

Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

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)

1.

(i) Profit and Loss Account (Extract) of Pushkar Ltd. for the year ended 31.03.2013

	₹
1. Income	
Sales	1,14,000
Interest	400
Gain on sale of Investment	1,400
	1,15,800
2. Expenses	
Cost of goods sold	89,000
Depreciation	17,800
Administration and selling and distribution	9,200
Interest	2,800
Loss on sale of plant and machinery	600
	1,19,400
3. Profit before tax and extraordinary item	(-) 3,600
4. Income tax	---
5. Extraordinary item	---
6. Net profit	(-) 3,600

(ii) Balance sheet (Extract) of Pushkar Ltd. as on 31st March

A. Sources of Funds

	2013 ₹	2012 ₹
1. Shareholders' funds		
Equity share capital	31,000	17,000
Profit and loss account	20,400	24,000
	51,400	41,000
2. Loan Funds		
Secured loans	19,400	11,400
Unsecured loans	36,200	38,200
	55,600	49,600
3. Current Liabilities		
Bills payable	1,200	1,800
Creditors	4,800	35,600
Income tax payable	1,800	3,400

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	7,800	40,800
4. Total sources of funds (1+2+3)	1,14,800	1,31,400

B. Application of Funds

	2013 ₹	2012 ₹
Fixed Assets:	1,44,000	1,08,000
Less: Accumulated depreciation	72,400	61,000
Net fixed assets	71,600	47,000
Investments	3,600	13,200
Current Assets:		
Inventories	30,200	23,800
Debtors (net)	5,800	33,200
(Provision of ₹ 1,600 and ₹ 2,400, respectively made)		
Prepaid expenses	1,200	400
Cash and cash equivalents	2,400	13,800
Total application of funds	1,14,800	1,31,400

(iii) Other relevant information for the year ended 31.03.2013:

1. Bad debts of ₹ 2,800 written off in respect of debtors and provided ₹ 2,000 for doubtful debts, included in administration and selling and distribution expenses.
2. Investments:
 - (a) Purchased investments for ₹ 6,000
 - (b) Sold investments for ₹ 17,000 (cost ₹ 15,600)
3. Plant and machinery:
 - (a) Purchased machinery worth ₹ 30,000 in cash
 - (b) Purchased machinery worth ₹ 15,000 in exchange of secured debentures
 - (c) Sold machinery worth ₹ 2,000 (cost ₹ 9,000; accumulated depreciation of ₹ 6,400)
4. Shares, debentures and loans:
 - (a) Shares issued at par ₹ 10,000
 - (b) Redeemed secured debentures of ₹ 3,000
 - (c) Unsecured loans repaid ₹ 2,000
 - (d) Secured debentures of ₹ 10,000 converted into equity shares of ₹ 10 at par.

Read the above carefully and answer the following questions —

- a. Calculate the amount of cash collected from customers. Also calculate the total payments made to creditors, employees etc.
- b. Prepare a statement of cash flows under indirect method.
- c. Show the supplemental schedule for non-cash transactions and disclose the accounting policy of Pushkar Ltd. in this context.

[(2+3)+(3+2+2)+3]

Answer:

- a. Collection from customers ₹ 1,39,400 as shown below:

Dr.	Debtors A/c		Cr.
	₹		₹
To Balance b/d	35,600	By Bad debts	2,800
To Sales	1,14,000	By Cash/bank (balancing figure)	1,39,400

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		By Balance c/d	7,400
	1,49,600		1,49,600

Payments made to creditors, employees etc. ₹ 1,34,800 as shown below:

Dr.	Creditors A/c		Cr.
	₹		₹
To Cash/bank (balancing figure)	37,800	By Balance b/d	35,600
To Balance c/d	4,800	By Bills payable	600
		By Purchase (₹ 30,200 - ₹ 23,800)	6,400
	42,600		42,600

Payments	₹
For cost of goods sold	89,000
Creditors	37,800
Administration and selling and distribution expenses (₹ 9,200 - ₹ 2,000)	7,200
Prepaid expenses (₹ 1,200 - ₹ 400)	800
Total	1,34,800

b.

Pushkar Ltd.

