

# VALUATION

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## BASIC CONCEPTS

### CONCEPT OF VALUATION

Valuation means measurement of value in monetary term.

Different measurement bases are:

- (a) *Historical cost.* Assets are recorded at the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire them at the time of their acquisition.
- (b) *Current cost.* Assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset were acquired currently.
- (c) *Realisable (settlement) value.* Assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal.
- (d) *Present value.* Assets are carried at the present value of the future net cash inflows that the item is expected to generate in the normal course of business.

Other valuation bases:

*Net Realisable Value (NRV):* This is same as the Realisable (settlement) value. This is the value (net of expenses) that can be realized by disposing off the assets in an orderly manner. Net selling price or exit values also convey the same meaning.

*Economic value:* This is same as the present value. The other name of it is value to business.

*Replacement (cost) value:* This is also same as the current cost.

*Recoverable (amount) value:* This is the higher of the net selling price and value in use.

*Deprival value:* This is the lower of the replacement value and recoverable (amount) value.

*Liquidation value:* this is the value (net of expenses), that a business can expect to realize by disposing of the assets in the event of liquidation. Such a value is usually lower than the NRV or exit value. This is also called break up value.

*Fair value:* This is not based on a particular method of valuation. It is the acceptable

value based on appropriate method of valuation in context of the situation of valuation. Thus fair value may represent current cost, NRV or present value as the case may be.

Three General Approaches to Valuation are:

- 1) Cost Approach: e.g. Adjusted Book Value
- 2) Market Approach: e.g. Comparables
- 3) Income Approach: e.g. Discounted Cash Flow

### **VALUATION OF TANGIBLE FIXED ASSETS**

Para 9 of AS 10 has stated the components of cost as below:

- (a) The cost of an item of fixed asset comprises its purchase price, including import duties and other non-refundable taxes or levies, any trade discounts and rebates are deducted in arriving at the purchase price.
- (b) Any directly attributable cost of bringing the asset to its working condition for its intended use;
- (c) Administration and other general overhead expenses are usually excluded from the cost of fixed assets because they do not relate to a specific fixed asset.
- (d) The expenditure incurred on start-up and commissioning of the project, including the expenditure incurred on test runs and experimental production, is usually capitalised as an indirect element of the construction cost.
- (e) If the interval between the date a project is ready to commence commercial production and the date at which commercial production actually begins is prolonged, all expenses incurred during this period are charged to the profit and loss statement.

The same principles that apply to value purchased fixed assets at original cost will apply to self constructed assets also.

**Improvement:** Expenditure which increase the future benefits from the existing asset is treated as cost of improvement. This cost of improvement or of any addition or extension which becomes integral part of the existing fixed asset is to be added to the value of the asset.

**Revaluation:** Revaluation of fixed assets may be made to show the assets at their current costs, particularly in context of the historical cost losing relevance in inflationary situation. Increase in value of fixed assets is shown as revaluation reserve which is not distributable. The loss on revaluation, however, transferred to profit and loss account

Government Grants related to specific fixed assets, as per AS 12, can be deducted from the cost of the said assets.

**Impairment of assets:** When the recoverable amount of an asset falls below its carrying amount, as per AS 28, the carrying amount has to be reduced to the recoverable amount and the loss on impairment should be charged to profit and loss account in addition to the depreciation. If subsequently the recoverable amount rises the reversal, i.e., addition shall be made to the already reduced carrying amount.

### VALUATION OF INTANGIBLES ( AS 26)

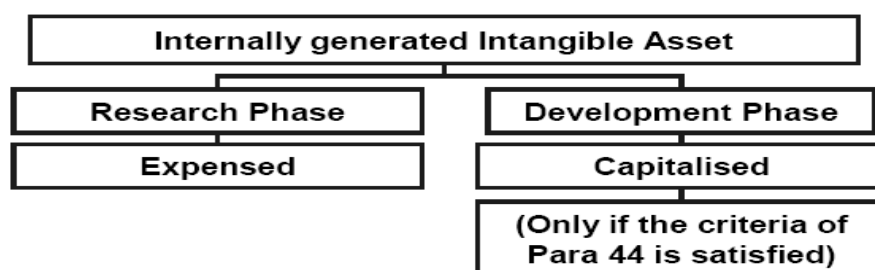
Meaning-An intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes.

Types- Intangible fixed assets can be classified as **identifiable intangibles and not identifiable intangibles**. The identifiable intangibles include patents, trademarks and designs and brands whereas the not identifiable intangibles are clubbed together as goodwill.

When to Recognize- An intangible asset should be recognised if, and only if:

- It is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and
- The cost of the asset can be measured reliably.

If the intangible asset is **internally generated**:



Para 50 of the AS 26 clearly states that 'Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance should not be recognized as intangible assets'.

- For other types of intangible assets Para 41(AS26) stated that 'No intangible asset arising from research (or **from the research phase** of an internal project) should be recognised' and
- Para 44 requires that 'An intangible asset arising **from development** (or from the development phase of an internal project) should be recognised if, and only if, all of the conditions specified therein are satisfied'.

When not recognized the expenditure on intangible item would be **treated as expense** and when recognised the expenditure on the intangible item **would be capitalized**.

**Subsequent expenditure** on an intangible asset after its purchase or its completion should be added to the cost of the intangible asset if:

(a) It is probable that the expenditure will enable the asset to generate future economic benefits in excess of its originally assessed standard of performance; and (b) the expenditure can be measured and attributed to the asset reliably.

### Brand Valuation

- **No valuation** shall be made for **internally generated brand**.
- When the **brand is acquired separately**, the valuation would be made **at initial cost of acquisition** (with subsequent addition to cost, if any).

All identifiable intangible assets including Patents, Copyrights, Know-how and Designs which are acquired separately valuation would be made at initial cost of acquisition (with subsequent addition to cost, if any).

The depreciable amount of an intangible asset should be allocated on a systematic basis over the best estimate of its useful life. There is a rebuttable presumption that the useful life of an intangible asset will not exceed ten years from the date when the asset is available for use.

Amortization should commence when the asset is available for use.

### Valuation of Goodwill

**Purchased goodwill** can be defined as being the excess of fair value of the purchase consideration over the fair value of the separable net assets acquired. Para 36 of AS-10 Accounting for Fixed Assets' states that only purchased goodwill should be recognised in the accounts.

Goodwill is a thing which is not so easy to describe but in general words good-name, reputation and wide business connection which helps the business to earn more profits than the profit could be earned by a newly started business. The monetary value of the advantage of earning more profits is known as goodwill. Goodwill is an attractive force, which brings in customers to old place of business. Goodwill is an intangible but valuable asset. In a profitable concern it is not a fictitious asset.

Future maintainable profit is ascertained taking either simple or weighted average of the past profits or by fitting trend line. If the past profits do not have any definite trend, average is taken to arrive at the future maintainable profit. If the past profits show increasing or decreasing trend, linear trend equation gives better estimation of the future maintainable profit. If the past profits show increasing or decreasing trend, then more weights are given to

the profit figures of the immediate past years and less weight to the profit figures of the furthest past.

The following adjustments from past profits are generally made:

- (i) Elimination of abnormal loss arising out of strikes, lock-out, fire, etc. Profit/loss figures which contain abnormal loss should either be ignored or eliminated. Similarly, if there is any abnormal gain included in past profits that needs elimination.
- (ii) Interest/dividend or any other income from non-trading assets needs elimination because 'capital employed' used for valuation of goodwill comprises only of trading assets.
- (iii) If there is a change in rate of tax, tax charged at the old rate should be added back and tax should be charged at the new rate.
- (iv) Effect of change in accounting policies should be neutralised to have profit figures which are arrived at on the basis of uniform policies.

### Valuation of Liabilities

The different bases of valuation of liabilities are:

- (a) *Historical cost.*
- (b) *Current cost.*
- (c) *Realisable (settlement) value.* Liabilities are carried at their settlement values, that is, the undiscounted amounts of cash or cash equivalents expected to be required to settle the liabilities in the normal course of business.
- (d) *Present value.*

The liability items of the balance sheet are generally carried at the settlement values.

Liabilities may be carried at the present value in case of finance lease.

In case of a finance lease, the lessee should recognize a liability equal to the fair value of the leased asset at the inception of the lease.

In regard provision, the valuation is based on settlement value and not on present value.

### Valuation of Shares

For transactions concerning relatively small blocks of shares which are quoted on the stock exchange, generally the ruling stock exchange price (average price) provides the basis.

Principally two basic methods are used for share valuation; one on the basis of *net assets* and the other on the basis of *earning capacity* or yield (which, nevertheless, must take into consideration net assets used).

**Net Asset Basis:** According to this method, value of equity share is determined as follows:

$$\frac{\text{Net assets available to equity shareholders}}{\text{Number of equity shares}}$$

**Yield Basis:** Broadly, the following steps are envisaged in a yield based valuation considering the rate of return:

- (i) Determination of future maintainable profit;
- (ii) Ascertaining the normal rate of return;
- (iii) Finding out the capitalisation factor or the multiplier;
- (iv) Multiplying the future maintainable profit, by the multiplier; and
- (v) Dividing the results obtained in (iv) by the number of shares.

The steps necessary to arrive at the future maintainable profits of a company are: (a) calculation of past average taxed earnings, (b) projection of the future maintainable taxed profits, and (c) adjustment of preferred rights.

**Mean between asset and yield based valuation:** Average of book value and yield based value incorporates the advantages of both the methods. That is why such average is called the fair value of share.

### Valuation of Preference Shares

For valuation of preference shares the following factors are generally considered:

- (i) Risk free rate plus small risk premium (i.e. market expectation rate).
- (ii) Ability of the company to pay dividend on a regular basis.
- (iii) Ability of the company to redeem preference share capital.

Ability to pay preference dividend may be judged by using the following ratio:

$$\frac{\text{Profit after tax}}{\text{Preference dividend}}$$

The value of each preference shares can be derived as below:

$$\frac{\text{Preference dividend rate}}{\text{Market expectation rate}} \times 100$$

### Valuation of Business

Value of business is different from that of the aggregate value of assets.

Two alternative approaches are available for business valuation: (i) going concern and (ii) liquidation.

The following methods are used for business valuation taking it as a going concern:

- (i) Historical cost valuation
- (ii) Current cost valuation
- (iii) Economic valuation
- (iv) Asset valuation.

