

Paper 20 - Financial Analysis and Business Valuation

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Paper 20 - Financial Analysis and Business Valuation

Time Allowed: 3 Hours

Full Marks: 100

Question No. 1 which is compulsory and carries 20 marks and answer any 5 questions from Q. No. 2 to Q. No. 8.

1(a). State whether the following statements are true or false: [1×8=8]

- (i) Valuation, Sensitivity analysis and presentation are not a part of Financial Modeling Process.
- (ii) Financial analysis which is made by prospective investors is known as internal analysis.
- (iii) If Z-Score is greater than 2.99 it is predicted that the firm belongs to bankrupt class.
- (iv) Whenever the yield on a bond is more than coupon rate, the bond will be trading at a discount.
- (v) A brand is nothing but a glorified product name; hence it has no value.
- (vi) Valuing a firm using discounted cash flow method is conceptually different from valuing a capital project using present value method.
- (vii) Higher the Dividend Pay-out Ratio of a company, higher is its Price/Earning (P/E) Ratio.
- (viii) If a company has built up intangibles over a period of time, then it can show them in its Balance Sheet and thus, the book value of the company's share will increase.

1(b). The operating and cost data of ABC Ltd. are: Sales ₹20,00,000 Variable Costs ₹14,00,000 Fixed Costs ₹4,00,000 (including 15% interest on ₹10,00,000). You are required to calculate its operating, financial and combined leverage? [6]

1(c). For Goal Ltd. the FCFE projected for next 3 years are stated below along with the immediately past year FCFE. You are required to value equity share by DCF approach. From Year 4 FCFE is expected to grow at 3% p.a. Cost of equity is measured at 15% p.a. Number of shares outstanding is 1,00,000. [6]

	Past Year	Projected		
		Year 1	Year 2	Year 3
FCFE(₹Lakhs)	160	180	200	220

Discounting Factor @ 15% p.a. Year 1= 0.869565, Year 2= 0.756144, Year 3= 0.657516.

Answer:

(a)

- (i) False
- (ii) False
- (iii) False
- (iv) True
- (v) False
- (vi) False
- (vii) True
- (viii) False

(b) Sales = ₹20,00,000
Variable Cost = ₹14,00,000
Contribution = ₹6,00,000
Less: Fixed Cost = ₹2,50,000

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

EBIT	= ₹3,50,000
Less: Interest	= ₹1,50,000
EBT	= ₹2,00,000

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{6,00,000}{3,50,000} = 1.71428$$

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{3,50,000}{2,00,000} = 1.75$$

$$\text{Combined Leverage} = 1.75 \times 1.71428 = 3$$

(c) Value of Equity Share of Goal Ltd. by DCF Approach

	Year 0	Year 1	Year 2	Year 3
FCFE (₹ lakh)	#	180	200	220
Discounting Factor		0.869565	0.756144	
PV of Yr 1 FCFE	156.52			
PV of Yr 2 FCFE	151.23			
Terminal Value at the end of Yr. 2*			1833.333	
PV of Terminal Value **	1386.264			
Value of Equity [156.52+151.23+1386.264] (₹ lakh)	1694.01			
Value per share [Value of Equity/Number of Shares] ₹	1694.01			

past year FCFE is irrelevant for valuation.

* Use the formula based on Gordon. Terminal Value of the firm at the end of year 2 = FCFE/(Ke-G)

for the infinite series of FCFE from year 3 to infinity = 220/(0.15-0.03) = 1833.333.

** PV of Terminal Value at year 0 = 1833.33/(1+0.15)² = 1386.264

Note: the long term growth rate is applicable on the subsequent FCFE and not on the first FCFE of the series. Hence the series starts with Year 3 FCFE and the PV for the infinite series by application of Gordon formula is obtained at the end of Year 2(always 1 year before the starting cash flow.)

