Required:

Estimate the value of WXY Ltd. using Free Cash Flows to Firm (FCFF) &WACC methodology.

The PVIF @ 15 % for the three years are as below:

| **Year** | $t_1$ | $t_2$ | $t_3$ |
|---|---|---|---|
| **PVIF** | 0.8696 | 0.7561 | 0.6575 |

**(SM TYK – 08)**

**Solution:**

**Determination of forecasted Free Cash Flow of the Firm (FCFF)**

**(₹ in crores)**

| | Yr. 1 | Yr.2 | Yr.3 | Terminal Year |
|---|---|---|---|---|
| Revenue | 9000.00 | 10800.00 | 12960.00 | 13996.80 |
| COGS | 3600.00 | 4320.00 | 5184.00 | 5598.72 |
| Operating Expenses | 1980.00 | 2376.00 | 2851.20 | 3079.30 |
| Depreciation | 720.00 | 864.00 | 1036.80 | 1119.74 |
| EBIT | 2700.00 | 3240.00 | 3888.00 | 4199.04 |
| Tax @ 30% | 810.00 | 972.00 | 1166.40 | 1259.71 |
| EAT | 1890.00 | 2268.00 | 2721.60 | 2939.33 |
| Capital Exp. – Dep. | 172.50 | 198.38 | 228.60 | - |
| Δ Working Capital | 375.00 | 450.00 | 540.00 | 259.20 |
| Free Cash Flow (FCF) | 1342.50 | 1619.62 | 1953.47 | 2680.13 |

* Excluding Depreciation. Present Value (PV) of FCFF during the explicit forecast period is:

| FCFF(₹ in crores) | PVF @ 13% | PV (₹ in crores) |
|---|---|---|
| 1342.50 | 0.8696 | 1167.44 |
| 1619.62 | 0.7561 | 1224.59 |
| 1953.47 | 0.6575 | 1284.41 |
| | | 3676.44 |

PV of the terminal, value is:

$$\frac{2{,}680.13}{0.15-0.08} \times \frac{1}{(1.15)^3} = ₹\ 38{,}287.57 \text{ Crore} \times 0.6575 = ₹\ 25{,}174.08 \text{ Crore}$$

The value of the firm is :

₹ 3,676.44 Crores + ₹ 25,174.08 Crores = ₹ 28,850.52 Crores

**Question – 12**

The valuation of Hansel Limited has been done by an investment analyst. Based on an expected free cash flow of ₹ 54 lakhs for the following year and an expected growth rate of 9 percent, the analyst has estimated the value of Hansel Limited to be ₹ 1800 lakhs. However, he committed a mistake of using the book values of debt and equity.

The book value weights employed by the analyst are not known, but you know that Hansel Limited has a cost of equity of 20 percent and post tax cost of debt of 10 percent. The value of equity is thrice its book value, whereas the market value of its debt is nine-tenths of its book value. What is the correct value of Hansel Ltd ?

**(SM TYK – 06)**

**Solution:**

**Calculation of $K_0$ [Book Value]**

Let assumed existing $K_o$ be x

$$V_F = \frac{FCFF_1}{K_o - g}$$

$$1{,}800 = \frac{54}{x - 0.09}$$

$$1{,}800\,x - 162 = 54$$

$$x = \frac{54 + 162}{1{,}800}$$

$$= 0.12 \text{ or } 12\%$$

**Book Value Weights of Equity & Debt**

$$(K_e \times W_E) + K_d \times (1 - W_E) = 12$$

$20\ W_E + 10 - 10\ W_E = 12$

$10\ W_E = 2$

$W_E = 2/10$

$W_E = 0.20$

$W_d = 0.8$

**Market Value Weights of Equity & Debt**

Market value of equity $= 0.2 \times 3 = 0.6$

Debt $= 0.8 \times \frac{9}{10} = 0.72$

$= 1.32$

$$K_o = \frac{(20 \times 0.6) + (10 \times 0.72)}{1.32}$$

$= 14.545\%$

**Correct Value of Firm**

$$V_F = \frac{54}{0.14545 - 0.09} = 973.83 \text{ lacs}$$

**Question – 13**

ABC (India) Ltd., a market leader in printing industry, is planning to diversify into defense equipment businesses that have recently been partially opened up by the GOI for private sector. In the meanwhile, the CEO of the company wants to get his company valued by a leading consultants, as he is not satisfied with the current market price of his scrip.