For piecemeal sale of the business, only 'net realisable value' basis is appropriate.

**Historical cost valuation:** It is also called book value method. All assets are taken at their respective historical cost. Value of goodwill is ascertained and added to such historical cost of assets.

Historical cost value of business = Historical cost of all assets + Value of goodwill.

**Current cost valuation:** Current cost of assets are taken for this purpose instead of historical cost.

**Economic valuation:** Under this method value of the business is given by the sum of discounted value of future earnings or cash flows.

### **Fair value**

NAV on the basis of fair value of assets and liabilities is computed in the same way as computed on the basis of book value except that the fair values of assets and liabilities are considered instead of balance sheet values. The implication of fair value also varies with the objective of valuation, whether the objective is to find the going concern value or the liquidation value.

### **Earning based valuation of business**

Earning based valuation of business = Earning capacity value per share X number of equity shares + Preference share capital + Debt capital. (Book values of preference capital and debt capital should be taken)

### **Market value model**

This is simply the aggregate of the market capitalization and market value of preference capital and debt capital. Market capitalization means market value of equity multiplied by the number of outstanding share. The quoted price of the stock exchanges provides the market value of equity at any moment.

### Valuation of Intangibles

#### Question 1

*Discuss methods of valuation of intangible assets in brief.*

#### Answer

Valuation of intangible assets is a complex exercise, as the non-physical form of intangible assets poses the difficulty of identifying the future economic benefits that the enterprise can expect to derive from them. There are three main approaches for valuing intangible assets:

- (1) *Cost approach:* In cost approach, historical expenditure incurred in developing the asset is aggregated. Cost is measured by purchase price, where the asset has been acquired recently.
- (2) *Market value approach:* In comparable market value approach, intangible assets are valued with reference to transactions involving similar assets that have cropped up recently in similar markets. This approach is possible when there is an active market in which arm's length transactions have occurred recently involving comparable intangible assets and adequate information of terms of transactions is available.
- (3) *Economic value approach:* This approach is based on the cash flows or earnings attributable to those assets and the capitalization thereof, at an appropriate discount rate or multiple. Some of the key parameters used in this approach are projected revenues, projected earnings, discount rate, rate of return etc. The information required can be derived from either internal sources, external sources or both. Under this approach, the valuer has to identify cash flows or earnings directly associated with the intangible assets like the cash flows arising from the exploitation of a patent or copyright, licensing of an intangible asset etc. This approach can be put to practice only if cash flows arising from the intangible assets are identifiable from the management accounts and budgets, forecasts or plans of the company. In most situations of valuation of intangible assets, the economic based approach is used, because of the uniqueness of intangible assets and the lack of comparable market data for the use of market value approach.

#### Question 2

*Find out the average capital employed of ND Ltd. from its Balance sheet as at 31<sup>st</sup> March, 2010:*

| <i>Liabilities</i>                   | <i>(Rs. in lakhs)</i> | <i>Assets</i>              | <i>(Rs. in lakhs)</i> |
|--------------------------------------|-----------------------|----------------------------|-----------------------|
| <i>Share Capital:</i>                |                       | <i>Fixed Assets:</i>       |                       |
| <i>Equity shares of Rs.10 each</i>   | <i>50.00</i>          | <i>Land and buildings</i>  | <i>25.00</i>          |
| <i>9% Pref. shares fully paid up</i> | <i>10.00</i>          | <i>Plant and machinery</i> | <i>80.25</i>          |



|                                            |                              | Valuation     |
|--------------------------------------------|------------------------------|---------------|
| <i>Reserve and Surplus:</i>                | <i>Furniture and fixture</i> | 5.50          |
| <i>General reserve</i>                     | 12.00 <i>Vehicles</i>        | 5.00          |
| <i>Profit and Loss</i>                     | 20.00 <i>Investments</i>     | 10.00         |
| <i>Secured loans:</i>                      | <i>Current Assets:</i>       |               |
| <i>16% debentures</i>                      | 5.00 <i>Stock</i>            | 6.75          |
| <i>16% Term loan</i>                       | 18.00 <i>Sundry Debtors</i>  | 4.90          |
| <i>Cash credit</i>                         | 13.30 <i>Cash and bank</i>   | 10.40         |
| <i>Current Liabilities and Provisions:</i> | <i>Preliminary expenses</i>  | 0.50          |
| <i>Sundry creditors</i>                    | 2.70                         |               |
| <i>Provision for taxation</i>              | 6.40                         |               |
| <i>Proposed dividend on:</i>               |                              |               |
| <i>Equity shares</i>                       | 10.00                        |               |
| <i>Preference shares</i>                   | <u>0.90</u>                  |               |
|                                            | <u>148.30</u>                | <u>148.30</u> |

*Non-trade investments were 20% of the total investments.*

*Balances as on 1.4.2009 to the following accounts were:*

*Profit and Loss account Rs.8.70 lakhs, General reserve Rs.6.50 lakhs.*

### **Answer**

#### **Computation of Average Capital employed**

|                                             | (Rs. in Lakhs) |
|---------------------------------------------|----------------|
| Total Assets as per Balance Sheet           | 148.30         |
| Less: Preliminary Expenses                  | 0.50           |
| Non-trade investments (20% of Rs. 10 lakhs) | 2.00           |
|                                             | <u>2.50</u>    |
|                                             | 145.80         |
| Less: Outside Liabilities:                  |                |
| 16% Debentures                              | 5.00           |
| 16% Term Loan                               | 18.00          |
| Cash Credit                                 | 13.30          |
| Sundry Creditors                            | 2.70           |
| Provision for Taxation                      | <u>6.40</u>    |
|                                             | <u>45.40</u>   |
| Capital Employed as on 31.03.2010           | 100.40         |
| Less: ½ of profit earned:                   |                |

## Financial Reporting

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|                               |              |              |
|-------------------------------|--------------|--------------|
| Increase in reserve balance   | 5.50         |              |
| Increase in Profit & Loss A/c | 11.30        |              |
| Proposed Dividend             | 10.90        |              |
|                               | 27.70 X 50 % | <u>13.85</u> |
| Average capital employed      |              | <u>86.55</u> |

### Question 3

The following Balance Sheet of X Ltd. is given:

#### **X Ltd.**

#### **Balance Sheet as on 31st March, 2010**

| Liabilities                             | Rs.                | Assets                      | Rs.                |
|-----------------------------------------|--------------------|-----------------------------|--------------------|
| 5,000 shares of Rs. 100 each fully paid | 50,00,000          | Goodwill                    | 4,00,000           |
|                                         |                    | Land and building at cost   | 32,00,000          |
| Bank overdraft                          | 18,60,000          | Plant and machinery at cost | 28,00,000          |
| Creditors                               | 21,10,000          | Stock                       | 32,00,000          |
| Provision for taxation                  | 5,10,000           | Debtors considered good     | 20,00,000          |
| Profit and Loss Appropriation A/c       | <u>21,20,000</u>   |                             |                    |
|                                         | <u>1,16,00,000</u> |                             | <u>1,16,00,000</u> |

In 1991 when the company commenced operation the paid up capital was same. The Loss/Profit for each of the last 5 years was – years 2005-2006 – Loss (Rs. 5,50,000); 2006-2007 Rs. 9,82,000; 2007-2008 Rs. 11,70,000; 2008-2009 Rs. 14,50,000; 2009-2010 Rs. 17,00,000;

Although income-tax has so far been paid @ 40% and the above profits have been arrived at on the basis of such tax rate, it has been decided that with effect from the year 2009-2010 the Income-tax rate of 45% should be taken into consideration. 10% dividend in 2006-2007 and 2007-2008 and 15% dividend in 2008-2009 and 2009-2010 have been paid. Market price of shares of the company on 31st March, 2010 is Rs. 125. With effect from 1st April, 2010 Managing Director's remuneration has been approved by the Government to be Rs. 8,00,000 in place of Rs. 6,00,000. The company has been able to secure a contract for supply of materials at advantageous prices. The advantage has been valued at Rs. 4,00,000 per annum for the next five years.

Ascertain goodwill at 3 year's purchase of super profit (for calculation of future maintainable profit weighted average is to be taken).

**Answer**

| <b>(i) Future Maintainable Profit</b> |                                 |                   |                                   |
|---------------------------------------|---------------------------------|-------------------|-----------------------------------|
| <i>Year</i>                           | <i>Profit (P)</i><br><i>Rs.</i> | <i>Weight (W)</i> | <i>Product (PW)</i><br><i>Rs.</i> |
| 2006-2007                             | 9,82,000                        | 1                 | 9,82,000                          |
| 2007-2008                             | 11,70,000                       | 2                 | 23,40,000                         |
| 2008-2009                             | 14,50,000                       | 3                 | 43,50,000                         |
| 2009-2010                             | 17,00,000                       | <u>4</u>          | <u>68,00,000</u>                  |
|                                       |                                 | <u>10</u>         | <u>1,44,72,000</u>                |

Weighted average annual profit (after tax) =

$$\frac{\sum PW}{\sum W} = \text{Rs. } \frac{1,44,72,000}{10} \quad 14,47,200$$

Weighted average annual profit before tax  $\left( \text{Rs. } 14,47,200 \times \frac{100}{60} \right)$  24,12,000

Less: Increase in Managing Director's remuneration 2,00,000  
22,12,000

Add: Saving in cost of materials 4,00,000  
26,12,000

Less: Taxation @ 45% 11,75,400

Future maintainable profit 14,36,600

**(ii) Average Capital Employed**

|                            | <i>Rs.</i> | <i>Rs.</i>       |
|----------------------------|------------|------------------|
| Assets:                    |            |                  |
| Land and Buildings         |            | 32,00,000        |
| Plant and Machinery        |            | 28,00,000        |
| Stock                      |            | 32,00,000        |
| Sundry Debtors             |            | <u>20,00,000</u> |
|                            |            | 1,12,00,000      |
| Less: Outside liabilities: |            |                  |
| Bank overdraft             | 18,60,000  |                  |
| Creditors                  | 21,10,000  |                  |