Alternative solution:

	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4
FCFE (₹ lakh)		180	200	220	226.6
Discounting Factor		0.869565	0.756144	0.657516	
PV of Yr 1 FCFE	156.52				
PV of Yr 2 FCFE	151.23				
PV of Yr 3 FCFE	144.6535				
Terminal Value at the end of Yr 3				1888.333	
PV of Terminal Value	1241.61				
Value of Equity ΣDCF (₹ lakh)	1694.01				
Value per share ₹	1694.01				

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Note: Terminal Value at end of Year 3 = $226.6 \div (0.15-0.03) = 1888.333$

PV of Terminal Value at year 0 = $1888.333 \div (1+0.15)^3 = 1241.61$

2. The following are condensed comparative financial statement, of Rajarshi Ltd. for the three years ended 31st March, 2014, 2015 and 2016:

	2015-16 (₹)	2014-15 (₹)	2013-14 (₹)
Current Assets:			
Bank	20,500	7,600	17,000
Debtors	38,000	30,000	20,000
Stock	60,000	40,000	30,000
Prepaid expenses	1,500	2,400	3,000
Total Current Assets	1,20,000	80,000	70,000
Non-current Assets:			
Plant and Equipment	2,60,000	1,50,000	76,000
Total Assets	3,80,000	2,30,000	1,46,000
Current Liabilities:			
Creditors	98,000	78,000	48,500
Provision for Income Tax	2,000	2,000	1,500
Total Current Liabilities	1,00,000	80,000	50,000
Non-current Liabilities:			
Debentures	50,000	50,000	-
Shareholders' Fund:			
Equity Share Capital(₹100 shares)	2,00,000	80,000	80,000
Profit and Loss A/c	30,000	20,000	16,000
Total Liabilities	3,80,000	2,30,000	1,46,000

	2016 (₹)	2015 (₹)	2014 (₹)
Sales	2,10,000	1,20,000	1,00,000
Cost of Sales	1,57,500	80,000	55,000
Gross Profit	52,500	40,000	45,000
General and Selling Expenses	42,500	36,000	37,000
Net Profit	10,000	4,000	8,000

Additional Information:

- I. The company's closing inventory on 31st March, 2013 was ₹10,000
- II. Credit terms are net 60 days from the date of invoice.

You are required to calculate the following ratios with brief comments thereon:

- (i) Current Ratio, (ii) Acid – test Ratio, (iii) Inventory turnover Ratio, (iv) Debtors' collection period (or average age of outstanding), (v) Gross profit margin percentage, (vi) Earnings per share, and (vii) Fixed assets to shareholders' equity.

16

Answer:

(1) Current Ratio:

	2013-14	2014-15	2015-16
$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$\frac{₹ 70,000}{50,000} = 1.4$	$\frac{₹ 80,000}{80,000} = 1$	$\frac{₹ 1,20,000}{1,00,000} = 1.2$

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

The liquidity position of the company is not good. Although the current assets have increased every year under consideration but the current liabilities have also increased. So, it can be said that the current assets have not been used properly to maintain the liquidity position.

(2) Acid Test Ratio:

	2013-14	2014-15	2015-16
$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$	$\text{₹ } \frac{37,000}{50,000} = 0.74$	$\text{₹ } \frac{37,600}{80,000} = 0.47$	$\text{₹ } \frac{58,500}{1,00,000} = 0.585$

Working capital position is not satisfactory. Additional funds raised are invested in fixed assets instead of providing necessary working capital. The company may not be in a position to meet its obligations in time.

(3) Gross Profit Ratio:

	2013-14	2014-15	2015-16
$\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	$\text{₹ } \frac{45,000}{1,00,000} \times 100 = 45\%$	$\text{₹ } \frac{40,000}{1,20,000} \times 100 = 33\frac{1}{3}\%$	$\text{₹ } \frac{52,000}{2,10,000} \times 100 = 25\%$

Gross Profit ratio is declining significantly. This may be due to disposal of stocks at reduced selling prices. Increased investment in the business had not resulted in increase in profits.

(4) Inventory Turnover:

	2013-14	2014-15	2015-16
$\frac{\text{Cost of goods sold}}{\text{Average Stock}}$	$\text{₹ } \frac{55,000}{20,000} = 2.75$	$\text{₹ } \frac{80,000}{35,000} = 2.29$	$\text{₹ } \frac{1,57,500}{50,000} = 3.15$

The movement of stock is very slow. It seems there is sufficient number of unsaleable items of inventories.

(5) Debt Collection Period:

	2013-14	2014-15	2015-16
$\frac{\text{Accounts receivable}}{\text{Average daily credit sales}}$	$\text{₹ } \frac{20,000}{1,00,000} \times 365$ = 73 days	$\frac{30,000}{1,20,000} \times 365$ = 91 days	$\text{₹ } \frac{38,000}{2,10,000} \times 365$ = 66 days

The debt collection period is more than allowed as per terms of credit. It is declining each year but still more credit control is required.