He approached consultant with a request to take up valuation of his company with the following data for the year ended 2009:

| | |
|---|---|
| Share Price | ₹ 66 per share |
| Outstanding debt | 1934 lakh |
| Number of outstanding shares | 75 lakh |
| Net income (PAT) | 17.2 lakh |

| | |
|---|---|
| EBIT | 245 lakh |
| Interest expenses | 218.125 lakh |
| Capital expenditure | 234.4 lakh |
| Depreciation | 234.4 lakh |
| Working capital | 44 lakh |
| Growth rate 8% (from 2010 to 2014) | |
| Growth rate 6% (beyond 2014) | |
| Free cash flow | 240.336 lakh (year 2014 onwards) |

The capital expenditure is expected to be equally offset by depreciation in future and the debt is expected to decline by 30% in 2014.

Required:

Estimate the value of the company and ascertain whether the ruling market price is undervalued as felt by the CEO based on the foregoing data. Assume that the cost of equity is 16%, and 30% of debt repayment is made in the year 2014.

**Solution:**

**As per Firm Cash Flow Approach**

**(i) Computation of Tax Rate**

| | |
|---|---|
| EBIT | = ₹ 245 lakh |
| Interest | = ₹ 218.125 lakh |
| PBT | = ₹ 26.875 lakh |
| PAT | = ₹ 17.2 lakh |
| Tax paid | = ₹ 9.675 lakh |
| Tax rate | = ₹ 9.675 /26.875 |

= 0.36 =36%

**(ii) Computation for Increase in Working Capital**

Working capital (2009) = ₹ 44 lakh

Increase in 2010 = ₹ 44 × 0.08

= ₹ 3.52 lakh

It will continue to increase @ 8% per annum.

**(iii) Weighted Average Cost of Capital**

Present Debt = ₹ 1934 lakh

Interest Cost = ₹ 218.125 lakh/₹ 1934

= 11.28 %

Equity Capital = 75 lakh × ₹ 66

= ₹ 4950 lakh

$$Kc = \frac{4,950}{1,934+4,950} \times 16\% + \frac{1,934}{1,934+4,950} \times 11.28(1-0.36)$$

= 11.51 + 2.028 = 13.54

**(iv)** As capital expenditure and depreciation are equal, they will not influence the free cash flows of the company.

**(v) Computation of Free Cash Flows upto 2012**

| Year | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | ₹ lakh | ₹ lakh | ₹ lakh | ₹ lakh | ₹ lakh |
| EBIT (1-t) | 169.344 | 182.89 | 197.52 | 213.22 | 230.39 |
| Increase working capital | 3.52 | 3.80 | 4.10 | 4.43 | 4.78 |
| Debt repayment | - | - | - | - | 1934 × 0.30 = 580.2 |
| Free cash flows | 165.824 | 179.09 | 193.41 | 208.89 | -354.59 |
| PVF @ 13.54% | 0.8807 | 0.7757 | 0.6832 | 0.6017 | 0.53 |
| PV of free cash flow @ 13.54% | 146.04 | 138.92 | 132.14 | 125.69 | -187.93 |

**(vi) Cost of Capital (2014 Onwards)**

Debt = 0.7 × ₹ 1934 = ₹ 1,353.80 lakh

Equity = ₹ 4950 lakh

$$Kc = \frac{4,950}{4,950 + 1,353.80} \times 16\% + \frac{1,353.80}{4,950 + 1,353.80} \times 11.28(1-0.36)$$

= 12.56 + 1.55%

= 14.11%

**(vii) Continuing Value**

$$\frac{240.336}{0.1411 - 0.06} \times (1/1.1354)^5$$

= ₹ 1,570.556 lakh

**(a) Value of the firm**

= PV of free cash flows upto 2014 + continuing value

= ₹ 354.86 lakh + ₹ 1,570.556 lakh

= ₹ 1,925.416 lakh

**(b) Value per share**

= (Value of Firm – Value of Debt)/Number of Shares

= (₹ 1,925.416 lakh – ₹ 1,353.80 lakh)/75 lakh

= ₹ 7.622 < ₹ 66 (present market price)

**Question – 14**

Eagle Ltd. reported a profit of ₹ 77 lakhs after 30% tax for the financial year 2011-12. An analysis of the accounts revealed that the income included extraordinary items of ₹ 8 lakhs and an extraordinary loss of ₹10 lakhs. The existing operations, except for the extraordinary items, are expected to continue in the future. In addition, the results of the launch of a new product are expected to be as follows:

| | ₹ In Laksh |
|---|---|
| Sales | 70 |
| Material Cost | 20 |
| Labour Cost | 12 |
| Fixed Cost | 10 |

You are required to:

(i) Calculate the value of the business, given that the capitalization rate is 14%.