## Financial Reporting

|                                                                             |                 |                  |
|-----------------------------------------------------------------------------|-----------------|------------------|
| Provision for taxation                                                      | <u>5,10,000</u> | <u>44,80,000</u> |
| Capital employed at the end of the year                                     |                 | 67,20,000        |
| Add: Dividend @ 15% paid during the year                                    |                 | <u>7,50,000</u>  |
|                                                                             |                 | 74,70,000        |
| Less: Half of the profit (after tax) for the year i.e.<br>Rs. 17,00,000 × ½ |                 | <u>8,50,000</u>  |
| Average capital employed                                                    |                 | <u>66,20,000</u> |

### (iii) Normal Profit

$$\text{Average dividend for the last 4 years} \left( \frac{10+10+15+15}{4} \right) = 12.5\%$$

Market price of share = Rs. 125

$$\text{Normal rate of return} = \frac{12.5}{125} \times 100 = 10\%$$

Normal profit (10% of Rs. 66,20,000) = Rs. 6,62,000

### (iv) Valuation of goodwill

|                                                                   |                 |
|-------------------------------------------------------------------|-----------------|
|                                                                   | Rs.             |
| Future maintainable profit                                        | 14,36,600       |
| Less: Normal profit                                               | <u>6,62,000</u> |
| Super profit                                                      | <u>7,74,600</u> |
| Goodwill at 3 years' purchase of super profits (Rs. 7,74,600 × 3) | 23,23,800       |

## Question 4

The following is the extract from the Balance Sheets of Popular Ltd.:

| Liabilities                | As at<br>31.3.2009<br>Rs. in<br>lakhs | As at<br>31.3.2010<br>Rs. in<br>lakhs | Assets         | As at<br>31.3.2009<br>Rs. in<br>lakhs | As at<br>31.3.2010<br>Rs. in<br>lakhs |
|----------------------------|---------------------------------------|---------------------------------------|----------------|---------------------------------------|---------------------------------------|
| Share capital              | 500                                   | 500                                   | Fixed assets   | 550                                   | 650                                   |
| General reserve            | 400                                   | 425                                   | 10% investment | 250                                   | 250                                   |
| Profit and Loss<br>account | 60                                    | 90                                    | Stock          | 260                                   | 300                                   |
| 18% term loan              | 180                                   | 165                                   | Debtors        | 170                                   | 110                                   |
| Sundry creditors           | 35                                    | 45                                    | Cash at bank   | 46                                    | 45                                    |

|                   |              |              |                   | Valuation       |                 |
|-------------------|--------------|--------------|-------------------|-----------------|-----------------|
| Provision for tax | 11           | 13           | Fictitious assets | 10              | 8               |
| Proposed dividend | <u>100</u>   | <u>125</u>   |                   | <u>        </u> | <u>        </u> |
|                   | <u>1,286</u> | <u>1,363</u> |                   | <u>1,286</u>    | <u>1,363</u>    |

Additional information:

- (i) Replacement values of Fixed assets were Rs.1,100 lakhs on 31.3.09 and Rs.1,250 lakhs on 31.3.2010 respectively.
- (ii) Rate of depreciation adopted on Fixed assets was 5% p.a.
- (iii) 50% of the stock is to be valued at 120% of its book value.
- (iv) 50% of investments were trade investments.
- (v) Debtors on 31<sup>st</sup> March, 2010 included foreign debtors of \$35,000 recorded in the books at Rs.35 per U.S. Dollar. The closing exchange rate was \$ 1 = Rs.39.
- (vi) Creditors on 31<sup>st</sup> March, 2010 included foreign creditors of \$60,000 recorded in the books at \$ 1 = Rs.33. The closing exchange rate was \$ 1 = Rs.39.
- (vii) Profits for the year 2009-10 included Rs.60 lakhs of government subsidy which was not likely to recur.
- (viii) Rs.125 lakhs of Research and Development expenditure was written off to the Profit and Loss Account in the current year. This expenditure was not likely to recur.
- (ix) Future maintainable profits (pre-tax) are likely to be higher by 10%.
- (x) Tax rate during 2009-10 was 50%, effective future tax rate will be 40%.
- (xi) Normal rate of return expected is 15%.

One of the directors of the company Arvind, fears that the company does not enjoy goodwill in the prevalent market circumstances.

Critically examine this and establish whether Popular Co. has or has not any goodwill.

If your answers were positive on the existence of goodwill, show the leverage effect it has on the company's result.

Industry average return was 12% on long-term funds and 15% on equity funds.

### Answer

| 1. Calculation of Capital employed (CE) | Rs. in lakhs     |                  |
|-----------------------------------------|------------------|------------------|
|                                         | As on<br>31.3.09 | As on<br>31.3.10 |
| Replacement Cost of Fixed Assets        | 1100.00          | 1250.00          |
| Trade Investment (50%)                  | 125.00           | 125.00           |

## Financial Reporting

|                                                                                                               |                                                        |                |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------|
| Current cost of stock                                                                                         |                                                        |                |
| $130 + 130 \times \frac{120}{100}$                                                                            | 286.00                                                 |                |
| $150 + 150 \times \frac{120}{100}$                                                                            |                                                        | 330.00         |
| Debtors                                                                                                       | 170.00                                                 | 111.40         |
| Cash-at-Bank                                                                                                  | <u>46.00</u>                                           | <u>45.00</u>   |
| Total (A)                                                                                                     | <u>1727.00</u>                                         | <u>1861.40</u> |
| Less: Outside Liabilities                                                                                     |                                                        |                |
| 18% term loan                                                                                                 | 180.00                                                 | 165.00         |
| Sundry creditors                                                                                              | 35.00                                                  | 48.60          |
| Provision for tax                                                                                             | <u>11.00</u>                                           | <u>13.00</u>   |
| Total (B)                                                                                                     | <u>226.00</u>                                          | <u>226.60</u>  |
| Capital employed (A-B)                                                                                        | <u>1501.00</u>                                         | <u>1634.80</u> |
| Average Capital employed at current value = $\frac{\text{CE as on 31.3.2009} + \text{CE as on 31.3.2010}}{2}$ |                                                        |                |
|                                                                                                               | $= \frac{1501 + 1634.80}{2} = 1567.90 \text{ Lakhs}^*$ |                |

|                                                  |                     |
|--------------------------------------------------|---------------------|
| 2. <i>Future Maintainable Profit</i>             | <i>Rs. in Lakhs</i> |
| Increase in General Reserve                      | 25                  |
| Increase in Profit and Loss Account              | 30                  |
| Proposed Dividends                               | <u>125</u>          |
| Profit After Tax                                 | 180                 |
| Pre-Tax Profit = $\frac{180}{1 - 0.5}$           | 360                 |
| Less: Fictitious Assets written off (10 – 8)     | 2.00                |
| Non-Trading investment income (10% of Rs.125)    | 12.50               |
| Subsidy                                          | 60.00               |
| Exchange Loss on creditors [0.6 lakhs × (39-33)] | 3.60                |

\* Average capital employed can also be calculated in the following manner:

|                                                 |                          |
|-------------------------------------------------|--------------------------|
| Closing capital employed as on 31.3.2010        | Rs.1,634.80 lakhs        |
| Less: ½ of actual post tax profit for 2009-2010 | Rs. 90.00 lakhs          |
| Average capital employed                        | <u>Rs.1,544.80 lakhs</u> |

## Valuation

|                                                                                                                             |  |              |                |
|-----------------------------------------------------------------------------------------------------------------------------|--|--------------|----------------|
| Additional Depreciation on increase in value of Fixed Assets (current year) $(1250 - 650 = 600 \times \frac{5}{100})$ i.e., |  | <u>30.00</u> | <u>108.10</u>  |
|                                                                                                                             |  |              | 251.90         |
| Add: Exchange Gain on Debtors $[0.35 \text{ lakhs} \times (39-35)]$                                                         |  | 1.40         |                |
| Research and development expenses written off                                                                               |  | 125.00       |                |
| Stock Adjustment (30-26)                                                                                                    |  | <u>4.00</u>  | <u>130.40</u>  |
|                                                                                                                             |  |              | 382.30         |
| Add: Expected increase of 10%                                                                                               |  |              | <u>38.23</u>   |
| Future Maintainable Profit before Tax                                                                                       |  |              | 420.53         |
| Less: Tax @ 40% (40% of Rs.420.53)                                                                                          |  |              | <u>168.21</u>  |
| Future Maintainable Profit                                                                                                  |  |              | <u>252.32</u>  |
| 3. Valuation of Goodwill                                                                                                    |  |              | Rs. in lakhs   |
| (i) According to Capitalisation of Future Maintainable Profit Method                                                        |  |              |                |
| Capitalised value of Future Maintainable Profit                                                                             |  |              |                |
| $= \frac{252.32}{15} \times 100$                                                                                            |  |              | 1682.13        |
| Less: Average capital employed                                                                                              |  |              | <u>1567.90</u> |
| Value of Goodwill                                                                                                           |  |              | <u>114.23</u>  |
| Or                                                                                                                          |  |              |                |
| (ii) According to Capitalization of Super Profit Method                                                                     |  |              | Rs. In lakhs   |
| Future Maintainable Profit                                                                                                  |  |              | 252.32         |
| Less: Normal Profit @ 15% on average capital employed $(1567.90 \times 15\%)$                                               |  |              | <u>235.19</u>  |
| Super Profit                                                                                                                |  |              | <u>17.13</u>   |
| Capitalised value of super profit $\frac{17.13}{15} \times 100$ i.e. Goodwill                                               |  |              | 114.2          |

Goodwill exists; hence director's fear is not valid.