(6) Earnings per Share:

	2013-14	2014-15	2015-16
$\frac{\text{Net Profit available for equity shareholders}}{\text{Number of equity shares}}$	$\frac{8,000}{800} = \text{₹ } 10$	$\frac{4,000}{800} = \text{₹ } 5$	$\frac{10,000}{2,000} = \text{₹ } 5$

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Earnings per share have decreased in 2014-15 by 50% as compared to 2013-14. This is quite alarming.

(7) Fixed Assets to Shareholders' Equity:

	2013-14	2014-15	2015-16
Fixed Assets	76,000	1,50,000	2,60,000
Shareholders' funds	96,000	1,00,000	2,30,000
	$\frac{76,000}{96,000} = 0.79$	$\frac{1,50,000}{1,00,000} = 1.5$	$\frac{2,60,000}{2,30,000} = 1.13$

Funds raised by issue of shares and debentures have been invested in fixed assets. However, such investment has not resulted in increase in the earnings of the company. It shows that fixed assets have not been effectively utilized.

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

$$\frac{\text{Working Capital}}{\text{Total Assets}} = 25\%$$

$$\frac{\text{Retained Earnings}}{\text{Total Assets}} = 30\%$$

$$\frac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}} = 15\%$$

$$\frac{\text{Market Value of Equity}}{\text{Book Value of Total Debt}} = 150\%$$

$$\frac{\text{Sales}}{\text{Total Assets}} = 2 \text{ times}$$

8

(b). Ved Ltd. which is considering two financial plans provides you the following information's:

- Total funds to be raised, ₹4,00,000
- Financing Plans: A- 50% Equity and balance 8% Debt.
 B – 50% Equity and balance 8% Preference Shares
- Tax rate: 35%
- Equity shares of face value ₹10 each
- Expected EBIT, ₹1,60,000.

You are required to determine:

- (i) Earnings per share (EPS) and Financial break-even point.
- (ii) Indicate if any of the plans dominate, and compute the EBIT range among the plans for difference.

8

Answer:

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

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

Here, the five variables are as follows:

$$X_1 = \text{Working Capital to Total Assets} = 25\%$$

$$X_2 = \text{Retained Earnings to Total Assets} = 30\%$$

$$X_3 = \text{EBIT to Total Assets} = 15\%$$

$$X_4 = \text{Market Value of Equity Shares to Book Value of Total Debt} = 150\%$$

$$X_5 = \text{Sales to Total Assets} = 2 \text{ times}$$

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Hence, Z-score = $(1.2 \times 0.25) + (1.4 \times 0.30) + (3.3 \times 0.15) + (0.6 \times 1.50) + (1 \times 2)$.
 = $0.300 + 0.420 + 0.495 + 0.900 + 2.000 = 4.115$

Note:

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

(b)

(i) **Determination of EPS under A and B**

Particulars	Plan A (₹)	Plan B (₹)
EBIT	1,60,000	1,60,000
Less: Interest	16,000	-
EBT	1,44,000	1,60,000
Less : Tax @ 35%	50,400	56,000
EAT	93,600	1,04,000
Less: Pref. Dividend	-	16,000
Earning for Equity – holders	93,600	88,000
Number of shares	20,000	20,000
EPS	4.68	4.40

Financial BEP for plans, A and B

$$\begin{aligned} \text{Financial BEP} &= \text{Interest} + \frac{\text{Pref.Dividend}}{(1-t)} \\ \text{For Plan A} &= ₹ 16,000 + 0 = ₹ 16,000 \\ \text{For Plan B} &= ₹ 0 + \frac{₹ 16,000}{1-0.35} = ₹ 24,615 \end{aligned}$$

(ii) **Calculation of Indifference Point among A and B:**

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

$$\frac{(X - ₹ 16,000)(1-0.35) - 0}{20,000} = \frac{(X - 0)(1-0.35) - ₹ 16,000}{20,000}$$

$$\text{Or, } 0.65X - ₹ 10,400 = 0.65X - ₹ 16,000$$

$$\text{Or, } 0.65X - 0.65X = ₹ 10,400 - ₹ 16,000$$

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

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

4(a). From the following information as contained in the income statement (extract) and balance Sheet (extract), calculate – (i) cash receipts from customers, (ii) cash payment to suppliers and employees, (iii) cash flows from operating activities and (iv) cash flows from financing activities.