(ii) Determine the market price per equity share, with Eagle Ltd.'s share capital being comprised of 1,00,000 13% preference shares of ₹ 100 each and 50,00,000 equity shares of ₹ 10 each and the P/E ratio being 10 times.

**(SM TYK – 02)**

**Solution:**

**(i) Computation of Business Value**

| | | | (₹ Lakhs) |
|---|---|---|---|
| Profit before tax $\frac{77}{1-0.30}$ | | | 110 |
| Less: Extraordinary income | | | (8) |
| Add: Extraordinary losses | | | 10 |
| | | | **112** |
| Profit from new product | | (₹ Lakhs) | |
| Sales | | 70 | |
| Less: Material costs | 20 | | |
| Labour costs | 12 | | |
| Fixed costs | 10 | (42) | 28 |
| | | | 140.00 |
| Less: Taxes @ 30% | | | 42.00 |
| Future Maintainable Profit after taxes | | | 98.00 |
| Relevant Capitalization Factor | | | 0.14 |
| Value of Business (₹ 98/0.14) | | | 700 |

**(ii) Determination of Market Price of Equity Share**

| | |
|---|---|
| Future maintainable profits (After Tax) | ₹ 98,00,000 |
| Less: Preference share dividends 1,00,000 shares of ₹ 100 @ 13% | ₹ 13,00,000 |
| Earnings available for Equity Shareholders | ₹ 85,00,000 |
| No. of Equity Shares | 50,00,000 |
| Earning per share = $\frac{₹\ 85,00,000}{50,00,000}$ = | ₹ 1.70 |
| PE Ratio | 10 |
| Market price per share | ₹ 17 |

**Question – 15**

Sun Ltd. recently made a profit of ₹ 200 crore and paid out ₹ 80 crore (slightly higher than the average paid in the industry to which it pertains). The average PE ratio of this industry is 9. The estimated beta of Sun Ltd. is 1.2. As per Balance Sheet of Sun Ltd., the shareholder's fund is ₹ 450 crore and number of shares is 10 crore. In case the company is liquidated, building would fetch ₹ 200 crore more than book value and stock would realize ₹ 50 crore less.

The other data for the industry is as follows:

| | |
|---|---|
| Projected Dividend Growth | 4% |
| Risk Free Rate of Return | 6% |
| Market Rate of Return | 11% |

Calculate the valuation of Sun Ltd. using

(a) P/E Ratio

(b) Dividend Growth Model

(c) Book Value

(d) Net Realizable Value

**(RTP May – 2021)**

**Solution:**

(a) ₹ 200 crore × 9 = ₹ 1800 crore

(b) Ke = 6% + 1.2 (11% – 6%) = 12%

$$= \frac{80 \text{ Crore} \times 1.04}{0.12 - 0.04} = ₹ 1{,}040 \text{ crore}$$

(c) ₹ 450 crore

(d) ₹ 450 crore + ₹ 200 crore – ₹ 50 crore = ₹ 600 crore

**Question – 16**

ABC Co. is considering a new sales strategy that will be valid for the next 4 years. They want to know the value of the new strategy. Following information relating to the year which has just ended, is available:

| Income Statement | ₹ |
|---|---|
| Sales | 20,000 |
| Gross margin (20%) | 4,000 |
| Administration, Selling & distribution expense (10%) | 2,000 |
| PBT | 2,000 |
| Tax (30%) | 600 |
| PAT | 1,400 |
| Balance Sheet Information | |
| Fixed Assets | 8,000 |
| Current Assets | 4,000 |
| Equity | 12,000 |

If it adopts the new strategy, sales will grow at the rate of 20% per year for three years. From 4th year onward Cash Flow will be stabilized. The gross margin ratio, Assets turnover ratio, the Capital structure and the income tax rate will remain unchanged.