## Financial Reporting

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### Leverage Effect on Goodwill

|                                                                                    | Rs. in lakhs   |
|------------------------------------------------------------------------------------|----------------|
| Future Maintainable Profit on equity fund                                          | 252.32         |
| Future Maintainable Profit on Long-term Trading Capital employed                   |                |
| Future Maintainable Profit After Tax                                               | 252.32         |
| Add: Interest on Long-term Loan (Term Loan)                                        |                |
| (After considering Tax) $165 \times 18\% = 29.7 \times \frac{50}{100}$             | <u>14.85</u>   |
|                                                                                    | 267.17         |
| Average capital employed (Equity approach)                                         | 1567.90        |
| Add: 18% Term Loan $(180+165)/2$                                                   | <u>172.50</u>  |
| Average capital employed (Long-term Fund approach)                                 | <u>1740.40</u> |
| Value of Goodwill                                                                  |                |
| (A) Equity Approach                                                                |                |
| Capitalised value of Future Maintainable Profit = $\frac{252.32}{15} \times 100 =$ | 1682.13        |
| Less: Average capital employed                                                     | <u>1567.90</u> |
| Value of Goodwill                                                                  | <u>114.23</u>  |
| (B) Long-Term Fund Approach                                                        |                |
| Capitalized value of Future Maintainable Profit = $\frac{267.17}{12} \times 100 =$ | 2226.42        |
| Less: Average capital employed                                                     | <u>1740.40</u> |
| Value of Goodwill                                                                  | <u>486.02</u>  |

### Comments on Leverage effect of Goodwill:

Adverse Leverage effect on goodwill is 371.79 lakhs (i.e., Rs.486.02-114.23). In other words, Leverage Ratio of Popular Ltd. is low for which its goodwill value has been reduced when calculated with reference to equity fund as compared to the value arrived at with reference to long term fund.

### Working Notes:

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| (1) Stock adjustment                                              | Rs. in lakhs |
| (i) Excess current cost of closing stock over its Historical cost | 30.00        |
| (330 – 300)                                                       |              |



|                                                                                        | Valuation    |
|----------------------------------------------------------------------------------------|--------------|
| (ii) Excess current cost of opening stock over its Historical cost<br>(286-260)        | <u>26.00</u> |
| (iii) Difference [(i– ii)]                                                             | <u>4.00</u>  |
| (2) Debtors' adjustment                                                                |              |
| (i) Value of foreign exchange debtors at the closing exchange rate<br>(\$35,000×39)    | 13.65        |
| (ii) Value of foreign exchange debtors at the original exchange rate<br>(\$35,000×35)  | <u>12.25</u> |
| (iii) Difference [(i) – (ii)]                                                          | <u>1.40</u>  |
| (3) Creditors' adjustment                                                              |              |
| (i) Value of foreign exchange creditors at the closing exchange rate<br>(\$60,000×39)  | 23.40        |
| (ii) Value of foreign exchange creditors at the original exchange<br>rate(\$60,000×33) | <u>19.80</u> |
| (iii) Difference [(i) – (ii)]                                                          | <u>3.60</u>  |

#### Question 5

The Balance Sheet of Domestic Ltd. as on 31<sup>st</sup> March, 2010 is as under:

(All figures are in lacs)

| Liabilities                                                   | Rs.              | Assets                                                          | Rs.   |
|---------------------------------------------------------------|------------------|-----------------------------------------------------------------|-------|
| Equity Shares Rs.10 each                                      | 3,000            | Goodwill                                                        | 744   |
| Reserves (including provision<br>for taxation of Rs.300 lacs) | 1,000            | Premises and Land at<br>cost                                    | 400   |
| 5% Debentures                                                 | 2,000            | Plant and Machinery                                             | 3,000 |
| Secured Loans                                                 | 200              | Motor Vehicles                                                  | 40    |
| Sundry Creditors                                              | 300              | (purchased on 1.10.09)                                          |       |
| Profit & Loss A/c                                             |                  | Raw materials at cost                                           | 920   |
| Balance from previous B/S                                     | Rs.32            | Work-in-progress at cost                                        | 130   |
| Profit for the year (After<br>taxation)                       | Rs. <u>1,100</u> | Finished Goods at cost                                          | 180   |
|                                                               |                  | Book Debts                                                      | 400   |
|                                                               |                  | Investment (meant for<br>replacement of Plant and<br>Machinery) | 1,600 |
|                                                               |                  | Cash at Bank and Cash<br>in hand                                | 192   |

## Financial Reporting

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|                         |              |
|-------------------------|--------------|
| Discount on Debentures  | 10           |
| Underwriting Commission | <u>16</u>    |
|                         | <u>7,632</u> |

The resale value of Premises and Land is Rs.1,200 lacs and that of Plant and Machinery is Rs.2,400 lacs. Depreciation @ 20% is applicable to Motor Vehicles. Applicable depreciation on Premises and Land is 2%, and that on Plant and Machinery is 10%. Market value of the Investments is Rs.1,500 lacs. 10% of book debts is bad. In a similar company the market value of equity shares of the same denomination is Rs.25 per share and in such company dividend is consistently paid during last 5 years @ 20%. Contrary to this, Domestic Ltd. is having a marked upward or downward trend in the case of dividend payment.

Past 5 years' profits of the company were as under:

|         |                          |
|---------|--------------------------|
| 2004-05 | Rs.67 lacs               |
| 2005-06 | (-) Rs.1,305 lacs (loss) |
| 2006-07 | Rs.469 lacs              |
| 2007-08 | Rs.546 lacs              |
| 2008-09 | Rs.405 lacs              |

The unusual negative profitability of the company during 2005-06 was due to the lock out in the major manufacturing unit of the company which happened in the beginning of the second quarter of the year 2004-05 and continued till the last quarter of 2005-06.

Value the Goodwill of the Company on the basis of 4 years' purchase of the Super Profit. (Necessary assumption for adjustment of the Company's inconsistency in regard to the dividend payment may be made by the examinee).

### Answer

#### 1. Calculation of capital employed

|                                                          |               |
|----------------------------------------------------------|---------------|
| Present value of assets:                                 | Rs. (in lacs) |
| Premises and land                                        | 1,200         |
| Plant and machinery                                      | 2,400         |
| Motor vehicles (book value less depreciation for ½ year) | 36            |
| Raw materials                                            | 920           |
| Work-in-progress                                         | 130           |
| Finished goods                                           | 180           |
| Book debts (400 x 90%)                                   | 360           |
| Investments                                              | 1,500         |
| Cash at bank and in hand                                 | <u>192</u>    |

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| Valuation                                                                                      |            |               |
|------------------------------------------------------------------------------------------------|------------|---------------|
|                                                                                                |            | 6,918         |
| Less: Liabilities:                                                                             |            |               |
| Provision for taxation                                                                         | 300        |               |
| 5% Debentures                                                                                  | 2,000      |               |
| Secured loans                                                                                  | 200        |               |
| Sundry creditors                                                                               | <u>300</u> | <u>2,800</u>  |
| Total capital employed on 31.3.2010                                                            |            | <u>4,118</u>  |
| <b>2. Profit available for shareholders for the year 2009-10</b>                               |            |               |
| Profit for the year as per Balance Sheet                                                       |            | 1,100         |
| Less: Depreciation to be considered                                                            |            |               |
| Premises and land                                                                              | 24*        |               |
| Plant & machinery                                                                              | 240*       |               |
| Motor vehicles                                                                                 | <u>4</u>   | <u>268</u>    |
|                                                                                                |            | 832           |
| Less: Bad debts                                                                                |            | <u>40</u>     |
| Profit for the year 2009-10                                                                    |            | <u>792</u>    |
| <b>3. Average capital employed</b>                                                             |            |               |
| Total capital employed                                                                         |            | 4118          |
| Less: $\frac{1}{2}$ of profit for the current year [Refer point 2]                             |            | <u>396</u>    |
| Average capital employed                                                                       |            | <u>3722</u>   |
|                                                                                                |            | Rs. (in lacs) |
| <b>4. Average profit to determine Future Maintainable Profits</b>                              |            |               |
| Profit for the year 2009-10                                                                    | 792        |               |
| Profit for the year 2008-09                                                                    | 405        |               |
| Profit for the year 2007-08                                                                    | 546        |               |
| Profit for the year 2006-07                                                                    | <u>469</u> |               |
|                                                                                                | 2212 / 4   | 553           |
| <b>5. Calculation of General Expectation:</b>                                                  |            |               |
| Domestic Ltd. pays Rs.2 as dividend (20%) for each share of Rs.10.                             |            |               |
| Market value of equity shares of the same denomination is Rs.25 which fetches dividend of 20%. |            |               |

\* Depreciation on premises and land and plant and machinery have been provided on the basis of assumption that the same has not been provided for earlier.

## Financial Reporting

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Therefore, share of Rs.10 (Face value of shares of Domestic Ltd.) is expected to fetch  $(20/25) \times 10 = 8\%$  return.

Since Domestic Ltd. is not having a stable record in payment of dividend, in its case the expectation may be assumed to be slightly higher, say 10%.

|                                                                        |                      |              |
|------------------------------------------------------------------------|----------------------|--------------|
| <b>6. Calculation of super profit</b>                                  | <i>Rs. (in lacs)</i> |              |
| Future maintainable profit [See point 4]                               |                      | 553          |
| Normal profit (10% of average capital employed as computed in point 3) |                      | <u>372.2</u> |
| Super Profit                                                           |                      | <u>180.8</u> |
| <b>7. Valuation of Goodwill</b>                                        |                      |              |
| Goodwill at 4 years' purchase of Super Profit                          |                      | 723.20       |

### Notes:

- (1) It is evident from the Balance Sheet that depreciation was not charged to Profit & Loss Account.
- (2) It is assumed that provision for taxation already made is sufficient.
- (3) While considering past profits for determining average profit, the years 2004-05 and 2005-06 have been left out, as during these years normal business was hampered.

### Question 6

From the following particulars of three companies, ascertain the value of goodwill. Terms and conditions are as follows:

- (i) Assets are to be revalued.
- (ii) Goodwill is to be valued at four years' purchase of average super profits for three years. Such average is to be calculated after adjustment of depreciation at ten per cent on the amount of increase/decrease on revaluation of fixed assets. Income tax is to be ignored.
- (iii) Normal profit on capital employed is to be taken at 10 per cent, capital employed being considered on the basis of net revalued amounts of tangible assets.

