3000) |
| Less: Depreciation on Revalued portion of plant & Machinery : =[Book value of existing Plant & Machinery + Book value of machine wrongly charged to revenue] × 0.05 × 0.10 = {80000 + [(1 – 0.10)$^3$ × 5000]} 0.05 × 0.10 | (418) |
| | 33764 |
| Less: Provision for tax @ 45% | (15194) |
| Future maintainable profits | 18570 |

**Calculation of Capital Employed**: -

| | **Amount (₹)** | **Amount (₹)** |
|---|---|---|
| Plant and Machinery = [80000+{(1 – 0.10)$^3$ × 5000}] × 1.05 | 87827 | |
| Land and Building (100000 × 1.05) | 105000 | |
| Furniture and fixture (10000 – 400) × 1.05 | 10080 | |
| Vehicles (20000 × 1.05) | 21000 | |
| Trade investments (30000 × 0.20 × 0.80) | 4800 | |
| Stock | 21000 | |
| Debtors [19500 – 500] | 19000 | |
| Prepaid Expenses | 4000 | |
| Advances | 4500 | |
| Cash and bank | 20000 | 297207 |
| Less: External Liabilities | | |
| 12% Debenture | 20000 | |
| 15% Term loan | 15000 | |
| Deposits | 10000 | |
| Bank loan | 5000 | |
| Creditors | 15000 | |
| Outstanding expenses | 2000 | |
| Provision for tax [20000 + 1823] | 21823 | (88823) |
| Net assets as on 31.12.2013 | | 208384 |

**Notes:**

1) Provision for tax

| | |
|---|---|
| Tax liability for machine wrongly charged to revenue = (5000 × 50%) = | 2500 |
| Less: Tax savings for depreciation = (500 + 450 + 405) 50% | (678) |
| Net Tax Liability | 1823 |

2) Sale of furniture for ₹600 should have already been credited to the furniture and fixture A/c. so now loss of ₹1000 – 600 = ₹400 is eliminated bringing the asset to correct W.D.V.

**Valuation of Goodwill**

| | ₹ |
|---|---|
| Capital Employed | 208384 |
| Normal profit = (208384 × 10%) | 20838 |
| Future maintainable profits | 18570 |
| Raymonds Profit | NIL |
| Therefore Goodwill | NIL |

**Statement showing valuation of shares**

| Particulars | **Amount (₹)** |
|---|---|
| Net trading assets as on 31.12.2013 | 208384 |
| Add: Non-trading assets [30000 × 80%] | 24000 |
| Goodwill | NIL |
| National Calls in arrear [₹2 × 5000] + [₹1 × 3000] | 13000 |
| | 245384 |
| Less: Preference share capital | (30000) |
| Proposed preference dividend | (3000) |
| Net asset available to Equity shareholders (cum dividend) | 212384 |

Equivalent No. of shares = $(8000 + 5000 + 3600 \times \frac{5}{10} + 3000 \times \frac{5}{10})$ = 16300

**Cum dividend intrinsic value of share**

For ₹10 fully paid up share = $\frac{212384}{16300}$ = 13.03

For ₹8 fully paid up share = ₹ (13.02 – 2) = 11.03

For ₹5 fully paid up share = $(13.03 \times \frac{5}{10})$ = 6.52

For ₹4 paid up share = ₹ (6.52 – 1) = 5.52

**For ex-dividend intrinsic value**

| | Amount (₹) |
|---|---|
| Net asset available to Equity share | 212384 |
| Less: Proposed Equity dividend | (15000) |
| Net asset for calculating ex-dividend value | 197384 |

**Ex-dividend intrinsic value of share**

| | Amount (₹) |
|---|---|
| For ₹10 fully paid up equity share = $\frac{197384}{16300}$ | 12.11 |
| For ₹8 paid up = ₹[12.11 – 2] | 10.11 |
| For ₹5 fully paid up = 12.11 × $\frac{5}{10}$ | 6.055 |
| For ₹4 paid up equity share (6.055 – 1) | 5.055 |

**Q. 7. RAYMONDS Garments Ltd. is a company which produces and sells to retailers a certain range of fashion clothing. They have made the following estimates of prudential cash flows for the next 10 years.**

**(₹ in lakhs)**

| Yr. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Cash flow | 3750 | 4250 | 5000 | 6250 | 7500 | 8500 | 9500 | 11250 | 12500 | 15000 |

**SONA Ltd. is a company which owns a series of boutiques in a certain locality. The boutiques buy clothes from various suppliers and retail them. Each boutique has a manager and an assistant but all purchasing and policy decisions are taken centrally. An independent cash flow estimate of SONA Ltd. was as follows;**