Income Statement (extracts) for the year ended, 31st March, 2016

	₹	₹
Net Sales		40,32,000
Less: Cost of Sales	31,68,000	
Depreciation	96,000	

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Salaries & Wages	3,84,000	
Operating expenses	1,28,000	
Provision for taxation	1,40,800	39,16,800
Net Operating profit		1,15,200
Non-recurring Income:		
Profit on sale of equipment		19,200
Profit for the year		1,34,400

Comparative Balance Sheet (extracts)

	As on 31.3.2015 (₹)	As on 31.3.2016 (₹)
Fixed Assets:		
Land	76,800	1,53,600
Building, Plant and Equipments	5,76,000	9,21,600
Current Assets:		
Cash and Cash equivalents	96,000	1,15,200
Debtors	2,68,800	2,97,600
Stock	4,22,400	1,53,600
Advances	12,480	14,400
	14,52,480	16,56,000
Capital	5,76,000	7,10,400
Surplus in Profit & Loss A/c	2,42,880	2,62,080
Sundry creditors	3,84,000	3,74,400
Outstanding expenses	38,400	76,800
Income-tax expenses	19,200	21,120
Accumulated depreciation on building, plant and equipments	1,92,000	2,11,200
	14,52,480	16,56,000

12

(b). A 10 year's bond of ₹1,000 has an annual rate of interest of 12%. The interest is paid half-yearly. What is the value of the bond if the required rate of return is (I) 12% and (II) 16%?

4

Answer:

(a)

(i) Cash receipts from customers

	₹
Sales	40,32,000
Add: Debtors at the beginning	2,68,800
	43,00,800
Less: Debtors at the end	2,97,600
Cash receipts from customers	40,03,200

(ii) Cash payments to suppliers and employees

	₹	₹
Cost of goods sold		31,68,000
Add: Operating expenses		1,28,000
Salaries & wages		3,84,000
		36,80,000
Add: Creditors at the beginning	3,84,000	
Outstanding expenses at the beginning	38,400	
Stock at the end	1,53,600	
Advances at the end	14,400	5,90,400

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

		42,70,400
Less: Creditors at the end	3,74,400	
Outstanding expenses at the end	76,800	
Stock at the beginning	4,22,400	
Advances at the beginning	12,480	8,86,080
Cash paid to suppliers and employees		33,84,320

(iii) Cash flows from operating activities

	₹
Cash receipts from customers	40,03,200
Cash paid to suppliers and employees	(33,84,320)
Cash generated from operations	6,18,880
Income-tax paid (₹ 19,200 + ₹ 1,40,800 – ₹ 21,120)	(1,38,880)
Net cash inflow from operating activities	4,80,000

(iv) Cash flows from financing activities

	₹
Issue of share capital	1,34,400
Dividend paid	(1,15,200)
Net cash inflow from financing activities	19,200

(b) (i) Given the required rate of return of 12 per cent, the value of the bond is —

$$\begin{aligned}
 B_0 &= \sum_{t=1}^{2 \times n} \frac{1/2(INT_t)}{(1+k_d/2)^t} + \frac{B_n}{(1+k_d/2)^{2 \times n}} \\
 &= \sum_{t=1}^{2 \times 10} \frac{1/2 \times (120)}{(1+0.12/2)^t} + \frac{1,000}{(1+0.12/2)^{2 \times 10}} \\
 &= \sum_{t=1}^{20} \frac{60}{(1.06)^t} + \frac{1,000}{(1.06)^{20}} \\
 &= ₹ 60 \times \text{Annuity factor (6\%, 20)} + ₹ 1,000 \times \text{PV factor (6\%, 20)} \\
 &= ₹ 60 \times 11.4699 + ₹ 1,000 \times 0.3118 = ₹ 688.19 + ₹ 311.80 \\
 &= ₹ 999.99 \text{ or } ₹ 1,000.
 \end{aligned}$$

(ii) If the required rate of return were 16 per cent, then the value of the bond would be —

$$\begin{aligned}
 B_0 &= \sum_{t=1}^{20} \frac{60}{(1.08)^t} + \frac{1,000}{(1.08)^{20}} \\
 &= ₹ 60 \times \text{Annuity factor (8\%, 20)} + ₹ 1,000 \times \text{PV factor (8\%, 20)} \\
 &= ₹ 60 \times 9.8181 + ₹ 1,000 \times 0.2145 = ₹ 589.09 + ₹ 214.50 \\
 &= ₹ 803.59.
 \end{aligned}$$