Depreciation would be at 10% of net fixed assets at the beginning of the year.

The Company's target rate of return is 15%.

Determine the incremental value due to adoption of the strategy.

**(SM TYK – 03 & RTP May – 2020)**

**Solution:**

**Pre-Strategy Value**

$$\text{Pre-Strategic Value} = \frac{1{,}400 \text{ Cr.}}{15\%}$$

= ₹ 9,333 Cr.

## Post-Strategic Value

### Projected B/s

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| FA (8,000) | 9,600 | 11,520 | 13,824 | 13,824 |
| CA (4,000) | 4,800 | 5,760 | 6,912 | 6,912 |
| Total Asset | 14,400 | 17,280 | 20,736 | 20,736 |
| Equity | 14,400 | 17,280 | 20,736 | 20,736 |

## Working Note 1:

### Calculation of Depreciation

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Opening WDV | 8,000 | 9,600 | 11,520 | 13,824 |
| (-) Depreciation | 800 | 960 | 1,152 | 1,382 |
| Balance | 7,200 | 8,640 | 10,368 | 12,442 |
| (-) Closing WDV | 9,600 | 11,520 | 13,824 | 13,824 |
| Capital Expenditure | 2,400 | 1,880 | 3,456 | 1,382 |

## FCFF

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| PAT (1,400) | 1,680 | 2,016 | 2,419 | 2,419 |
| (+) Depreciation | 800 | 960 | 1,152 | 1,382 |
| CFAT | 2,480 | 2,976 | 3,571 | 3,801 |
| (-) Capital Expenditure | 2,400 | 2,880 | 3,456 | 1,382 |
| (-) Δ Working Capital | 800 | 960 | 1,152 | 0 |
| FCFF | - 720 | - 864 | -1,037 | 2,419 |

$TV_3 = \frac{2,419}{15\%} = 16,127$

$V_B$ = (-720 × 0.870) + (-864 × 0.756) + (-1,037 × 0.658) + (-16,127 × 0.658)

= ₹ 8,650

## Value of Strategy

= 8,650 – 9,333

= - 683

Not financed viable.

**Question – 17**

Following details are available for X Ltd.

Income Statement for the year ended 31st March, 2018

| Particulars | Amount |
|---|---|
| Sales | 40,000 |
| Gross Profit | 12,000 |
| Administrative Expenses | 6,000 |
| Profit Before tax | 6,000 |
| Tax @ 30% | 1,800 |
| Profit After Tax | 4,200 |

Balance sheet as on 31st March, 2018

| Particulars | Amount |
|---|---|
| Fixed Assets | 10,000 |
| Current Assets | 6,000 |
| Total Assets | 16,000 |
| Equity Share Capital | 15,000 |
| Sundry Creditors | 1,000 |
| Total Liabilities | 16,000 |

The Company is contemplating for new sales strategy as follows :

(i) Sales to grow at 30% per year for next four years.

(ii) Assets turnover ratio, net profit ratio and tax rate will remain the same.

(iii) Depreciation will be 15% of value of net fixed assets at the beginning of the year.

(iv) Required rate of return for the company is 15%

Evaluate the viability of new strategy

**(Exam November – 2018) (12 Marks)**

**Solution:**

| Projected Balance Sheet | | | | | |
|---|---|---|---|---|---|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Fixed Assets (25% of Sales) | 13,000 | 16,900 | 21,970 | 28,561.00 | 28,561.00 |
| Current Assets (15% of Sales) | 7,800 | 10,140 | 13,182 | 17,136.00 | 17,136.00 |
| Total Assets | 20,800 | 27,040 | 35,152 | 45,697.60 | 45,679.60 |
| Equity (37.5% of sales) | 19,500 | 25,350 | 32,955 | 42,841.50 | 42,841.50 |
| Sundry Creditors (2.5% of Sales) | 1,300 | 1,690 | 2,197 | 2,856.10 | 2,856.10 |
| Total Liabilities | 20,800 | 27,040 | 35,152 | 45,697.60 | 45,697.60 |