Statement of Cash Flows (indirect method) for the year ended 31.03.2013

	₹	₹	₹
Cash flow from operating activities:			
Net profit before income tax and extraordinary items			(-) 3,600
Adjustments:			
(i) Add: Non-cash Items			
Depreciation	17,800		
Provision for debts	2,000		19,800
(ii) Add: Loss on sale of Plant	600		
Interest Expense	2,800		
	3,400		
Less: Gain on sale of investment	1,400		
Interest income	400		1,600
(-) 1,800	(-) 1,800		
Operating profit before working capital changes			17,800
Adjustments for changes in working capital:			
Add: Decrease in current assets:			
Debtors		25,400	
Less: Increase in current assets:			
Inventories	6,400		
Prepaid expenses	800		
	7,200		
Decrease in current liabilities:			
Bills payable	600		
Creditors	30,800	(-) 38,600	(-) 13,200
Cash generated from operations			4,600
Less: Income tax paid			1,600
Cash flow before extraordinary item			3,000
Less: Extraordinary item			0

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Net Cash provided by operating activities			3,000
Cash flows from investing activities:			
Sale of plant and machinery		2,000	
Sale of investments		17,000	
		<u>19,000</u>	
Less: Purchase of plant	30,000		
Purchase of investments	<u>6,000</u>	<u>36,000</u>	
		(-) 17,000	
Interest received		<u>400</u>	
Net cash used in investing activities			(-) 16,600
Cash flows from financing activities:			
Issue of share capital		10,000	
Less: Redemption of debentures	3,000		
Redemption of unsecured loans	2,000		
Interest paid	<u>2,800</u>	<u>7,800</u>	
Net cash provided by financing activities			2,200
Net decrease in cash and cash equivalents			(-) 11,400
Cash and cash equivalents at the beginning of the period			<u>13,800</u>
Cash and cash equivalents at the end of the period			<u>2,400</u>

c. Supplemental schedule of non-cash transactions:

(a) Investing activities:

Purchased machinery for ₹ 15,000 in exchange of secured debentures.

(b) Financing activities:

Converted secured debentures of ₹ 4,000 (Note) to equity shares of ₹ 10 at par.

Accounting Policy: Pushkar Ltd. considers all highly liquid debt instruments purchased with a maturity period of three months or less as cash equivalents.

Note: Increase in equity shares amounted to ₹ 14,000 (₹ 31,000 - ₹ 17,000) consist of —

- Shares issued at par ₹ 10,000.
- Balance ₹ 4,000 is secured debentures converted into equity shares.

2.

(i)

**Rinita Ltd.
Profit & Loss Statement (Extract)**

Year		2011 - 2012		2012 - 2013
	₹	₹	₹	₹
Sales (1)		12,00,000		15,00,000
Less: Cost of Goods (2)				
Opening Stocks	1,80,000		2,00,000	
Add: Purchases	9,00,000		12,00,000	
	10,80,000		14,00,000	
Less: Closing Stock	2,00,000	8,80,000	4,00,000	10,00,000
Gross Profit Stock (1) – (2) = 3		3,20,000		5,00,000

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Expenses	1,00,000		1,50,000	
Depreciation	75,000		1,20,000	
Interest on Overdraft	15,000	1,90,000	40,000	3,10,000
Profit before Interest and Tax		1,30,000		1,90,000
Less: Interest on Loan		-		35,000
Profit before tax (PBT)		1,30,000		1,55,000
Provision for Taxation (1,97,500 – 1,20,000)				77,500
Profit after tax (PAT)				77,500
Proposed Dividend				60,000
Transfer to Reserve				17,500

(ii)

Rinita Ltd.
Balance Sheet (Extract) as on 31st March

Year		2012		2013
	₹	₹	₹	₹
Net Block: (1)		5,00,000		8,00,000
Net current Assets: (2)				
(a) – (b)				
Receivables	2,00,000		2,95,000	
Cash at Bank	50,000		20,000	
Quick Assets	2,50,000		3,15,000	
Stock	2,00,000		4,00,000	
(a)	4,50,000		7,15,000	
Liabilities other than				
Overdraft:				
Payables	1,00,000		2,00,000	
Provision for Taxation	1,20,000		1,97,500	
Proposed dividend	40,000		60,000	
	2,60,000		4,57,500	
Bank Overdraft	1,00,000		2,50,000	
(b)	3,60,000	90,000	7,07,500	7,500
Capital Employed (1) + (2) = (3)		5,90,000		8,07,500
Represented by:				
Share capital		4,00,000		4,00,000
Reserve & surplus		1,90,000		2,07,500
		5,90,000		6,07,500
Loan		-		2,00,000
Capital Employed		5,90,000		8,07,500

At the end of March, 2012 the provision for taxation appears to be disproportionate to the amount of the profit before tax of ₹ 1,30,000. It may be possible that the figure of tax-provision includes an amount in respect of unassessed income of previous years or provision made in excess of what is genuinely required.

You are required to answer the following questions —

(a) Calculate the ratios related to the profitability, solvency and capitalisation of the company.

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(b) Analyse and comment upon the present state, trend in respect of profitability, solvency and capitalisation of the company.