**(₹ in lakhs)**

| Yr. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Cash flow | 300 | 400 | 500 | 700 | 850 | 1150 | 1300 | 1500 | 1650 | 2000 |

**RAYMONDS Garments Ltd. is interested in acquiring SONA Ltd. in order to get some additional retail outlets. They make the following cost-benefit calculation;**

**(i) Net value of assets of SONA Ltd.**

**₹ in lakh**

| | |
|---|---|
| **Sundry fixed assets** | **2000** |
| **Investments** | **500** |
| **Stock** | **1000** |
| **Total** | **3500** |
| **Less : Sundry Creditors** | **1000** |
| **Net Assets** | **2500** |

**(ii) Sundry fixed assets amounting to ₹125,00,000 cannot be used and their net realisable value is ₹112,50,000**

**(iii) Stock can be realised immediately at ₹ 1,175 lakh.**

**(iv) Investments can be disposed off for ₹530 lakhs.**

**(v) Some workers of SONA Ltd. are to be retrenched for which estimated compensation is ₹ 325 lakh.**

**(vi) Sundry creditors are to be discharged immediately.**

**(vii) Liabilities on account of retirement benefits not accounted for in the balance sheet by SONA Ltd. is ₹120 lakhs.**

**(viii) Expected cash flows of the combined business will be as follows:**

**(₹ in lakhs)**

| Yr. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Cash flow | 4500 | 4750 | 5750 | 7375 | 8750 | 10000 | 11250 | 13250 | 14500 | 17250 |

**Find out the maximum value of SONA Ltd. which RAYMONDS Garments Ltd. can quote. Also show the difference in valuation had there been no merger. Use 20% as discount factor.**

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Discounting factor @ 20% | 0.8333 | 0.6944 | 0.5787 | 0.4823 | 0.4019 | 0.3349 | 0.2791 | 0.2326 | 0.1938 | 0.1615 |

**[15]**

**Answer: 7**

**(1) Calculation of operational synergy expected to arise out of merger**

(₹ in lacs)

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Projected cash flows of RAYMONDS Garments Ltd. after merger with SONA Ltd. | 4500 | 4750 | 5750 | 7375 | 8750 | 10000 | 11250 | 13250 | 14500 | 17250 |
| **Less:** Projected Cash flows of RAYMONDS Garments Ltd. without merger | 3750 | 4250 | 5000 | 6250 | 7500 | 8500 | 9500 | 11250 | 12500 | 15000 |
| Projected Cash flows of SONA Ltd individually post merger | 750 | 500 | 750 | 1125 | 1250 | 1500 | 1750 | 2000 | 2000 | 2250 |

**(2) Valuation of SONA Ltd. ignoring merger**

| Year | Cash flows (₹ in lacs) | Discount factor | Discounted cash flow (₹ in lacs) |
|---|---|---|---|
| 1 | 300 | 0.8333 | 249.990 |
| 2 | 400 | 0.6944 | 277.760 |
| 3 | 500 | 0.5787 | 289.350 |
| 4 | 700 | 0.4823 | 337.610 |
| 5 | 850 | 0.4019 | 341.615 |
| 6 | 1150 | 0.3349 | 385.135 |
| 7 | 1300 | 0.2791 | 362.830 |
| 8 | 1500 | 0.2326 | 348.900 |
| 9 | 1650 | 0.1938 | 319.770 |
| 10 | 2000 | 0.1615 | 323.000 |
| | | | 3235.960 |

**(3) Valuation of SONA Ltd. individually in case of merger**

| Year | Cash flows (₹ in lacs) | Discount Factor | Discounted Cash Flow (₹ in lacs) |
|---|---|---|---|
| 1 | 750 | 0.8333 | 624.975 |
| 2 | 500 | 0.6944 | 347.200 |
| 3 | 750 | 0.5787 | 434.025 |
| 4 | 1125 | 0.4823 | 542.588 |
| 5 | 1250 | 0.4019 | 502.375 |
| 6 | 1500 | 0.3349 | 502.350 |
| 7 | 1750 | 0.2791 | 488.425 |
| 8 | 2000 | 0.2326 | 465.200 |
| 9 | 2000 | 0.1938 | 387.600 |
| 10 | 2250 | 0.1615 | 363.375 |
| | | | 4658.113 |