**Projected Cash Flows:-**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|
| Sales | 52,000 | 67,600 | 87,880.00 | 1,14,244.00 | 1,14,244.00 |
| PBT (15% of sales) | 7,800 | 10,140 | 13,182.00 | 17,136.60 | 17,136.60 |
| PAT (10.5% of sales) | 5,460 | 7,098 | 9,227.40 | 11,995.62 | 11,995.62 |
| Depreciation | 1,500 | 1,950 | 2,535.00 | 3,295.50 | 4,284.15 |
| Addition to Fixed Assets | 4,500 | 5,850 | 7,605.00 | 9,886.50 | 4,284.15 |
| increase in Net Current Assets | 1,500 | 1,950 | 2,535.00 | 3,295.50 | -- |
| Operating cash flow | 960 | 1,248 | 1,622.40 | 2,109.12 | 11,995.62 |

**Projected Cash Flows:-**

**Present value of Projected Cash Flows:-**

| Cash Flows | PVF at 15% | PV |
|---|---|---|
| 960 | 0.870 | 835.20 |
| 1248 | 0.756 | 943.49 |
| 1622.40 | 0.658 | 1067.54 |
| 2109.12 | 0.572 | 1206.42 |
| | | 4,052.65 |

Residual Value = 11,995.62/0.15

| | |
|---|---|
| | = 79,970.80 |
| Present value of Residual value | = 79,970.80 × PVF (15%, 4) |
| | = 79,970.80 × 0.572 |
| | = 45,743.30 |
| Total shareholders' value | = 45743.30 + 4052.65 |
| | = 49795.95 |
| Pre-strategy value | = 4200/0.15 |
| | = 28,000 |
| ∴ Value of strategy | = 49795.95 – 28,000 |
| | = 21795.95 |

**Conclusion:** The strategy is financially viable.

## COMPARABLE METHOD

**Question – 18**

XY Ltd., a Cement manufacturing Company has hired you as a financial consultant of the company. The Cement Industry has been very stable for some time and the cement companies SK Ltd. & AS Ltd. are similar in size and have similar product market mix characteristic. Use comparable method to value the equity of XY Ltd. In performing analysis, use the following ratios:

(i) Market to book value

(ii) Market to replacement cost

(iii) Market to sales

(iv) Market to Net Income

The following data are available for your analysis:

**(Amount in ₹)**

| | SK Ltd | AS Ltd. | XY Ltd. |
|---|---|---|---|
| Market Value | 450 | 400 | |
| Book Value | 400 | 300 | 250 |

| | | | |
|---|---|---|---|
| Replacement Cost | 600 | 550 | 500 |
| Sales | 550 | 450 | 500 |
| Net Income | 18 | 16 | 14 |

**(Exam November – 2019) (5 Marks)**

**Solution:**

**Estimation of Reties**

| Sl. No. | Particulars | SK Ltd | AS Ltd. | Average |
|---|---|---|---|---|
| (i) | Market to Book Value | $\left(\frac{450}{400}\right)$ = 1.125 | $\left(\frac{400}{300}\right)$ = 1.333 | 1.2290 |
| (ii) | Market to Replacement Cost | $\left(\frac{450}{600}\right)$ = 0.750 | $\left(\frac{450}{550}\right)$ = 0.727 | 0.7385 |
| (iii) | Market to Sales | $\left(\frac{450}{550}\right)$ = 0.818 | $\left(\frac{400}{450}\right)$ = 0.889 | 0.8535 |
| (iv) | Market to Net Income | $\left(\frac{450}{18}\right)$ = 25 | $\left(\frac{400}{16}\right)$ = 25 | 25 |

**Application of Ratios to XY Ltd.**

| Sl. No | Particulars | XY Ltd. (₹) | Average | Indicative Value of XY Ltd. (₹) |
|---|---|---|---|---|
| (i) | Book Value | 250 | 1.2290 | 250 × 1.2290 = 307.25 |
| (ii) | Replacement Cost | 500 | 0.7385 | 500 × 0.7385= 369.25 |
| (iii) | Sales | 500 | 0.8535 | 500 × 0.8535= 426.75 |
| (iv) | Net Income | 14 | 25 | 14 × 25 = 350.00 |
| Average | | | | ₹ 363.31 |

Value of XY Ltd. according to the comparable method is ₹ 363.31

## CHOP SHOP APPROACH OR BREAKUP VALUE APPROACH

**Question – 19**

Using the chop-shop approach (or Break-up value approach), assign a value for Cranberry Ltd. whose stock is currently trading at a total market price of €4 million. For Cranberry Ltd, the accounting data set forth three business

segments: consumer wholesale, retail and general centers. Data for the firm's three segments are as follows:

| Business Segment | Segment Sales | Segment Assets | Segment Operating Income |
|---|---|---|---|
| Wholesale | €225,000 | €600,000 | €75,000 |
| Retail | €720,000 | €500,000 | €150,000 |
| General | € 2,500,000 | €4,000,000 | €700,000 |