The summarized Balance Sheets and relevant information are given below:

| <i>(Rs. in Lakhs)</i>              |               |               |               |                           |               |               |               |
|------------------------------------|---------------|---------------|---------------|---------------------------|---------------|---------------|---------------|
| <i>Liabilities</i>                 | <i>P Ltd.</i> | <i>Q Ltd.</i> | <i>R Ltd.</i> | <i>Assets</i>             | <i>P Ltd.</i> | <i>Q Ltd.</i> | <i>R Ltd.</i> |
| <i>Equity shares of Rs.10 each</i> | <i>12.00</i>  | <i>14.00</i>  | <i>6.00</i>   | <i>Goodwill</i>           | <i>-</i>      | <i>1.00</i>   | <i>-</i>      |
| <i>Reserves</i>                    | <i>2.00</i>   | <i>1.00</i>   | <i>2.00</i>   | <i>Net tangible block</i> | <i>16.00</i>  | <i>12.00</i>  | <i>10.00</i>  |
| <i>10 percent</i>                  |               |               |               | <i>Current assets</i>     | <i>6.00</i>   | <i>5.00</i>   | <i>2.00</i>   |

## Valuation

|                                     |              |              |              |  |              |              |
|-------------------------------------|--------------|--------------|--------------|--|--------------|--------------|
| <i>debentures</i>                   | 4.00         | -            | 2.00         |  |              |              |
| <i>Trade and expenses creditors</i> | 4.00         | 3.00         | 2.00         |  |              |              |
|                                     | <u>22.00</u> | <u>18.00</u> | <u>12.00</u> |  | <u>22.00</u> | <u>18.00</u> |
|                                     |              |              |              |  | <u>12.00</u> |              |

|                                                                                 |               |               |               |
|---------------------------------------------------------------------------------|---------------|---------------|---------------|
|                                                                                 | <i>P Ltd.</i> | <i>Q Ltd.</i> | <i>R Ltd.</i> |
|                                                                                 | <i>Rs.</i>    | <i>Rs.</i>    | <i>Rs.</i>    |
| <i>Revaluation of tangible block</i>                                            | 20,00,000     | 10,00,000     | 12,00,000     |
| <i>Revaluation of current assets</i>                                            | 7,00,000      | 2,80,000      | 1,60,000      |
| <i>Average annual profit for three years before charging debenture interest</i> | 3,60,000      | 2,88,000      | 1,56,000      |

### Answer

#### Valuation of Goodwill

|                                                                                 |                 |                 |                 |
|---------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
|                                                                                 | <i>P Ltd.</i>   | <i>Q Ltd.</i>   | <i>R Ltd.</i>   |
|                                                                                 | <i>Rs.</i>      | <i>Rs.</i>      | <i>Rs.</i>      |
| Average annual profit after charging debenture interest                         | 3,20,000        | 2,88,000        | 1,36,000        |
| Less/Add : Depreciation on amount increased/<br>decreased on revaluation        | (-)40,000       | +20,000         | (-) 20,000      |
|                                                                                 | <u>2,80,000</u> | <u>3,08,000</u> | <u>1,16,000</u> |
| Less: Normal profit at 10% on capital employed as<br>calculated in working note | 1,90,000        | 98,000          | 96,000          |
| Super Profit                                                                    | <u>90,000</u>   | <u>2,10,000</u> | <u>20,000</u>   |
| Goodwill valued at four years' purchase of super profits                        | <u>3,60,000</u> | <u>8,40,000</u> | <u>80,000</u>   |

### Working Note:

#### Calculation of Capital Employed

|                                |                  |                  |                  |
|--------------------------------|------------------|------------------|------------------|
|                                | <i>P Ltd.</i>    | <i>Q Ltd.</i>    | <i>R Ltd.</i>    |
|                                | <i>Rs.</i>       | <i>Rs.</i>       | <i>Rs.</i>       |
| Tangible fixed assets          | 20,00,000        | 10,00,000        | 12,00,000        |
| Current assets                 | 7,00,000         | 2,80,000         | 1,60,000         |
|                                | <u>27,00,000</u> | <u>12,80,000</u> | <u>13,60,000</u> |
| Less: Debentures and Creditors | 8,00,000         | 3,00,000         | 4,00,000         |
|                                | <u>19,00,000</u> | <u>9,80,000</u>  | <u>9,60,000</u>  |

### Valuation of Shares

#### Question 7

*Write short Note on capital market information-P/E ratio, yield ratio and market value/book value of shares.*

#### Answer

**Capital market information-P/E ratio, yield ratio and market value/book value of shares:** Frequently share prices data are punched with the accounting data to generate new set of information. These are (i) Price-Earning Ratio, (ii) Yield Ratio, (iii) Market Value/Book Value per share.

$$\text{Price - Earnings Ratio (P/E Ratio)} = \frac{\text{Average Share Price}}{\text{EPS}}$$

(Sometimes it is also calculated with reference to closing share price)

$$\text{P/E Ratio} = \frac{\text{Closing Share Price}}{\text{EPS}}$$

It indicates the pay back period to the investors or prospective investors. The P/E ratio can be interpreted on a comparison with the industry P/E. A low P/E in comparison to the Industry can indicate that there are prospects for growth in share price and hence could be an indicator to buy/hold the shares. A high P/E ratio in comparison to the Industry can be an indicator to sell the shares.

$$\text{Yield} = \frac{\text{Dividend}}{\text{Average Share Price}} \times 100$$

$$\text{or } \frac{\text{Dividend}}{\text{Closing Share Price}} \times 100$$

This ratio indicates return on investment; this may be on average investment or closing investment. Dividend (%) indicates return on paid up value of shares. But yield (%) is the indicator of true return in which share capital is taken at its market value.

$$\frac{\text{Market Value per share}}{\text{Book Value per share}} = \frac{\text{Average Share Price}}{\text{Net Worth/No. of Equity Shares}}$$

$$\text{or } \frac{\text{Closing Share Price}}{\text{Net Worth/No. of Equity Shares}}$$

This ratio indicates market response of the shareholders' investment. Undoubtedly, higher the ratio better is the shareholders' position in terms of return and capital gains.

**Question 8**

From the following data, compute the 'Net Assets' value of each category of equity shares of Smith Ltd.:

Shareholders funds

10,000 'A' Equity shares of Rs.100 each, fully paid

10,000 'B' Equity shares of Rs.100 each, Rs.80 paid

10,000 'C' Equity shares of Rs.100 each, Rs.50 paid

Retained Earnings Rs.9,00,000

**Answer****(i) Computation of Net assets**

Worth of net assets is equal to shareholders' fund, i.e.

|                                    |                 | Rs.              |
|------------------------------------|-----------------|------------------|
| Paid up value of 'A' equity shares | 10,000 x Rs.100 | 10,00,000        |
| Paid up value of 'B' equity shares | 10,000 x Rs. 80 | 8,00,000         |
| Paid up value of 'C' equity shares | 10,000 x Rs. 50 | 5,00,000         |
| Retained earnings                  |                 | <u>9,00,000</u>  |
| Net assets                         |                 | <u>32,00,000</u> |

**(ii) Net asset value of equity share of Rs.100 paid up**

Notional calls of Rs. 20 and Rs.50 per share on 'B' and 'C' equity shares respectively will make all the 30,000 equity shares fully paid up at Rs. 100 each. In that case,

|                                                       | Rs.              |
|-------------------------------------------------------|------------------|
| Net assets                                            | 32,00,000        |
| Add: Notional calls (10,000 x Rs.20 + 10,000 x Rs.50) | <u>7,00,000</u>  |
|                                                       | <u>39,00,000</u> |

Value of each equity share of Rs.100 fully paid up = Rs. 39,00,000 / 30,000=Rs.130

**(iii) Net asset values of each category of equity shares**

|                                                                                  | Rs. |
|----------------------------------------------------------------------------------|-----|
| Value of 'A' equity shares of Rs. 100 fully paid up                              | 130 |
| Value of 'B' equity shares of Rs. 100 each, out of which Rs. 80 paid up (130-20) | 110 |
| Value of 'C' Equity shares of Rs.100 each, out of which Rs. 50 paid up (130-50)  | 80  |

## Financial Reporting

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**Alternatively value of an equity share may also be calculated as follows:**

|                                                                                                               |                               |
|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Total paid-up capital                                                                                         | Rs.                           |
| 'A' equity shares (10,000XRrs.100)                                                                            | 10,00,000                     |
| 'B' equity shares (10,000XRrs. 80)                                                                            | 8,00,000                      |
| 'C' equity shares (10,000XRrs. 50)                                                                            | <u>5,00,000</u>               |
|                                                                                                               | 23,00,000                     |
| Retained earnings                                                                                             | <u>9,00,000</u>               |
| Net assets value of all shares                                                                                | <u>32,00,000</u>              |
| Value per rupee of paid up capital = $\frac{\text{Net assets value of all shares}}{\text{Paid up capital}}$ = | $\frac{32,00,000}{23,00,000}$ |
|                                                                                                               | = Rs.1.391                    |

Therefore,

|                                           |                |           |
|-------------------------------------------|----------------|-----------|
| Net assets value of Rs. 100 paid up share | Rs.1.391 x 100 | Rs.139.10 |
| Net assets value of Rs. 80 paid up share  | Rs.1.391 x 80  | Rs.111.28 |
| Net assets value of Rs. 50 paid up share  | Rs.1.391 x 50  | Rs.69.55  |

### Question 9

*The Balance Sheet of RNR Limited as on 31.12.2009 is as follows :*

| Liabilities                                            | (Rupees<br>in Lakhs) | Assets                                                     | (Rupees<br>in Lakhs) |
|--------------------------------------------------------|----------------------|------------------------------------------------------------|----------------------|
| 1,00,000 equity shares of<br>Rs. 10 each fully paid    | 10                   | Goodwill                                                   | 5                    |
| 1,00,000 equity shares of<br>Rs. 6 each, fully paid up | 6                    | Fixed assets                                               | 15                   |
| Reserves and Surplus                                   | 4                    | Other tangible assets                                      | 5                    |
| Liabilities                                            | <u>10</u>            | Intangible assets (market value)                           | 3                    |
|                                                        | <u>30</u>            | Miscellaneous expenditure to<br>the extent not written off | <u>2</u>             |
|                                                        |                      |                                                            | <u>30</u>            |

*Fixed assets are worth Rs. 24 lakhs. Other Tangible assets are revalued at Rs. 3 lakhs. The company is expected to settle the disputed bonus claim of Rs. 1 lakh not provided for in the accounts. Goodwill appearing in the Balance Sheet is purchased goodwill. It is considered reasonable to increase the value of goodwill by an amount equal to average of the book value and a valuation made at 3 years' purchase of average super-profit for the last 4 years.*



After tax, profits and dividend rates were as follows:

| Year | PAT<br>(Rs. in Lakhs) | Dividend % |
|------|-----------------------|------------|
| 2006 | 3.0                   | 11%        |
| 2007 | 3.5                   | 12%        |
| 2008 | 4.0                   | 13%        |
| 2009 | 4.1                   | 14%        |

Normal expectation in the industry to which the company belongs is 10%.