[8+7]

Answer:

(a)

(I) Profitability:

	2011 – 12	2012 – 13
(1) Gross Profit Ratio		
= $\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	= $\frac{₹ 3,20,000}{₹ 12,00,000} \times 100$	= $\frac{₹ 5,00,000}{₹ 15,00,000} \times 100$
	= 26.7%	= 33.3%
(2) Return on Capital Employed		
= $\frac{\text{Profit before Interest and Tax}}{\text{Capital employed}} \times 100$	= $\frac{₹ 1,30,000}{₹ 5,90,000} \times 100$	= $\frac{₹ 1,90,000}{₹ 8,07,500} \times 100$
	= 22.03%	= 23.53%

(II) Solvency:

	2011 – 12	2012 – 13
(1) Current ratio		
= $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	= $\frac{₹ 4,50,000}{₹ 3,60,000}$	= $\frac{₹ 7,15,000}{₹ 7,07,500}$
	= 1.25	= 1.01
(2) Liquidity Ratio		
= $\frac{\text{Liquid Assets}}{\text{Current Liabilities}}$	= $\frac{₹ 2,50,000}{₹ 3,60,000}$	= $\frac{₹ 3,15,000}{₹ 7,07,500}$
	= 0.69	= 0.45
(3) Fixed Assets Ratio		
= $\frac{\text{Fixed Assets}}{\text{Long – term Funds}}$	= $\frac{₹ 5,00,000}{₹ 5,90,000}$	= $\frac{₹ 8,00,000}{₹ 8,07,500}$
	= 0.85	= 0.99

(III) Capitalisation:

	2011 – 12	2012 – 13
(1) Debt Equity Ratio (Ignoring bank overdraft as debt)		
= $\frac{\text{Long – term Loans}}{\text{Shareholders' Funds}}$	= $\frac{0}{₹ 5,90,000}$	= $\frac{₹ 2,00,000}{₹ 6,07,500}$
	= nil	= 0.33
(2) Capital Gearing Ratio		
= $\frac{\text{Preference Share Capital + Debentures + Loan}}{\text{Equity Share Capital}}$		

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	= $\frac{\text{Nil}}{\text{₹ 5,90,000}}$	= $\frac{\text{₹ 2,00,000}}{\text{₹ 6,07,500}}$
	= Nil	= 0.33: 1
(3) Fixed Assets Ratio		
= $\frac{\text{Fixed Assets}}{\text{Long – term Funds}}$	= $\frac{\text{₹ 5,00,000}}{\text{₹ 5,90,000}}$	= $\frac{\text{₹ 8,00,000}}{\text{₹ 8,07,500}}$
	= 0.85	= 0.99

(b) Comments: Profitability — Gross profit ratio has increased from 26.7% in 2011-12 to 33.3% in 2012-13. This shows better production and sales management. However, there is only marginal increase in return on long-term funds (capital employed) since sales have increased by 25% whereas expenses and depreciation charges have gone up by 50% and 60% respectively. Moreover, the amount of net block has increased by 60% but corresponding increase in sales in 2012-13 over 2011-12 has not been achieved. Consequently fixed assets turnover ratio which was 2.4 times in 2011-12 has come down to 1.88 times in 2012-13.

Thus, it may be observed regarding the trend of profitability that till the company achieves higher sales without further increase in fixed expenses, the net profitability ratio cannot be considered as satisfactory.

Solvency — The ideal current ratio is 2. However, it has gone down from 1.25 times in 2011-12 to 1.01 times in 2012-13. Sundry Debtors which were 16.7% of sales in 2011-12 have increased to 19.7% of sales and investment in stock in trade has increased by 100% in 2012-13. This has been partly financed by postponing payment to creditors, which have increased by 100%. Higher provision for taxation and proposed dividend also accounted for deterioration in this ratio.

The decline in solvency position has been further confirmed by quick ratio or acid test ratio. It has come down to 0.45 in 2012-13 as compared with 0.69 in 2011-12. This is mainly because of proportionately higher increase in current liabilities compared to increase in quick assets. The ideal ratio is '1'. It is, therefore, necessary that some long-term sources are tapped to augment core working capital requirements.

Steps should be taken to arrest declining trends in both the solvency ratios.

Capitalisation — The company did not have any debt component in its capital structure in the year 2011-12. However, in 2012-13 the company did raise some funds by means of long-term loans to finance the expansion in assets. But debt equity ratio of 0.33 : 1 is still much on the lower side. Generally the accepted norm for debt equity is 2 : 1. Thus, it is apparent that there is ample scope for the company to raise further loan capital.

The fixed assets ratio also shows that in 2012-13 the company raised long-term funds only to partly finance its fixed assets. According to principles of sound financial management, core current assets should also be financed from long-term funds.

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On the whole, it can be said that company should make efforts to increase its sales volume and introduce more long-term funds preferably by means of loans to improve its profitability and capitalisation.

3.