Industry data for "pure-play" firms have been compiled and are summarized as follows:

| Business Segment | Capitalization /Sales | Capitalization /Assets | Capitalization/ Operating Income |
|---|---|---|---|
| Wholesale | 0.85 | 0.7 | 9 |
| Retail | 1.2 | 0.7 | 8 |
| General | 0.8 | 0.7 | 4 |

**Solution:**

| Business Segment | Capital-to-Sales | Segment Sales | Theoretical Values |
|---|---|---|---|
| Wholesale | 0.85 | €2,25,000 | € 1,91,250 |
| Retail | 1.2 | €7,20,000 | € 8,64,000 |
| General | 0.8 | € 25,00,000 | € 20,00,000 |
| Total Value | | | € 30,55,250 |

| Business Segment | Capital-to-Assets | Segment Assets | Theoretical Values |
|---|---|---|---|
| Wholesale | 0.7 | € 6,00,000 | € 4,20,000 |
| Retail | 0.7 | € 5,00,000 | € 3,50,000 |
| General | 0.7 | € 40,00,000 | € 28,00,000 |
| Total Value | | | € 35,70,000 |

| Business Segment | Capital-to Operating Income | Operating Income | Theoretical Values |
|---|---|---|---|
| Wholesale | 9 | € 75,000 | € 6,75,000 |
| Retail | 8 | € 1,50,000 | € 12,00,000 |
| General | 4 | € 7,00,000 | € 28,00,000 |
| Total Value | | | € 46,75,000 |

Average theoretical value = $\frac{30,55,250 + 35,70,000 + 4,67,500}{3}$ = 37,66,750

Average theoretical value of Cranberry Ltd. = €37,66,750

## *FCFE APPROACH*

**Question – 20**

Calculate the value of share from the following information:

| | |
|---|---|
| Profit after tax of the company | ₹ 290 crores |
| Equity capital of company | ₹ 1,300 crores |
| Par value of share | ₹ 40 each |
| Debt ratio of company (Debt/ Debt + Equity) | 27% |
| Long run growth rate of the company | 8% |
| Beta 0.1; risk free interest rate | 8.7% |
| Market returns | 10.3% |
| Capital expenditure per share | ₹ 47 |
| Depreciation per share | ₹ 39 |
| Change in Working capital | ₹ 3.45 per share |

**(RTP May – 2020)**

**Solution:**

(FCFE Approach)

PAT = 290

No. of shares = $\frac{1,300}{40}$ = 32.50 Cr.

EPS = $\frac{290}{32.50}$ = ₹ 8.923

**Calculation of FCFE per shares**

| | |
|---|---|
| EPS | = 8.923 |
| (-) Capital expenditure per share (Net of Depreciation) Only equity contribution (47 – 39) (1 – 0.27) | = ₹ 5.84 |
| (-) Δ WC = 3.45 (1 – 0.27) | = ₹ 2.5185 |
| FCFE per share | = 0.5645 |

Value of equity per share = $\frac{FCFE_1}{K_e - g}$

$K_e$ = 8.7 + (10.3 – 8.7) 0.1

= 8.86%

Value per share = $\frac{0.5645\ (1.08)}{0.0886 - 0.08}$

= ₹ 70.89

**Question – 21**

Calculate the value of one equity share of X Ltd. from the following information:

| | |
|---|---|
| Profit of the company (Before Tax) | ₹ 8,000 crores |
| Equity share capital of the company | ₹ 19,000 crores |
| No. of equity shares | 380 crores |
| Long run growth rate of the company | 7% |
| Risk free rate of return | 9.50% |
| Beta of the company | 0.1 |
| Market risk premium | 3.10% |
| Total capital expenditure | ₹ 20,140 crores |
| Chargeable depreciation | ₹ 17,100 crores |
| Total increase in working capital | ₹ 1,755.60 crores |
| New debt to be issued for funding | ₹ 2,062.108 crores |

| | |
|---|---|
| Tax rate | 30% |

Note: All calculation to rounded off upto 4 decimal points and final value of equity share to be rounded off upto 2 decimal points.