Akbar holds 20,000 equity shares of Rs. 10 each fully paid and 10,000 equity shares of Rs. 6 each, fully paid up. He wants to sell away his holdings.

- Determine the break-up value and market value of both kinds of shares.
- What should be the fair value of shares, if controlling interest is being sold?

**Answer**

$$(i) \quad \text{Break up value of Re. 1 of share capital} = \frac{\text{Rs. 28.98 lakhs}}{\text{Rs. 16.00 lakhs}} = \text{Rs. 1.81}$$

$$\text{Break up value of Rs. 10 paid up share} = 1.81 \times 10 = \text{Rs. 18.10}$$

$$\text{Break up value of Rs. 6 paid up share} = 1.81 \times 6 = \text{Rs. 10.86}$$

Market value of shares:

$$\text{Average dividend} = \left( \frac{11\% + 12\% + 13\% + 14\%}{4} \right) = 12.5\%$$

$$\text{Market value of Rs. 10 paid up share} = \frac{12.5\%}{10\%} \times 10 = \text{Rs. 12.50}$$

$$\text{Market value of Rs. 6 paid up share} = \frac{12.5\%}{10\%} \times 6 = \text{Rs. 7.50}$$

- Break up value of share will remain as before even if the controlling interest is being sold. But the market value of shares will be different as the controlling interest would enable the declaration of dividend upto the limit of disposable profit.

$$\frac{\text{Average Profit}^*}{\text{Paid up value of shares}} \times 100 = \frac{\text{Rs. 3.4 lakhs}}{\text{Rs. 16 lakhs}} \times 100 = 21.25\%$$

## Financial Reporting

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Market value of shares :

$$\text{For Rs. 10 paid up share} = \frac{21.25\%}{10\%} \times 10 = \text{Rs. 21.25}$$

$$\text{For Rs. 6 paid up share} = \frac{21.25\%}{10\%} \times 6 = \text{Rs. 12.75}$$

$$\text{Fair value of shares} = \frac{\text{Breakup value} + \text{Market value}}{2}$$

$$\text{Fair value of Rs. 10 paid up share} = \frac{18.10 + 21.25}{2} = \text{Rs. 19.68}$$

$$\text{Fair value of Rs. 6 paid up share} = \frac{10.86 + 12.75}{2} = \text{Rs. 11.81}$$

\* (Transfer to reserves has been ignored)

### Working Notes:

(Rs. in lakhs)

#### (a) Calculation of average capital employed

|                                                                   |          |              |
|-------------------------------------------------------------------|----------|--------------|
| Fixed assets                                                      |          | 24.00        |
| Other tangible assets                                             |          | 3.00         |
| Intangible assets                                                 |          | <u>3.00</u>  |
|                                                                   |          | 30.00        |
| Less: Liabilities                                                 | 10       |              |
| Bonus                                                             | <u>1</u> | <u>11.00</u> |
|                                                                   |          | 19.00        |
| Less: $\frac{1}{2}$ of profits [ $\frac{1}{2}$ (4.1 – Bonus 1.0)] |          | <u>1.55</u>  |
| Average capital employed                                          |          | <u>17.45</u> |

#### (b) Calculation of super profit

|                                                                  |              |
|------------------------------------------------------------------|--------------|
| Average profit = $\frac{1}{4}$ ( 3 + 3.5 + 4 + 4.1 – Bonus 1.0 ) |              |
| = $\frac{1}{4} \times 13.6$                                      | 3.400        |
| Less: Normal profit = 10 % of Rs. 17.45 lakh                     | <u>1.745</u> |
| Super profit                                                     | <u>1.655</u> |

#### (c) Calculation of goodwill

3 Years' purchase of average super-profit =  $3 \times 1.655 = \text{Rs. 4.965 lakhs}$

## Valuation

|                                                         |                                                      |              |
|---------------------------------------------------------|------------------------------------------------------|--------------|
| Increase in value of goodwill                           | = $\frac{1}{2}$ (book value + 3 years' super profit) |              |
|                                                         | = $\frac{1}{2}$ (5 + 4.965)                          |              |
|                                                         | = Rs. 4.9825 lakhs                                   |              |
| Net assets as revalued including book value of goodwill |                                                      | 24.00        |
| Add: Increase in goodwill (rounded-off)                 |                                                      | <u>4.98</u>  |
| Net assets available for shareholders                   |                                                      | <u>28.98</u> |

**Note:** In the above solution, tax effect of disputed bonus and corporate dividend tax has been ignored.

### Question 10

The following is the Balance Sheet of N Ltd. as on 31st March, 2010:

#### Balance Sheet

| Liabilities                                                   | Rs.                | Assets               | Rs.                |
|---------------------------------------------------------------|--------------------|----------------------|--------------------|
| 4,00,000 Equity shares of Rs. 10 each fully paid              | 40,00,000          | Goodwill             | 4,00,000           |
| 13.5% Redeemable preference shares of Rs. 100 each fully paid | 20,00,000          | Building             | 24,00,000          |
| General Reserve                                               | 16,00,000          | Machinery            | 22,00,000          |
| Profit and Loss Account                                       | 3,20,000           | Furniture            | 10,00,000          |
| Bank Loan (Secured against fixed assets)                      | 12,00,000          | Vehicles             | 18,00,000          |
| Bills Payable                                                 | 6,00,000           | Investments          | 16,00,000          |
| Creditors                                                     | 31,00,000          | Stock                | 11,00,000          |
|                                                               |                    | Debtors              | 18,00,000          |
|                                                               |                    | Bank Balance         | 3,20,000           |
|                                                               |                    | Preliminary Expenses | <u>2,00,000</u>    |
|                                                               | <u>1,28,20,000</u> |                      | <u>1,28,20,000</u> |

Further information:

- (i) Return on capital employed is 20% in similar businesses.
- (ii) Fixed assets are worth 30% more than book value. Stock is overvalued by Rs. 1,00,000, Debtors are to be reduced by Rs. 20,000. Trade investments, which constitute 10% of the total investments are to be valued at 10% below cost.
- (iii) Trade investments were purchased on 1.4.2009. 50% of non-Trade Investments were purchased on 1.4.2008 and the rest on 1.4.2009. Non-Trade Investments yielded 15% return on cost.

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- (iv) In 2007-2008 new machinery costing Rs. 2,00,000 was purchased, but wrongly charged to revenue. This amount should be adjusted taking depreciation at 10% on reducing value method.
- (v) In 2008-2009 furniture with a book value of Rs. 1,00,000 was sold for Rs. 60,000.
- (vi) For calculating goodwill two years purchase of super profits based on simple average profits of last four years are to be considered. Profits of last four years are as under:  
2006-2007 Rs. 16,00,000, 2007-2008 Rs. 18,00,000, 2008-2009 Rs. 21,00,000, 2009-2010 Rs. 22,00,000.
- (vii) Additional depreciation provision at the rate of 10% on the additional value of Plant and Machinery alone may be considered for arriving at average profit.
- Find out the intrinsic value of the equity share. Income-tax and Dividend tax are not to be considered.

### Answer

Calculation of intrinsic value of equity shares of N Ltd.

#### 1. Calculation of Goodwill

(i) Capital employed

| Fixed Assets                                 | Rs.              | Rs.              |
|----------------------------------------------|------------------|------------------|
| Building                                     | 24,00,000        |                  |
| Machinery (Rs. 22,00,000 + Rs. 1,45,800)     | 23,45,800        |                  |
| Furniture                                    | 10,00,000        |                  |
| Vehicles                                     | <u>18,00,000</u> |                  |
|                                              | 75,45,800        |                  |
| Add: 30% increase                            | <u>22,63,740</u> |                  |
|                                              | 98,09,540        |                  |
| Trade investments (Rs.16,00,000 × 10% × 90%) | 1,44,000         |                  |
| Debtors (Rs. 18,00,000 – Rs. 20,000)         | 17,80,000        |                  |
| Stock (Rs. 11,00,000 – Rs. 1,00,000)         | 10,00,000        |                  |
| Bank balance                                 | <u>3,20,000</u>  | 1,30,53,540      |
| Less: Outside liabilities                    |                  |                  |
| Bank Loan                                    | 12,00,000        |                  |
| Bills payable                                | 6,00,000         |                  |
| Creditors                                    | <u>31,00,000</u> | <u>49,00,000</u> |
| Capital employed                             |                  | <u>81,53,540</u> |

## (ii) Future maintainable profit

## Calculation of average profit

|                                                                                                                 | 2006-2007        | 2007-2008        | 2008-2009        | 2009-2010        |
|-----------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|
|                                                                                                                 | Rs.              | Rs.              | Rs.              | Rs.              |
| Profit given                                                                                                    | 16,00,000        | 18,00,000        | 21,00,000        | 22,00,000        |
| Add: Capital expenditure of machinery charged to revenue                                                        |                  | 2,00,000         |                  |                  |
| Loss on sale of furniture                                                                                       |                  |                  | <u>40,000</u>    |                  |
|                                                                                                                 | 16,00,000        | 20,00,000        | 21,40,000        | 22,00,000        |
| Less: Depreciation on machinery                                                                                 |                  | 20,000           | 18,000           | 16,200           |
| Income from non-trade investments                                                                               |                  | 1,08,000         | 2,16,000         | 2,16,000         |
| Reduction in value of stock                                                                                     |                  |                  |                  | 1,00,000         |
| Bad debts                                                                                                       |                  |                  |                  | <u>20,000</u>    |
| Adjusted profit                                                                                                 | <u>16,00,000</u> | <u>18,72,000</u> | <u>19,06,000</u> | <u>18,47,800</u> |
|                                                                                                                 |                  |                  |                  | Rs.              |
| Total adjusted profit for four years (2006-2007 to 2009-2010)                                                   |                  |                  |                  | 72,25,800        |
| Average profit (Rs. 72,25,800/4)                                                                                |                  |                  |                  | 18,06,450        |
| Less: Depreciation at 10% on additional value of machinery<br>(22,00,000 + 1,45,800) × 30/100 i.e. Rs. 7,03,740 |                  |                  |                  | <u>70,374</u>    |
| Adjusted average profit                                                                                         |                  |                  |                  | <u>17,36,076</u> |