(a) The Capital of Madhu Co. Ltd., is as follows:

	(₹)
9% preference shares of ₹10 each	3,00,000
Equity shares of ₹10 each	8,00,000
	11,00,000

The accountant has ascertained the following information:

Profit (after tax at 60%) ₹ 2,70,000; Depreciation ₹ 60,000; Equity dividend paid 20%: market price of equity shares ₹50. You are required to state the following, showing the necessary Workings:

- (i) Dividend yield on the equity shares.
- (ii) Cover for the preference and equity dividends.
- (iii) Earnings for equity shares.
- (iv) Price – earnings ratio.

(b) How fixed assets are analysed in financial modeling?

[5+5]

Answer:

(a) Computation of ratios —

(i) Dividend yield on the equity shares:

$$\begin{aligned} &= \frac{\text{Dividend per share}}{\text{Market price per share}} \times 100 \\ &= \frac{\text{₹2 (i.e. 20\% of ₹10)}}{\text{₹50}} \times 100 = 4\% \end{aligned}$$

(ii) Dividend coverage ratio:

$$\begin{aligned} \text{a. Preference} &= \frac{\text{Profits after taxes}}{\text{Dividend payable to preference shareholders}} \\ &= \frac{\text{₹2,70,000}}{\text{₹27,000 (9\% of ₹3,00,000)}} \\ &= 10 \text{ times} \end{aligned}$$

$$\begin{aligned} \text{b. Equity} &= \frac{\text{Profits After taxes} - \text{Preference share dividends}}{\text{Dividend payable to equity shareholders at current rate of ₹2 per share}} \\ &= \frac{\text{₹2,70,000} - \text{₹27,000}}{\text{₹1,60,000 (80,000 shares} \times \text{₹2)}} \\ &= \frac{\text{₹2,43,000}}{\text{₹1,60,000}} = 1.52 \text{ times} \end{aligned}$$

(iii) Earning for equity shares:

$$= \frac{\text{Earnings available to equity shareholders}}{\text{Number of the equity share outstanding}}$$

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$$= \frac{₹2,43,000}{80,000} = ₹3.04 \text{ per share}$$

(iv) Price- earning (P/E) ratio:

$$\begin{aligned} \text{P/E ratio} &= \frac{\text{Market price per share}}{\text{Earning per share}} \\ &= \frac{₹50.00}{₹3.04} = 16.44 \text{ times} \end{aligned}$$

(b) Financial modeling is the task of building a financial model, or the process of using a financial model for financial decision making and analysis. It is an abstract representation of a financial decision making situation. Financial modeling is used to do historical analysis of a company's performance, and to do projections of its financial performance into the future. Fixed assets are analysed in financial modeling in the following manner:

(A) Each Class of asset should show —

- (i) Opening balance
- (ii) Additions / deletions
- (iii) Depreciation
- (iv) Closing balance

(B) Divide Additions in following —

- (i) Sustainability Capital Expenditure (CAPEX) –historical analysis
- (ii) Capacity expansion addition /Projects / BMR(CWIP)
- (iii) Interest capitalization of the project (CWIP)

(C) In case of any Capacity expansion / Projects / BMR —

- (i) Identify cost of project
- (ii) Add increase capacity because of project in production & revenue
- (iii) Sources of Finance (Debt / Equity), adding it in debt portion

(D) Cash flow impact

(E) Tax benefits on capital expenditure

4.

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

Particulars	2011-12 (₹ crores)	2012-13 (₹ 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

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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) What are the assumptions of Univariate model in respect of distress prediction?

[8+2]

Answer:

(a)

Common-size Income Statement

Particulars	2011-12 % of sales	2012-13 % 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

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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%.

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(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%.

(b) Univariate model of Distress Prediction is based on the following assumptions:

- i. The distribution of the variable (i.e., ratio) for distressed firms (i.e., failed firms) differs systematically from the distribution of the variable for the non-distressed firms (i.e., non-failed firms).
- ii. The systematic difference can be exploited for prediction purpose.

5.

(a) The balance sheets of XYZ Ltd. for the past two years are as under:

Liabilities	31-3-12	31-3-13	Assets	31-3-12	31-3-13
Equity shares	51,000	51,000	Gross fixed assets	61,000	73,000
General reserve	10,000	14,000	Less: accumulated depreciation	16,000	21,000
Surplus	4,000	4,800	Net fixed assets	45,000	52,000
Public deposits	8,000	2,000	Long term investments	30,000	32,000
Debentures	15,000	17,000	Sundry debtors	16,500	12,000
Term loan	20,000	18,000	Inventories	32,000	34,000
Trade creditors	8,000	10,800	Miscellaneous expenses	9,500	10,000
Short term bank borrowing	15,000	20,000			
Provision for tax	2,000	2,400			
Total	1,33,000	1,40,000		1,33,000	1,40,000

(i) One of the important ratios considered by a bank for lending purposes is the ratio of the total outside liabilities to tangible net worth. What is this ratio for XYZ Ltd. for the year ended 31-3-13?