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

5. Super Garments Ltd. is a company which produces and sells to retailers 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	3,750	4,250	5,000	6,250	7,500	8,500	9,500	11,250	12,500	15,000

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	1,150	1,300	1,500	1,650	2,000

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 lakhs
Sundry fixed assets	2,000
Investments	500
Stock	1,000
Total	3,500
Less: Sundry creditors	1,000
Net Assets	2,500

- ii) Sundry fixed assets amounting to ₹1,25,00,000 cannot be used and their net realizable value is ₹1,12,50,000
- iii) Stock can be realized 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	4,500	4,750	5,750	7,375	8,750	10,000	11,250	13,250	14,500	17,250

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

16

Answer:

- (i) Calculation of operational synergy expected to arise out of merger

Year	1	2	3	4	5	6	7	8	9	10
Projected cash flow of	4500	4750	5750	7375	8750	10000	11250	13250	14500	17250

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Super Garment Ltd. After merger with Sona Ltd.										
Less: Projected cash flows of Super Garment 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

(ii) Valuation of Sona Ltd. Ignoring merger

Year	Cash flows (₹ in lakhs)	Discount factor	Discount cash flow (₹ in lakhs)
1	300	0.8333	249.990
2	400	0.6944	277.760
3	500	0.5787	289.350
4	700	.4823	337.610
5	850	.4019	341.615
6	1150	.3349	385.135
7	1300	.2791	362.830
8	1500	.2326	348.900
9	1650	.1938	319.770
10	2000	.1615	323.000
			3235.960

(iii) Valuation of Sona Ltd. Individually in case of merger.

Year	Cash flows (₹ in lakhs)	Discount Factor	Discounted Cash Flow (₹ in lakhs)
1	750	0.8333	624.975
2	500	.6944	347.200
3	750	.5787	434.025
4	1125	.4823	542.588
5	1250	.4019	502.375
6	1500	.3349	502.350
7	1750	.2791	488.425
8	2000	.2326	465.200
9	2000	.1938	387.600
10	2250	.1615	363.375
			4658.113

(iv) Maximum value to be quoted

	₹ in lakhs	₹ in lakhs
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

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

		6,475.613
Less: Sundry Creditors	1000.000	
Provision for retirement benefits	120.000	
Retrenchment Compensation	325.000	1445.000
		5,030.613

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.

6(a). You are given following information about Sandeep Ltd.

- | | |
|--|--------|
| i) Beta for the year 2015-16 | 1.05 |
| ii) Risk free rate | 12% |
| iii) Long Range Market Rate (based on BSE Sensex) | 15.14% |
| iv) Extracts from the liabilities side of balance sheet as at 31 st March, 2016 | |

	₹
Equity	29,160
Reserves and surplus	43,740
Shareholder's Fund	72,900
Loan funds	8,100
Total funds (long-term)	81,000

- | | |
|--|------------------|
| v) Profit after tax | ₹20,394.16 lakhs |
| vi) Interest deducted from profit | ₹487.00 lakhs |
| vii) Effective tax rate (i.e. Provision for Tax/PBT x 100) | 24.45% |
| Calculate Economic values Added of Sandeep Ltd. as on 31 st March 2016. | 8 |

(b). The following financial share data pertaining to TECHNO LTD. an IT company is made available to you:

Year ended March 31 st	2016	2015	2014
EBIT (₹)	696.03	325.65	155.86
Non-branded Income (₹)	53.43	35.23	3.46
Inflation compound factor @8%	1.000	1.087	1.181
Remuneration of Capital	5% of average capital employed		
Average capital employed (₹)	1112.00		
Corporate Tax Rate	35%		
Capitalization Factor	16%		

You are required to calculate the Brand Value for Techno Ltd.