## (iii) Normal Profit

20% on capital employed i.e. 20% on Rs. 81,53,540      Rs.16,30,708

## (iv) Super profit

Expected profit – normal profit

Rs. 17,36,076 – Rs. 16,30,708 = Rs. 1,05,368

## (v) Goodwill

2 years' purchase of super profit

Rs. 1,05,368 × 2 = Rs. 2,10,736

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### 2. Net assets available to equity shareholders

|                                      | Rs.              | Rs.              |
|--------------------------------------|------------------|------------------|
| Goodwill as calculated in 1(v) above |                  | 2,10,736         |
| Sundry fixed assets                  |                  | 98,09,540        |
| Trade and Non-trade investments      |                  | 15,84,000        |
| Debtors                              |                  | 17,80,000        |
| Stock                                |                  | 10,00,000        |
| Bank balance                         |                  | <u>3,20,000</u>  |
|                                      |                  | 1,47,04,276      |
| Less: Outside liabilities            |                  |                  |
| Bank loan                            | 12,00,000        |                  |
| Bills payable                        | 6,00,000         |                  |
| Creditors                            | <u>31,00,000</u> | 49,00,000        |
| Preference share capital             |                  | <u>20,00,000</u> |
| Net assets for equity shareholders   |                  | <u>78,04,276</u> |

### 3. Valuation of equity shares

$$\begin{aligned}\text{Value of equity share} &= \frac{\text{Net assets available to equity shareholders}}{\text{Number of equity shares}} \\ &= \frac{\text{Rs. 78,04,276}}{4,00,000} \\ &= \text{Rs. 19.51}\end{aligned}$$

#### Note:

1. Depreciation on the overall increased value of assets (worth 30% more than book value) has not been considered. Depreciation on the additional value of only plant and machinery has been considered taking depreciation at 10% on reducing value method while calculating average adjusted profit.
2. Loss on sale of furniture has been taken as non-recurring or extraordinary item.
3. It has been assumed that preference dividend has been paid till date.

### Question 11

*The Capital Structure of M/s XYZ Ltd., on 31st March, 2010 was as follows:*

|                                                |           |
|------------------------------------------------|-----------|
|                                                | Rs.       |
| Equity Capital – 18,000 Shares of Rs. 100 each | 18,00,000 |

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|                                                         | <b>Valuation</b> |
|---------------------------------------------------------|------------------|
| 12% Preference Capital – 5,000 Shares of Rs. 100 each   | 5,00,000         |
| 12% Secured Debentures                                  | 5,00,000         |
| Reserves                                                | 5,00,000         |
| Profit earned before Interest and Taxes during the year | 7,20,000         |
| Tax Rate                                                | 40%              |

Generally the return on equity shares of this type of Industry is 15%.

Subject to:

- (a) The profit after tax covers Fixed Interest and Fixed Dividends at least 4 times.
- (b) The Debt Equity ratio is at least 2;
- (c) Yield on shares is calculated at 60% of distributed profits and 10% of undistributed profits;

The Company has been paying regularly an Equity dividend of 15%.

The risk premium for Dividends is generally assumed at 1%.

Find out the value of Equity shares of the Company.

#### **Answer**

|                                                                                       |                                 |
|---------------------------------------------------------------------------------------|---------------------------------|
| Calculation of profit after tax (PAT)                                                 | Rs.                             |
| Profit before interest & tax (PBIT)                                                   | 7,20,000                        |
| Less: Debenture interest (Rs. 5,00,000 × 12/100)                                      | <u>60,000</u>                   |
| Profit before tax (PBT)                                                               | 6,60,000                        |
| Less: Tax @ 40%                                                                       | <u>2,64,000</u>                 |
| Profit after tax (PAT)                                                                | 3,96,000                        |
| Less: Preference dividend $\left( \text{Rs. } 5,00,000 \times \frac{12}{100} \right)$ | 60,000                          |
| Equity dividend $\left( \text{Rs. } 18,00,000 \times \frac{15}{100} \right)$          | <u>2,70,000</u> <u>3,30,000</u> |
| Retained earnings (undistributed profit)                                              | <u>66,000</u>                   |

#### **Calculation of Interest and Fixed Dividend Coverage**

$$= \frac{\text{PAT} + \text{Debenture interest}}{\text{Debenture interest} + \text{Preference dividend}}$$

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$$\begin{aligned} &= \frac{\text{Rs. } 3,96,000 + 60,000}{\text{Rs. } 60,000 + 60,000} \\ &= \frac{\text{Rs. } 4,56,000}{\text{Rs. } 1,20,000} = 3.8 \text{ times} \end{aligned}$$

### Calculation of Debt Equity Ratio

$$\begin{aligned} \text{Debt Equity Ratio} &= \frac{\text{Debt (long term loans)}}{\text{Equity (shareholders' funds)}} \\ &= \frac{\text{Debentures}}{\text{Preference share capital + Equity share capital + Reserves}} \\ &= \frac{\text{Rs. } 5,00,000}{\text{Rs. } 5,00,000 + 18,00,000 + 5,00,000} \\ \text{Debt Equity Ratio} &= \frac{\text{Rs. } 5,00,000}{\text{Rs. } 28,00,000} = .179 \end{aligned}$$

The ratio is less than the prescribed ratio.

### Calculation of Yield on Equity Shares

Yield on equity shares is calculated at 60% of distributed profits and 10% of undistributed profits:

|                                                  |                 |
|--------------------------------------------------|-----------------|
| 60% of distributed profits (60% of Rs. 2,70,000) | 1,62,000        |
| 10% of undistributed profits (10% of Rs. 66,000) | <u>6,600</u>    |
|                                                  | <u>1,68,600</u> |

$$\begin{aligned} \text{Yields on equity shares} &= \frac{\text{Yield on shares}}{\text{Equity share capital}} \times 100 \\ &= \frac{\text{Rs. } 1,68,600}{\text{Rs. } 18,00,000} \times 100 \\ &= 9.37\% \end{aligned}$$

### Calculation of Expected Yield on Equity Shares

|                                                                          |              |
|--------------------------------------------------------------------------|--------------|
| Normal return expected                                                   | 15%          |
| Add: Risk premium for low interest and fixed dividend coverage (3.8 < 4) | 1%*          |
| Risk for debt equity ratio not required                                  | <u>Nil**</u> |
|                                                                          | <u>16%</u>   |



Value of an Equity Share

$$= \frac{\text{Actual yield}}{\text{Expected yield}} \times \text{Paid up value of a share}$$

$$= \frac{9.37}{16} \times 100 = \text{Rs. } 58.56$$

- \* When interest and fixed dividend coverage is lower than the prescribed norm, the riskiness of equity investors is high. They should claim additional risk premium over and above the normal rate of return. Hence, the additional risk premium of 1% has been added.
- \*\* The debt equity ratio is lower than the prescribed ratio, that means outside funds (Debts) are lower as compared to shareholders' funds. Therefore, the risk is less for equity shareholders. Therefore, no risk premium is required to be added in this case.

### Question 12

The following abridged Balance Sheet as at 31st March, 20110 pertains to Glorious Ltd.

| Liabilities                                          | Rs. in lakhs  | Assets                    | Rs. in lakhs  |
|------------------------------------------------------|---------------|---------------------------|---------------|
| Share Capital:                                       |               | Goodwill, at cost         | 420           |
| 180 lakh Equity shares of Rs. 10 each, fully paid up | 1,800         | Other Fixed Assets        | 11,166        |
| 90 lakh Equity shares of Rs. 10 each, Rs. 8 paid up  | 720           | Current Assets            | 2,910         |
| 150 lakh Equity shares of Rs. 5 each, fully paid-up  | 750           | Loans and Advances        | 933           |
| Reserves and Surplus                                 | 5,628         | Miscellaneous Expenditure | 171           |
| Secured Loans                                        | 4,500         |                           |               |
| Current Liabilities                                  | 1,242         |                           |               |
| Provisions                                           | 960           |                           |               |
|                                                      | <u>15,600</u> |                           | <u>15,600</u> |

You are required to calculate the following for each one of the three categories of equity shares appearing in the above mentioned Balance Sheet:

- Intrinsic value on the basis of book values of Assets and Liabilities including goodwill;
- Value per share on the basis of dividend yield.

Normal rate of dividend in the concerned industry is 15%, whereas Glorious Ltd. has been paying 20% dividend for the last four years and is expected to maintain it in the next few years; and

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(iii) Value per share on the basis of EPS.

For the year ended 31st March, 2010 the company has earned Rs. 1,371 lakh as profit after tax, which can be considered to be normal for the company. Average EPS for a fully paid share of Rs. 10 of a Company in the same industry is Rs. 2.

### Answer

| (i) Intrinsic value on the basis of book values                | Rs. in lakhs | Rs. in lakhs |
|----------------------------------------------------------------|--------------|--------------|
| Goodwill                                                       |              | 420          |
| Other Fixed Assets                                             |              | 11,166       |
| Current Assets                                                 |              | 2,910        |
| Loans and Advances                                             |              | <u>933</u>   |
|                                                                |              | 15,429       |
| Less: Secured loans                                            | 4,500        |              |
| Current liabilities                                            | 1,242        |              |
| Provisions                                                     | <u>960</u>   | <u>6,702</u> |
|                                                                |              | 8,727        |
| Add: Notional call on 90 lakhs equity shares @ Rs. 2 per share |              | <u>180</u>   |
|                                                                |              | <u>8,907</u> |

Equivalent number of equity shares of Rs. 10 each.

|                                                                                                                  | Rs. in lakhs |
|------------------------------------------------------------------------------------------------------------------|--------------|
| Fully paid shares of Rs. 10 each                                                                                 | 180          |
| Partly-paid shares after notional call                                                                           | 90           |
| Fully paid shares of Rs. 5 each, $\left[ \frac{\text{Rs. 150 lakhs}}{\text{Rs. 10}} \times \text{Rs. 5} \right]$ | <u>75</u>    |
|                                                                                                                  | <u>345</u>   |

Value per equivalent share of Rs. 10 each = Rs.  $\frac{8,907 \text{ lakhs}}{345 \text{ lakhs}}$  = Rs. 25.82

Hence, intrinsic values of each equity share are as follows:

Value of fully paid share of Rs. 10 = Rs. 25.82 per equity share.