(ii) List out the sources and uses of funds for the year ended 31-3-13 classifying them under the heads long-term and short-term.

(iii) Comment on the uses of funds based on the above.

(b) A ₹ 1,000 par value bond bearing a coupon rate of 12 per cent will mature after 5 years. What is the value of the bond, if the discount rate is 15 per cent? (Given: $PVIFA_{15\%,5 \text{ years}} = 3.352$, $PVIF_{15\%, 5 \text{ years}} = 0.497$)

[(2+4+2)+2]

Answer:

(a)

- (i) Total outside liability (for year ended on 31-3-13) = Public deposits + Debentures + Term loan + Trade creditors + Short term bank borrowing + Provision for tax.
 = ₹ (2,000 + 17,000 + 18,000 + 10,800 + 20,000 + 2,400) = ₹ 70,200
 Tangible net worth (for year ended on 31-3-13) = Equity shares + General reserve + Surplus - Miscellaneous expenses
 = ₹ (51,000 + 14,000 + 4,800 - 10,000) = ₹ 59,800

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The required ratio (total outside liabilities to tangible net worth) for the year ended on 31-3-13 is: ₹ 70,200/₹ 59,800 = 1.17

(ii)

Long-term sources	₹
Net profit (increase in reserve & surplus)	4,800
Depreciation for the year	5,000
Increase in debentures	2,000
Total of long-term sources	11,800

Long-term uses	₹
Purchase of fixed assets	12,000
Additional investments	2,000
Repayment of public deposits	6,000
Repayment of term loan	2,000
Addition to miscellaneous Expenses	500
Total of long-term uses	22,500

Short-term sources	₹
Increase in trade creditors	2,800
Increase in bank borrowing	5,000
Increase in provision for tax	400
Decrease in sundry debtors	4,500
Total of short-term sources	12,700

Short-term uses	₹
Increase in inventories	2,000
Total of short-term uses	2,000

Long-term deficit = ₹ (22,500 – 11,800) = ₹ 10,700

Short-term surplus = ₹ (12,700 – 2,000) = ₹ 10,700

(iii) XYZ Ltd. has diverted short-term funds amounting to ₹ 10,700 raised mainly by resorting to additional market credit and increased short-term bank borrowing, for long term uses like purchase of fixed assets and repayment of public deposits which is not prudent.

(b) Since the annual interest payment will be ₹ 120 for 5 years and the principal repayment will be ₹ 1,000 after 5 years, the value of the bond (V), at a discount rate of 15 per cent, will be

$$\begin{aligned}
 V &= ₹ 120 (PVIFA_{15\%, 5 \text{ years}}) + ₹ 1,000 (PVIF_{15\%, 5 \text{ years}}) \\
 &= ₹ 120 (3.352) + ₹ 1,000 (0.497) \\
 &= ₹ 402.24 + ₹ 497 = ₹ 899.24
 \end{aligned}$$

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Section B

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

6. SUPER 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

SUPER 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	<u>1000</u>
Total	3500
Less : Sundry Creditors	<u>1000</u>
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.

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(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 SUPER 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

(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 SUPER Garments Ltd. after merger with SONA Ltd.	4500	4750	5750	7375	8750	10000	11250	13250	14500	17250
Less: Projected Cash-flows of SUPER 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

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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	<u>1175.000</u>	
		<u>1817.500</u>
		6,475.613
Less: Sundry Creditors	1000.000	
Provision for retirement benefits	120.000	
Retrenchment compensation	<u>325.000</u>	
		<u>1445.000</u>
		<u>5,030.613</u>

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So, SUPER 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.

7. X Ltd and Y Ltd, two private Companies, decide to amalgamate their business into a new Holding Company Z Ltd., which was incorporated on 1st Nov 2012 with an Authorized Capital of ₹40,00,000 in Equity Share of ₹10 each. The new Company plans to commence operation on 1st Jan 2013.

From the information given below, and assuming that all transactions are completed by 30th June 2013, you are required to –

Show the computation of the number of shares to be issued to the former shareholders of X Ltd & Y Ltd.

Calculate the Cash Flow available to Z Ltd. based on the information available to you.

Information

- (i) Z Ltd will acquire the whole of Equity Share Capital of X Ltd and Y Ltd by issuing its own shares fully paid.
- (ii) The number of shares to be issued is to be calculated by multiplying the future annual maintainable profits available to the Equity Shareholders in each of the two Companies by the agreed Price Earning Ratios.
- (iii) The following information is relevant.