8

Answer:

(a) We know that $EVA = NOPAT - \text{Cost of Capital Employed}$

Where, EVA = Economic Value Added

NOPAT = Net Operating Profit after tax

Required calculations are as follows:

(i) **NOPAT**

Profit After Tax	₹20,394.16 lakhs
Add: Interest Net of tax [(₹487 lakh (1 - 0.2445))]	₹367.93 lakhs
NOPAT	₹20,726.09 lakhs

(ii) Cost of Equity:

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

$$\begin{aligned}
 \text{Cost of Equity} &= \text{Risk free rate} + \beta [\text{Market rate} - \text{Risk free return}] \\
 &= 12\% + 10.5 \times [15.14\% - 12.00\%] \\
 &= 12\% + 3.30\% \\
 &= 15.30\%
 \end{aligned}$$

(iii) Cost of Debt

$$\text{Cost of debt} = \frac{\text{Interest on Loan Funds} (1 - \text{Tax rate})}{\text{Loan Funds}} \times 100$$

$$\text{Cost of debt} = \frac{487 \times (1 - 0.2445)}{8100} \times 100 = 4.54\%$$

(iv) Weighted Average Cost of Capital (WACC)

	Amount (₹ in lakhs)	Weight	Cost	WACC %
Equity	72,900	0.90	15.30	13.77
Debt	8,100	0.10	4.54	0.45
	81,000	1.00		14.22

(v) Cost of capital employed = ₹81,000 x 14.22% = ₹11,518.20 lakhs

(vi) EVA = NOPAT – Cost of Capital Employed

$$= ₹20,726.09 \text{ lakhs} - ₹11,518.20 \text{ lakhs}$$

$$= ₹9,207.89 \text{ lakhs}$$

(b)

**ZIZO Ltd.
Computation of Brand Value**

Year ended 31 st March	2016	2015	2014
EBIT (₹)	696.03	325.65	155.86
Less: Non-branded income (₹)	53.43	35.23	3.46
Adjusted Profits	642.60	290.42	152.40
Inflation compound factor @ 8%	1.000	1.087	1.181
Present value of profits for the brand	642.60	315.69	179.98
Weight age factor	3	2	1
Weight age profits	1927.8	631.38	179.98
Profits	456.53		
Remuneration of capital (5% of average capital employed)	55.60		
Brand related	400.93		
Corporate tax @ 35%	140.33		
Brand earning	260.60		
Capitalization factor	16%		

$$\text{Brand value} = (\text{Return} / \text{Capitalization rate}) = (260.60 / 0.16) = ₹1628.75.$$

7(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 to MTP_ Final _Syllabus 2012_ December 2016_Set 1

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.) 8

- (b). Given – (i) future maintainable Profit before Interest = ₹125 lakhs; (ii) Normal rate of Return on Long Term Funds is 19% and on Equity Funds is 24%; (iii) Long Term Funds of the Company is ₹320 Lakhs of which Equity funds is ₹210 Lakhs; (iv) Interest on Loan Fund is 18%. Find out leverage effect on goodwill if tax rate = 30%. 8

Answer:

(a)

- (i) $P/E = \text{Market Price} / \text{EPS}$. Therefore we have, $\text{Market price} = P/E \times \text{EPS}$

$$\text{A Ltd.'s Market Price} = 10 \times 1.875 = ₹18.75$$

$$\text{B Ltd.'s Market Price} = 5 \times 1.25 = ₹6.25$$

- (ii) Market Capitalization (same as market value or in short referred as market Cap)
= Number of outstanding shares \times market Price

$$\text{A Ltd.'s Market cap} = 4.0 \text{ lakhs} \times ₹18.75 = ₹75 \text{ Lakhs}$$

$$\text{B Ltd.'s market cap} = 2.0 \text{ lakhs} \times ₹6.25 = ₹12.5 \text{ Lakhs}$$

- (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 = $4.0 \text{ lakhs} \times ₹14.0625$
 $= ₹56.25 \text{ Lakhs}$.

- (v) General Formula for exchange ratio = $\frac{\text{MPS of Target Firm}}{\text{MPS of acquiring Firm}} = \frac{6.25}{14.0625} = 0.44$

- (b) Long Term Loan Funds = Total Long term Funds Less Equity Funds = $320 - 210 = ₹110 \text{ Lakhs}$.
Interest at 18% thereon = $₹110 \text{ Lakhs} \times 18\% = ₹19.80 \text{ Lakhs}$.