**(4) Maximum value to be quoted**

| | ₹ in Lacs | ₹ in Lacs |
|---|---|---|
| Value as per discounted cash flows from operation | | 4,658.113 |
| **Add:** Cash to be collected immediately by disposal of assets: | | |
| Sundry Fixed Assets | 112.500 | |
| Investments | 530.000 | |
| Stock | 1175.000 | |
| | | 1817.500 |
| | | 6,475.613 |
| **Less:** Sundry Creditors | 1000.000 | |
| Provision for retirement benefits | 120.000 | |
| Retrenchment compensation | 325.000 | |
| | | 1445.000 |
| | | 5,030.613 |

So, RAYMONDS Garments Ltd. can quote as high as ₹ 50,30,61,300 for taking over the business of SONA Ltd. In this case value arrived at in isolation ₹ 32,35,96,000 is not providing reasonable value estimate.

**Q. 8. (a) Bikram Ltd has hired a Marketing Consultancy Firm for doing market research and provides data relating to Tyre industry for the next 10 years. The following were the observations and projections made by the consultancy firm -----**

**I. The Tyre Industry in the target area i.e., whole of India, is expected to grow at 5% p.a. for the next 3 years, and thereafter at 7% p.a. over the subsequent seven years.**

**II. The market size in terms of unencumbered basic sales of tyres was estimated at ₹8,000 lakhs in the last year, dominated by medium and large players. This includes roughly 9.0% of fake brands and locally manufactured tyres. Market share of this segment is expected in increase by 0.5%.**

**III. Cheap Chinese imports accounts for 40% of the business (but 60% of the volume. This is expected to increase by 0.25% over the next decade.**

**IV. The other large players account for roughly 35% of the business value, which is expected to go down by 0.5% over the next ten years, due to expansion of Bikram Ltd's product portfolio.**

**V. The Company is in the process of business re-engineering, which will start yielding results in 2 years time, and increase its profitability by 3% from its existing 12%.**

**If the appropriate discount rate is 16% what is the Brand Value of Bikram Ltd., under Market oriented Approach.**

**(b) The 6-months forward price of a security is ₹ 208.18. The borrowing rate is 8% per annum payable with monthly rests. What should be the spot price? [8+2]**

**Answer: 8. (a)**

a) **Current Market Share =** 100 – Fake Brands 9% - Chinese Imports 40% - Other Domestic Brands 35% = 16%.

b) **Increase or Decrease in Market Share:** Chinese Imports 0.25% + Local Brands 0.5% - Other Players 0.5% = 0.25% increase other product's market share. Hence, market share is expected to fall by 0.25% every year over the decade, from the current levels of 16%. Therefore, next year it will be 15.75%, the year after 15.50% etc.

**Brand valuation under market Approach**

| Year | Market Size (₹Lakhs) | Market Share of Bikram Ltd. | Market Share (₹Lakhs) | Expected Profit (₹Lakhs) | Discount Factor at 16% | Discounted Cash Flow |
|---|---|---|---|---|---|---|
| 1 | 8,000.00 + 5% = 8,400.00 | 15.75% | 1,323.00 | @ 12% = 158.76 | 0.862 | 136.85 |
| 2 | 8,400.00 + 5% = 8,820.00 | 15.50% | 1,367.10 | @ 12% = 164.05 | 0.743 | 121.89 |
| 3 | 8,820.00 + 5% = 9,261.00 | 15.25% | 1,412.30 | @ 15% = 211.84 | 0.641 | 135.79 |
| 4 | 9,261.00 + 7% = 9,909.27 | 15.00% | 1,486.39 | @ 15% = 222.96 | 0.552 | 123.07 |
| 5 | 9,909.27 + 7% = 10,602.92 | 14.75% | 1,563.93 | @ 15% = 234.59 | 0.476 | 111.66 |
| 6 | 10,602.92 + 7% = 11,345.12 | 14.50% | 1,645.04 | @ 15% = 246.75 | 0.410 | 101.17 |
| 7 | 11,345.12 + 7% = 12,139.28 | 14.25% | 1,729.85 | @ 15% = 259.48 | 0.354 | 91.86 |
| 8 | 12,139.28 + 7% = 12,989.03 | 14.00% | 1,818.46 | @ 15% = 272.77 | 0.305 | 83.19 |
| 9 | 12,989.03 + 7% = 13,898.26 | 13.75% | 1,911.01 | @ 15% = 286.65 | 0.263 | 75.39 |
| 10 | 13,898.26 + 7% = 14,871.14 | 13.50% | 2,007.60 | @ 15% = 301.14 | 0.227 | 68.36 |
| | **Brand Value** | | | | | **1049.23** |