Particulars	X Ltd	Y Ltd
Equity Shares of ₹10 each fully paid	10,00,000	4,00,000
8% Cumulative Preference Shares	-	1,00,000
10% Debentures	2,00,000	-
Future annual maintainable pre-tax profits (before interest/dividends)	2,30,000	1,12,000
Price Earning Ratio	10 times	8 times

- (iv) Shares in the Holding Company are to be issued to the shareholders in Subsidiary Companies at a premium of 20% and thereafter these shares will be marketed on the Stock Exchange.
- (v) It is expected that the Group Profits of the new Company in 2013 will be at least ₹4,50,000 but that will be required as additional Working Capital to facilitate expansion. Accordingly, it is planned to make a further issue of 37,500 Equity shares to the public for Cash at a premium of 30% on 1st May 2013. The new shares will not rank for interest / dividend to be paid on 30th June 2013.
- (vi) Out of the proceeds of the Public Issue, Z Ltd will advance ₹2,50,000 to X Ltd and ₹2,00,000 to Y Ltd on 1st May 2013 for Working Capital. These advances will carry interest @ 15% p.a to be paid monthly.

Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

- (vii) Preliminary Expenses are estimated at ₹8,000 and Administrative Expenses for the half-year ended 30th June 2013 at ₹16,000 but this expenditure will be covered by temporary overdraft facility. It is estimated that Bank Overdraft cost will be ₹1,600 in the first six months.
- (viii) A provision for ₹7,500 should be made for Directors Fee for the half year.
- (ix) On 30th June 2013, it is planned to pay interim dividend as: Per share X Ltd – 5% , Y Ltd - 4.40%, Z Ltd - 4%
- (x) Income tax 50%. (Say) [15]

Answer:

1. Computation of number of Shares to be issued

Particulars	X Ltd	Y Ltd
Future Maintainable EBIT	2,30,000	1,12,000
Less: Debenture Interest	(20,000)	-
Profit Before Tax	2,10,000	1,12,000
Less: Income Tax at 50%	(1,05,000)	(56,000)
Profit After Tax	1,05,000	56,000
Less: Preference Dividend	-	(8,000)
Profit to Equity Shareholders	1,05,000	48,000
PE Ratio	10	8
Capitalized Earnings = $\left(\frac{\text{Profit to Equity Share holders}}{1/\text{PE Ratio}} \right)$ $\text{K}_e = \frac{1}{\text{PE Ratio}}$	10,50,000	3,84,000
Number of Shares to be exchanged in Z Ltd at ₹12 per share (including premium of ₹ 2 each)	87,500	32,000

2. Computation of Total Purchase Consideration

Particulars	₹
Issued Share Capital [87,500 + 32,000 = 1,19,500 Shares of ₹10]	11,95,000
Securities Premium 1,19,500 X ₹2 per Share	2,39,000
Total Purchase Consideration	14,34,000

3. Cash Flow Analysis

Receipts	₹	Payments	₹
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Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

To Proceeds of Public Issue		By Payments:	
37,500 shares at ₹10 each	3,75,000	Preliminary Expenses	8,000
Share Premium at 30%	1,12,500	Administration Expenses	16,000
To Interest received on Advances:		Advance to X Ltd	2,50,000
From X Ltd (2,50,000 x 15% x 2/12)	6,250	Advance to Y Ltd	2,00,000
From Y Ltd (2,00,000 x 15% x 2/12)	5,000	Bank Interest	1,600
To Dividends Received:		By Dividends Payable:	
From X Ltd (10,00,000 x 5%)	50,000	₹11,95,000 X 4%	47,800
From Y Ltd (4,00,000 x 4.40%)	17,600	By Balance c/d (balancing figure)	42,950
Total	5,66,350	Total	5,66,350

8 Following are the information of two companies for the year ended 31st March, 2013:

Particulars	Company X	Company Y
Equity Shares of ₹ 10 each	20,00,000	25,00,000
10% Pref. Shares of ₹ 10 each	15,00,000	10,00,000
Profit after tax	7,50,000	7,50,000

Assume the Market expectation is 18% and 80% of the Profits are distributed.

(i) What is the rate you would pay to the Equity Shares of each Company?

(a) If you are buying a small lot.

(b) If you are buying controlling interest shares.

(ii) If you plan to Invest only in preference shares which company's preference shares would you prefer?