Computation of Future Maintainable Profit

(₹ Lakhs)

Particulars	Owners Funds	Total Funds
Profit Before Interest	125.00	125.00
Less: Interest on Long Loans	19.80	N.A.
Future maintainable Profit before Tax	105.20	125.00
Less: Tax Expense at 30%	31.56	37.50
Future Maintainable Profits after Tax	73.64	87.50

Answer to MTP_ Final _Syllabus 2012_ December 2016_Set 1

Computation of Goodwill under different approaches

(₹ Lakhs)

Particulars	Owners Funds	Total Funds
(I) Future Maintainable Profits after Tax	73.64	87.50
(II) Normal Rate of Return	24%	19%
(III) Normal Capital Employed = (I÷II)	306.83	460.52
(IV) Actual Capital Employed (given)	210.00	320.00
(V) Goodwill = (III – IV)	96.83	140.52

Hence, Leverage Effect on Goodwill = ₹140.52 - ₹96.83 = ₹ **43.69 Lakhs**

8. Short note on any four of the below:

4×4=16

- Financial Synergy Vs Operating Synergy
- Common error in Business Valuation
- Financial forecasting
- Financial models
- Hostile Takeover

Answer:

a) Financial Synergy – It refers to

- Better use of excess cash,
- A greater tax benefit from accumulated loss,
- Tax deductions, and
- An increase in debt-equity with scope for increase in firm's value.

Operating Synergy – This is the increase in the value that accrues to a combined firm either from economies of scale or from increased sale/ profits and from some exploitable opportunities like raising prices, cutting corporate overhead and eliminating waste.

b) Common Business Valuation Errors (VE)

VE 1: When the valuation report does not expressly include valuation purpose.

VE 2: When the valuation report does not define the standard of value.

VE 3: When the valuation report does not consider the premise of value.

VE 4: When the valuation report treats going concern as the standard of value.

c) Financial forecasting:

A forecast is a prediction about a condition or situation at some future time. Much of human activity is based on forecasts. Forecasting is an important part of our lives. Business decisions, and especially financially related business decisions, depend heavily on forecasts of future events. Decisions to lend money or borrow money depend on forecasts of future cash flow and future expected returns. For example, if Sandip agrees to lend Tapas some money, it is assumed that Sandip expects to be repaid.

Forecasting requires a willingness to make assumptions, which are the basic input in any forecast. An unwillingness to make assumptions about the future is the equivalent

of an unwillingness to forecast. Any time a forecast is made, assumptions are made as well, whether or not the forecaster realizes it.

A good financial forecast should have two attributes:

(i) It should include a list of all the relevant and significant assumptions that were used in making it. An assumption is relevant if it is likely to occur and to have a direct impact on the financial variable being forecasted. An assumption is significant if it is likely to occur and if the magnitude of its impact on the financial variable under study will be too large.

(ii) Sensitivity Analysis – It is a process by which each assumption is adjusted and the impact of the adjustment on the forecast is examined.

d) Financial models

Financial modeling supports management in making important business decisions. It involves the quantification of the potential impact of decisions on the profit and loss account, balance sheet and cash flow statements. Through financial models, managers can determine the outcome of a proposal before even its execution and rely on a rational and comprehensive justification for their decisions. Moreover, these models enable managers to study different options and scenarios without imposing any risk on the business. To avoid the common pitfalls related to financial modeling, designers should follow five basic principles. They should make sure that the model satisfies its objectives, maintain model flexibility, take inflation into consideration, present the model clearly and interestingly, and measure outcome.

Possible Applications:

- Business plan performance & valuation
- Scenario planning and management decision making, (expansions & strategic planning analysis),
- Project finance
- Equity Investment
- Portfolio & Risk Management
- Credit Analysis
- Fair Valuation

e) Hostile Takeover Bid:

The acquiring firm, without the knowledge and consent of the management of the target firm, may unilaterally pursue the efforts to gain a controlling interest in the target firm, by purchasing shares of the latter firm at the stock exchanges. This is a technique for affecting either a takeover or an amalgamation. It may be defined as an offer to acquire shares of a company, whose shares are not closely held, addressed to the general body of shareholders with a view to obtaining at least sufficient shares to give the offer or voting control of the company. Takeover Bid is thus adopted by company for taking over the control and management affairs of listed company by acquiring its controlling interest.

While a takeover bid is used for affecting a takeover, it is frequently against the wishes of the management of Offeree Company when it becomes a hostile takeover bid. It may take the form of an offer to purchase shares for cash or for share for share exchange or a combination of these two. Such case of merger/acquisition is popularity known as 'raid'. The Caparo group of the U.K. made a hostile takeover bid to takeover DCM Ltd. and Escorts Ltd. Similarly, some other NRIs have also made hostile bid to takeover some other Indian companies. The new takeover code, as announced by SEBI deals with the hostile bids.