**Brand Value of Bikram Ltd. under market oriented approach is ₹1049.23 lakhs.**

**Answer 8. (b)**

Calculation of spot price

The formula for calculating forward price is:

$F_0 = S_0 \times e^{rt}$ Where $F_0$ = Forward price

$S_0$ = Spot Price

r = rate of interest

n = no. of compounding

t = time

For Compounding = $F_0 = S_0 \times e^{\frac{r}{n} \times t}$

Using the above formula, or, $208.18 = S_0 \times e^{\frac{0.08}{12} \times 6}$

or, $208.18 = S_0 \times e^{.040}$

or, $208.18 = S_0 \times 1.0408$

or, $S_0 = \frac{208.18}{1.0408} = 200$

**Q. 9. (a)State the various methods of payment in case of mergers and amalgamations**.

**(b) Explain the concept of Human Resource Accounting (HRA) and outline the basic models for HRA. [4+6]**

**Answer 9. (a)**

Methods of payment in Mergers and Amalgamations:

(i) **Cash:** Where one company purchases the shares or assets of another for cash the shareholders of the latter company cease to have any interest in the combined business.

The disadvantage is that they may be liable to capital gains tax.

(ii) **Loan Stock:** In this case the shareholders of the selling company exchange their equity investment for a fixed interest investment in the other company. The advantage is that any liability to capital gains tax will be deferred until the disposal of the loan stock. In addition, interest on the loan stock is deductible in the hands of the company for tax purpose.

(iii) **Ordinary shares:** Here the shareholder merely exchanges his shares in one company for shares in another company. The advantage is that the shareholders of the selling company continue to have an interest in the combined business and will not be subject to capital gains tax on the exchange. From the point of view of the combined companies a share exchange does not affect their liquidity.

(iv) **Convertible loan stock:** The shareholders in one company exchange their shares for convertible loan stock in the other company. The selling shareholder exchanges an equity investment for a fixed interest security which is convertible into an equity investment at some time in the future if he so desires.

**Answer 9. (b)**

Human Resource Accounting (HRA) is a set of accounting methods that seek to settle and describe the management of a company's staff. It focuses on the employees' education, competence and the remuneration. HRA promotes the description of investments in staff, thus enabling the design of HR management systems to follow and evaluate the consequences of various HR management Principles. There are four basic HRA models:

(a) The anticipated financial value of the individual to the company. This value is dependent on two factors; the person's productivity and his / her satisfaction of being an employee in the company.

(b) The financial value of the group-describing the connection between motivation and organization on one hand and financial results on the other. This model does not measure value but concepts like motivation and welfare. Under this model, measurement of employee satisfaction is given great importance.

(c) Staff replacement costs describing the financial situation in connection with recruitment, reduction and redeployment of employees. This model focuses on replacement costs related the expenses connected with staff acquisition, training and separation. Acquisition covers expenses for recruitment, advertising etc. Training covers education, on-the job training etc. Separation costs covers lost production when a person leaves a job. This model can be used to describe the development of costs in connection with replacements. In many firms, such replacement costs are included in accounts as an expression of staff value to the company.

(d) HR accounting and balancing as complete accounts for HR area. This model concentrates on cost-control, capitalization of the historic expenses for HR. One effect of such a system is the visualization of inexpedient HR management routines.

The basic aims of HRA are very many.

First, HRA improves the management of HR from an organizational perspective through increasing the transparency of HR costs, investments and outcomes in traditional financial statements.

Second, HRA attempts to improve the bases for investors and company valuation.

Unfortunately, for several reasons, the accuracy of HRA is often called into suspicion.

**Q. 10. (a) As the finance manager of R Ltd., you are investigating the acquisition of S Ltd. company. The following facts are given:**

| Particulars | R Ltd. | S Ltd. |
|---|---|---|
| Earning per share | ₹67.50 | ₹25 |
| Dividend per share | ₹32.50 | ₹10 |
| Price per share | ₹480.00 | ₹150 |
| Number of shares | 600 lakhs | 200 lakhs |

**Investors currently expect the dividends and earnings of S Ltd. to grow a steady rate of 7% after acquisition this growth rate would increase to 8% without any additional investment.**