(iii) Would your rates be different for buying small lot, if the company 'X' retains 30% and company 'Y' 10% of the profits? [10]

Answer:

(i) (a) **Buying a small lot of equity shares:** If the purpose of valuation is to provide data base to aid a decision of buying a small (non-controlling) position of the equity of the companies, dividend capitalisation method is most appropriate. Under this method, value of equity share is given by:

$$\frac{\text{Dividend per share}}{\text{Market capitalisation rate}} \times 100$$

Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

$$\text{Company X : } ₹ \frac{2.4}{18} \times 100 = ₹ 13.33$$

$$\text{Company Y : } ₹ \frac{2.08}{18} \times 100 = ₹ 11.56$$

(b) Buying controlling interest equity shares: If the purpose of valuation is to provide data base to aid a decision of buying controlling interest in the company, EPS capitalisation method is most appropriate. Under this method, value of equity is given by:

$$\frac{\text{Earning per share (EPS)}}{\text{Market capitalisation rate}} \times 100$$

$$\text{Company X : } ₹ \frac{3}{18} \times 100 = ₹ 16.67$$

$$\text{Company Y : } ₹ \frac{2.6}{18} \times 100 = ₹ 14.44$$

(ii) Preference Dividend coverage ratios of both companies are to be compared to make such decision.

Preference dividend coverage ratio is given by:

$$\frac{\text{Profit after tax}}{\text{Preference Dividend}} \times 100$$

$$\text{Company X : } ₹ \frac{7,50,000}{1,50,000} = 5 \text{ times}$$

$$\text{Company Y : } ₹ \frac{7,50,000}{1,00,000} = 7.5 \text{ times}$$

If we are planning to invest only in preference shares, we would prefer shares of Y Company as there is more coverage for preference dividend.

(iii) Yes, the rates will be different for buying a small lot of equity shares, if the company 'X' retains 30% and company 'Y' 10% of profits.

The new rates will be calculated as follows:

$$\text{Company X : } ₹ \frac{2.1}{18} \times 100 = ₹ 11.67$$

$$\text{Company Y : } ₹ \frac{2.34}{18} \times 100 = ₹ 13.00$$

Working Notes:

1. Computation of earning per share and dividend per share (companies distribute 80% of profits)

	Company A	Company B
Profit after tax	7,50,000	7,50,000
Less: Preference dividend	<u>1,50,000</u>	<u>1,00,000</u>

Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

Earnings available to equity shareholders (A)	6,00,000	6,50,000
Number of Equity Shares (B)	<u>2,00,000</u>	<u>2,50,000</u>
Earning per share (A/B)	3.0	2.60
Retained earnings 20%	1,20,000	1,30,000
Dividend declared 80% (C)	4,80,000	5,20,000
Dividend per share (C/B)	2.40	2.08

2. Computation of dividend per share (Company X retains 30% and Company Y 10% of profits)

Earnings available for Equity Shareholders	6,00,000	6,50,000
Number of Equity Shares	2,00,000	2,50,000
Retained Earnings	1,80,000	65,000
Dividend Distribution	4,20,000	5,85,000
Dividend per share	2.10	2.34

9 (a) A Ltd. is considering the acquisition of B Ltd. with stock. Relevant financial information is given below.

Particulars	A Ltd.	B Ltd.
Present earnings	₹7.5 lakhs	₹2.5 lakhs
Equity (No. of shares)	4.0 lakhs	2.0 lakhs
EPS	₹ 1.875	₹ 1.25
P/E ratio	10	5

Answer the following question:

- (i) What is the market price of each company?
- (ii) What is the market capitalization of each company?
- (iii) If the P/E of A Ltd. changes to 7.5, what is the market price of A Ltd?
- (iv) Does market value of A Ltd. change?
- (v) What would be the exchange ratio based on Market Price? (Take revised Price of A Ltd.)

9 (b) Explain the investment implications of the efficient market theory? [(1×5)+5]

Answer: 9 (a)

Answer to PTP_Final_Syllabus 2012_Jun2014_Set 1

- (i) $P/E = \text{Market Price} / \text{EPS}$. Therefore we have, $\text{Market price} = P/E \times \text{EPS}$
 A Ltd.'s Market Price = $10 \times 1.875 = ₹18.75$
 B Ltd.'s Market Price = $5 \times 1.25 = ₹6.25$
- (ii) Market Capitalization (same as market value or in short referred as market Cap)
 = Number of outstanding shares \times market Price
 A Ltd.'s Market cap = $4.0 \text{ lakhs} \times ₹ 18.75 = ₹75 \text{ Lakhs}$
 B Ltd.'s market cap = $2.0 \text{ lakhs} \times ₹ 6.25 = ₹12.5 \text{ Lakhs}$
- (iii) If the P/E of A Ltd. changes to 7.5, then the market price is given by
 = $7.5 \times ₹1.875 = ₹14.0625$
- (iv) Yes. The market value decreases. i.e. = A Ltd.'s market Value = $4.0 \text{ lakhs} \times ₹ 14.0625$
 = ₹56.25 Lakhs.
- (v) General Formula for exchange ratio = $6.25/14.0625 = 0.44$