**(MTP October – 2024)**

**Solution:**

Profit After Tax (PAT) or Net Income

= ₹ 8,000 crores (1 – 0.30)

= ₹ 5,600 crores

Free Cash Flow to Equity (FCFE)

= Net Income – Capital Expenditures + Depreciation -/+ Change in Net Working Capital + New Debt Issued - Debt Repayments + Net issue of Preference Shares – Preference Share Dividends

Free Cash Flow to Equity (FCFE)

= ₹ 5,600 crores – ₹ 20,140 crore + ₹ 17,100 crore – ₹ 1,755.60 crore + ₹ 2,062.108 crore

= ₹ 2,866.508 crore

Cost of Equity

= Rf + β (Rm – Rf) or Rf + β Market Risk Premium

= 9.50% + 0.1 × 3.10%

= 9.81%

$$\text{Value of Equity} = \frac{\text{FCFE}\ (1+g)}{K_e - g}$$

$$= \frac{2{,}866.508 \text{ crore } (1.07)}{0.0981 - 0.07}$$

$$= \frac{3{,}067.1636 \text{ crore}}{0.0281}$$

= ₹ 1,09,151.7295 crore

$$\text{Value of One Equity Share} = \frac{1,09,151.7295 \text{ crore}}{380 \text{ crore}}$$

$$= ₹ 287.24$$

Alternatively, it can also be calculated by using per share basis as follows:

$$\text{FCFE per share} = \frac{\text{FCFE}}{\text{No. of Equity Shares}}$$

$$= \frac{2,866.508 \text{ crore}}{380 \text{ crore}} = ₹ 7.5434$$

$$\text{Value of per Equity Share} = \frac{\text{FCFE } (1 + g)}{K_e - g}$$

$$= \frac{7.5434(1.07)}{0.0981 - 0.07}$$

$$= \frac{8.0714}{0.0281}$$

$$= ₹ 287.24$$

## MISCELLANEOUS

**Question – 22**

Given below is the Balance Sheet of S Ltd. as on 31.3.2008:

| Liabilities | ₹ (in lakh) | Assets | ₹ (in lakh) |
|---|---|---|---|
| Share capital | | Land and building | 40 |
| (share of ₹ 10) | 100 | Plant and machinery | 80 |
| Reserves and surplus | 40 | Investments | 10 |
| Long Term Debts | 30 | Stock | 20 |
| | | Debtors | 15 |
| | 170 | Cash at bank | 5 |
| | | | 170 |

You are required to work out the value of the Company's, shares on the basis of Net Assets method and Profit-earning capacity (capitalization) method and arrive at the fair price of the shares, by considering the following information:

(i) Profit for the current year ₹ 64 lakhs includes ₹4 lakhs extraordinary income and ₹ 1 lakh income from investments of surplus funds; such surplus funds are unlikely to recur.

(ii) In subsequent years, additional advertisement expenses of ₹ 5 lakhs are expected to be incurred each year.

(iii) Market value of Land and Building and Plant and Machinery have been ascertained at ₹ 96 lakhs and ₹ 100 lakhs respectively. This will entail additional depreciation of ₹ 6 lakhs each year.

(iv) Effective Income-tax rate is 30%.

(v) The capitalization rate applicable to similar businesses is 15%.

**Solution:**

| | ₹ lakh |
|---|---|
| **Net Assets Method** | |
| Assets: Land & Buildings | 96 |
| Plant & Machinery | 100 |
| Investments | 10 |
| Stocks | 20 |
| Debtors | 15 |
| Cash & Bank | 5 |
| Total Assets | 246 |
| Less: Long Term Debts | 30 |
| Net Assets | 216 |
| **Value per share** | |
| (a) Number of shares $\frac{1,00,00,000}{10}$ = 10,00,000 | |
| (b) Net Assets $\frac{2,16,00,000}{10,00,000}$ = ₹ 21.6 | |

| **Profit-earning Capacity Method** | | ₹ lakh |
|---|---|---|
| Profit before tax | | 64.00 |
| Less: Extraordinary income | 4.00 | |
| Investment income (not likely to recur) | 1.00 | 5.00 |
| | | 59.00 |
| Less: Additional expenses in forthcoming | | |