**Required:**

**(i) What is the benefit of this acquisition?**

**(ii) What is the cost of this acquisition to R Ltd. if it pays**

**I. ₹170 per share compensation (cash) to R Ltd. and**

**II. Offers 2 shares for every 6 shares of S Ltd? [2+(1+2)]**

**(b) S. Mondal has just completed his post qualification internship in a reputed medical hospital. He wants to buy the running practice of Dr. Mukherjee, a renowned child specialist located at Lansdowne in Kolkata. The revenue and the costs of this practice in 2013 – 2014 were as under:**

| Particulars | ₹ |
|---|---|
| Revenue | 1,00,000 |
| Employee expenses | 30,000 |
| Annual rent for the facilities | 10,000 |
| Rental of medical equipments | 8,000 |
| Medical insurance | 9,000 |
| The tax rate on the income | |
| Including local taxes and subscription | 40% |
| The cost of capital for this practice | 10% |

**The above revenue and all the associated expenses are estimated to grow at 4% p.a. for the next 10 years if Dr. Mukherjee continues to run the practice.**

**Dr. S Mondal anticipates that upon the changeover there will be drop in revenue by 25% in the first year of his practice. The growth rate in revenue and expenses will remain at 4% p.a. thereafter i.e., for year 2 onwards.**

**Dr. S Mondal wants your advice for the price he should offer to Dr. Mukherjee to purchase the latter's practice at Lansdowne, Kolkata. [5]**

**Answer: 10. (a)**

**(i) Rate of return ($K_e$) required by the investors of S Ltd company.**

$$K_e = \frac{D_1}{P_o} + g$$

$$K_e = \frac{10}{150} + 0.07$$

$$= 0.1367 \text{ or } 13.67\%$$

$$\text{If } g = 8\% \text{ then } P_o = \frac{D_1}{K_e - g} = \frac{10(1.08)}{0.1367 - 0.08}$$

$$\therefore P_o = ₹190.48$$

**Benefit of acquisition**

= (Pv of S Ltd. with merger – Pv of S Ltd. without merger) × No. of shares of S Ltd. outstanding.

= ₹ (190.48 – 150) x 200 lakhs

= ₹ 8096 lakhs.

**(ii) Cost of acquisition to R Ltd.**

**I. If it pays ₹170 cash compensation**

= Cash compensation – $Pv_S$
= (₹170 x 200 lakhs) – (₹150 x 200 lakhs)
= ₹4000 lakhs

**II. If R Ltd. offers 2 shares for every 6 shares of S Ltd., then the share of S Ltd. ($\propto$) in the combined entity will be**

$$\propto = \frac{200 \text{ lakhs } x\frac{2}{6}}{600 \text{ lakhs} + \left[200 \text{ lakhs } x\frac{2}{6}\right]}$$

$$= 0.10$$

Therefore, $Pv_{RS}$ = $Pv_R$ + $Pv_S$ + Synergy
= (₹480 x 600 lakhs) + (₹150 x 200 lakhs) + ₹8096 lakhs
= 288000 + 30000 + 8096
= ₹326096 lakhs

**Cost of acquisition to R Ltd.**

= $\propto Pv_{RS} - Pv_S$
= (0.10 x 326096 lakhs) – 30000 lakhs
= ₹2609.60 lakhs

**Answer: 10. (b)**

We make two evolution of the practice –

Run by Dr. Mukherjee as if he is continuing as before, and

Run by Dr. S Mondal assuming that he has bought the practice from Dr. Mukherjee.

Cash flow in year 1 = ($Revenue_1$ – Operating $expenses_1$)(1 – Tax Rate)
= [1,00,000 (1.04) – (30,000 + 10,000 + 8,000 + 9,000) (1.04)] x (1 – 0.40)
= [1,04,000 – 59,280] x 0.60 = ₹26,832

With the growth rate of 4% p.a. and using the cost of capital as the discount rate and assuming that the practice will have no terminal value after 10 years, the value of the practice:

$$\text{Value of practice} = CF_1 \frac{1-\frac{(1+g)^n}{(1+r)^n}}{(r-g)} = ₹\,26{,}832\,\frac{1-\frac{(1.04)^{10}}{(1.10)^{10}}}{0.10-0.04} = ₹\,26{,}832\ (7.155029) = ₹\,1{,}91{,}984.$$

(1) Similarly, cash flow in year 1 under Dr. S Mondal.
= ₹ [75,000 (1.04) – 59,280] x 0.60 = ₹ 11,232

Value of practice for Dr. S Mondal for 10 years = ₹ 11,232 (7.155029) = ₹ 80,312

The difference of ₹ (1,91,984 – 80,312 or ₹ 1,11,672 is attributed as the value of Dr. Mukherjee agree to stay with the practice for a transition period after the transfer of the business, a higher price may be paid.

Dr. S Mondal should ensure by the agreement of transfer of practice that Dr. Mukherjee cannot start a competing practice and extract business from Dr. S Mondal for the foreseeable future.