Answer: 9(b)

Investment implications of the efficient market theory:

- (i) The substantial evidence in favour of the randomness of stock price behavior suggests that technical analysis, which is based on the premise that stock prices follow certain patterns, represents useless market folklore.
- (ii) Routine and conventional fundamental analysis is not of much help in identifying profitable courses of action more so when you are looking at actively traded securities. The efficiency of the market place depends on the presence of numerous investors who make competent, efforts to analyze information and take appropriate actions on their analysis.
- (iii) The Key levers for earning superior rates or return are:-
- Early action on any new development
 - Sensitivity to market imperfections and anomalies
 - Use of original unconventional and innovative modes of analysis
 - Access to inside information and its sensible interpretation.

10 Given below is the Balance Sheet of MNC Ltd as on 31.03.2013 (₹ Lakhs)

Liabilities	₹	Assets	₹
Share Capital	100.00	Sundry Fixed	144.00
Reserve	64.00	Non- Trade Investments	24.00
Profit and Loss Account	6.00	Stock	15.60
Sundry Creditors	16.40	Debtors	12.40

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Proposed Dividend	20.00	Cash & Bank	10.40
Total	206.40	Total	206.40

Other Information:

(i) Profit Before Tax and Other relevant information: (₹ Lakhs)

Year	Profit Before Tax	Provision for Gratuity required	Gratuity Paid	Loss of uninsured stock
2009	84.00	4.40	-	-
2010	78.00	4.60	3.34	1.24
2011	88.00	5.00	0.64	-
2012	84.00	5.20	2.84	-
2013	74.00	5.40	0.24	-

(ii) Past Tax Rate is 51% while Expected Tax Rate is 45%.

(iii) The Company wants to switch over towards maintaining gratuity provision on actuarial calculation rather than accounting on payment basis. The Company's Non-Trade Investments fetched 11%.

Find out value of Goodwill. It may be assumed that Super Profit, if any, is maintainable for 5 years. 18% should be the appropriate discount factor. Normal Rate of Return may be taken as 15%. [10]

Answer:

1. Computation of Future Maintainable Profits (₹ Lakhs)

Particulars	2009	2010	2011	2012	2013
Profit Before Tax	84.00	78.00	88.00	84.00	74.00
Less: Provision for Gratuity	(4.40)	(4.60)	(5.00)	(5.20)	(5.40)
Add: Gratuity Paid	—	3.34	0.64	2.84	0.24
Add: Abnormal Loss	—	1.24	—	—	—
Adjusted Profits	79.60	77.98	83.64	81.64	68.84
Simple Average Profit (See Note below) $(79.60 + 77.98 + 83.64 + 81.64 + 68.84) \div 5$					78.34
Less : Income from Non-Trade Investments at 11% of ₹24 Lakhs					(2.64)
Adjusted Profit Before Tax = Future Maintainable PBT					75.70
Less : Tax Expense at 45%					(34.06)
Adjusted Profit After Tax = Future Maintainable PAT					41.64

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Note: Since Profits show an oscillating trend, Simple Average Profit shall be more appropriate than Weighted Average or Trend Equation Methods.

2. Computation of Average Capital Employed

Particulars	₹ Lakhs	
Total of Assets as per Balance Sheet		206.40
Less: Non- Trade Investments and Sundry Creditors (24.00 +16.40)		(40.40)
Closing Capital Employed		166.00
Less: 50% of Profit After Tax earned in 2013 as per Books		
PAT = PBT less Tax at 51% = 74.00 Less 51% thereon = ₹36.26 Lakhs	36.26	
50% of the above PAT for the year		(18.13)
Average Capital Employed		147.87

3. Computation of Goodwill (₹ Lakhs)

(a) Capitalization Method:

Expected Capital (Future Maintainable Profit ÷ NRR) = ₹41.64 Lakhs ÷ 15%	277.60
Less: Closing Capital Employed Less Proposed Dividend = 166.00 - 20.00	146.00
Goodwill using Capitalization Method	131.60

(b) Super Profit Method:

Future Maintainable Profit	41.64
Less: Normal Profit at 15% Average Capital Employed (15% of ₹147.87 Lakhs)	22.18
Super Profits	19.46
Goodwill at 5 years' purchase of Super Profits	97.30

Note: Alternatively Normal Profit can be computed based on Closing Capital Employed

(c) Annuity Method:

Super Profits	19.46
Annuity Factor for 5 years at 18%	3.127
Goodwill using Annuity Method	60.85

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Note and Assumptions:

1. Under Capitalization Method, Closing Capital is considered, whereas under Super Profit Method, Average Capital Employed is considered for calculating Normal Profits.
2. Discount Rate and Normal Rate of Return given above are after tax rates.