Value of share of Rs. 10, Rs. 8 paid-up = Rs. 25.82 – Rs. 2 = Rs. 23.82 per equity share.

Value of fully paid share of Rs. 5 =  $\frac{\text{Rs. 25.82}}{2}$  = Rs. 12.91 per equity share.

**(ii) Valuation on dividend yield basis:**

$$\text{Value of fully paid share of Rs. 10} = \frac{20}{15} \times \text{Rs. 10} = \text{Rs. 13.33}$$

$$\text{Value of share of Rs. 10, Rs. 8 paid-up} = \frac{20}{15} \times \text{Rs. 8} = \text{Rs. 10.67}$$

$$\text{Value of fully paid share of Rs. 5} = \frac{20}{15} \times 5 = \text{Rs. 6.67}$$

**(iii) Valuation on the basis of EPS:**

Profit after tax = Rs. 1,371 lakhs

Total share capital = Rs. (1,800 + 720 + 750) lakhs = Rs. 3,270 lakhs

$$\text{Earning per rupee of share capital} = \text{Rs. } \frac{1,371 \text{ lakhs}}{3,270 \text{ lakhs}} = \text{Re. 0.419}$$

$$\text{Earning per fully paid share of Rs. 10} = \text{Re. 0.419} \times 10 = \text{Rs. 4.19}$$

$$\text{Earning per share of Rs. 10 each, Rs. 8 paid-up} = \text{Re. 0.419} \times 8 = \text{Rs. 3.35}$$

$$\text{Earning per share of Rs. 5, fully paid-up} = \text{Re. 0.419} \times 5 = \text{Rs. 2.10}$$

$$\text{Value of fully paid share of Rs. 10} = \text{Rs. } \frac{4.19}{2} \times 10 = \text{Rs. 20.95}$$

$$\text{Value of share of Rs. 10, Rs. 8 paid-up} = \text{Rs. } \frac{3.35}{2} \times 10 = \text{Rs. 16.75}$$

$$\text{Value of fully paid share of Rs. 5} = \text{Rs. } \frac{2.10}{2} \times 10 = \text{Rs. 10.50}$$

**Question 13**

The directors of a public limited company are considering the acquisition of the entire share capital of an existing company X Ltd engaged in a line of business suited to them. The directors feel that acquisition of X will not create any further risk to their business interest.

The following is the Balance Sheet of X Ltd., as at 31<sup>st</sup> December, 2010:

| Liabilities                        | Rs.      | Assets          | Rs.      |
|------------------------------------|----------|-----------------|----------|
| Share Capital:                     |          | Fixed assets    | 6,00,000 |
| 4,000 equity shares of Rs.100 each |          | Current assets: |          |
| fully paid-up                      | 4,00,000 | Stock           | 2,00,000 |
| General reserve                    | 3,00,000 | Sundry debtors  | 3,40,000 |

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|                  |                  |                        |                   |
|------------------|------------------|------------------------|-------------------|
| Bank overdraft   | 2,40,000         | Cash and bank balances | 1,00,000          |
| Sundry creditors | <u>3,00,000</u>  |                        | <u>          </u> |
|                  | <u>12,40,000</u> |                        | <u>12,40,000</u>  |

*X's financial records for the past five years were as under:*

|                        | 2010   | 2009   | 2008    | 2007    | 2006   |
|------------------------|--------|--------|---------|---------|--------|
|                        | Rs.    | Rs.    | Rs.     | Rs.     | Rs.    |
| Profits                | 80,000 | 74,000 | 70,000  | 60,000  | 62,000 |
| Extra ordinary item(s) | 3,500  | 4,000  | (6,000) | (8,000) | 1,000  |
|                        | 83,500 | 78,000 | 64,000  | 52,000  | 61,000 |
| Dividends              | 48,000 | 40,000 | 40,000  | 32,000  | 32,000 |
|                        | 35,500 | 38,000 | 24,000  | 20,000  | 29,000 |

*Additional information:*

(i) *There were no changes in the issued capital of X during this period.*

(ii) *The estimated values of X Ltd.'s assets on 31.12.2010 are:*

|              | Replacement cost | Realizable value |
|--------------|------------------|------------------|
|              | Rs.              | Rs.              |
| Fixed assets | 8,00,000         | 5,40,000         |
| Stock        | 3,00,000         | 3,20,000         |

(iii) *It is anticipated that 1% of the debtors may prove to be difficult to be realized.*

(iv) *The cost of capital to the acquiring company is 10%.*

(v) *The current return of an investment of the acquiring company is 10%. Quoted companies with similar businesses and activities as X have a P/E ratio approximating to 8, although these companies tend to be larger than X.*

*Required:*

*Estimate the value of the total equity capital of X Ltd., on 31.12.2010 using each of the following bases:*

- Balance sheet value*
- Replacement cost*
- Realizable value*
- P/E ratio model.*

## Valuation

### Answer

|                                   | Rs.             | Rs.                       |
|-----------------------------------|-----------------|---------------------------|
| <b>(a) Balance Sheet Value</b>    |                 |                           |
| Capital                           | 4,00,000        |                           |
| Reserve                           | <u>3,00,000</u> | 7,00,000                  |
| <b>(b) Replacement cost value</b> |                 |                           |
| Capital                           | 4,00,000        |                           |
| Reserve                           | 3,00,000        |                           |
| Appreciation:                     |                 |                           |
| Fixed assets                      | 2,00,000        |                           |
| Stock                             | <u>1,00,000</u> | <u>3,00,000</u> 10,00,000 |
| <b>(c) Realizable value</b>       |                 |                           |
| Capital                           | 4,00,000        |                           |
| Reserve                           | 3,00,000        |                           |
| Appreciation in stock             | 1,20,000        |                           |
| Depreciation in fixed assets      | (60,000)        |                           |
| Book debts (Bad)*                 | <u>(3,400)</u>  | 7,56,600                  |
| <b>(d) P/E ratio model</b>        |                 |                           |

Comparable quoted companies have a P/E ratio of 8. X Ltd. is prima facie small company.

If a P/E ratio of 6 is adopted, the valuation will be  $80,000 \times 6 = \text{Rs.} 4,80,000$

If a P/E ratio of 7 were to be adopted, the valuation will be  $80,000 \times 7 = \text{Rs.} 5,60,000$

### Question 14

*P Limited is considering the acquisition of R Limited. The financial data at the time of acquisition being:*

|                                            | <i>P Limited</i> | <i>R Limited</i> |
|--------------------------------------------|------------------|------------------|
| <i>Net profit after tax (Rs. in lakhs)</i> | 60               | 12               |
| <i>Number of shares (lakhs)</i>            | 12               | 5                |

\* It has been assumed that estimated bad debts would not be relevant for estimating values under bases (a) and (b).

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|                              |     |      |
|------------------------------|-----|------|
| Earning per share (Rs.)      | 5   | 2.40 |
| Market price per share (Rs.) | 150 | 48   |
| Price earning ratio          | 30  | 20   |

*It is expected that the net profit after tax of the two companies would continue to be Rs.72 lakhs even after the amalgamation.*

*Explain the effect on EPS of the merged company under each of the following situations:*

*(i) P Ltd. offers to pay Rs.60 per share to the shareholders of R Ltd.*

*(ii) P Ltd. offers to pay Rs.78 per share to the shareholders of R Ltd.*

*The amount in both cases is to be paid in the form of shares of P Ltd.*

### Answer

(i) In this case, P Ltd. offers to pay Rs.60 per share.

The share exchange ratio would be  $\frac{60}{150} = 0.4$

It means, P Ltd. would give 0.4 shares for every one share of R Ltd. In other words, P Ltd. would give 2 shares for 5 shares of R Ltd.

The total number of shares to be issued by P Ltd. to R Ltd.

$$= 5,00,000 \times 0.4 = 2,00,000 \text{ shares}$$

or

$$5,00,000 \times \frac{2}{5} = 2,00,000 \text{ shares}$$

Total number of shares of P Ltd. after acquisition of R Ltd.

$$= 12,00,000 + 2,00,000 = 14,00,000 \text{ shares}$$

Calculation of E.P.S. of the amalgamated company

$$= \frac{\text{Total Net Profit after Interest and Tax}}{\text{Total Number of shares}}$$

$$= \frac{72,00,000}{14,00,000} = \text{Rs.5.14 per share}$$

After amalgamation, The EPS of P Ltd., will improve from Rs.5 to Rs.5.14 whereas EPS of former shareholders of R Ltd would reduce from present 2.40 per share to  $5.14 \times 0.4 = \text{Rs.2.056}$  per share after merger.

(ii) In this case, P Ltd. offers Rs.78 per share to the shareholders of R Ltd.

The Exchange Ratio would be  $\frac{78}{150} = 0.52$  shares of P Ltd. for each share of R Ltd. In other words, P Ltd would give 52 shares for per 100 shares of R Ltd.

P Ltd would issue  $5,00,000 \times 0.52 = 2,60,000$  shares to shareholders of R Ltd.

$$\text{E.P.S. of the Merged Company} = \frac{72,00,000}{12,00,000 + 2,60,000} = 4.93$$

After Merger, there is a dilution in the E.P.S., of P Ltd. from 5 to 4.93.

After Merger E.P.S. of former shareholders of R Ltd.

$$= 4.93 \times 0.52 = 2.56$$

There is a gain of Re. 0.16 in E.P.S. of merged company in comparison to E.P.S. of R Ltd. of Rs.2.40 before merger.

#### Comments:

Initial increase in and decrease in earnings per share are possible in both cases of Merger. Generally, the dilution in E.P.S. will occur wherever the Price Earnings ratio of acquired company calculated on the basis of price paid exceed the P/E ratio of acquired company and vice-versa.

**In Situation (i)** - The price offered by P Ltd. per share of R Ltd. is Rs.60 and E.P.S. of R Ltd. is 2.4, which would become the earnings of P Ltd. after merger.

Price Earning (P/E) Ratio of P Ltd. after merger =  $\frac{60}{2.40} = 25$ . It is lower than the P/E

Ratio of P Ltd. before merger i.e., 30, the E.P.S. of P Ltd. after merger increases to Rs.5.14.

**In Situation (ii)** - The price earnings (P/E) ratio offered for Merger is  $\frac{78}{2.4} = 32.5$  which

is higher than P/E Ratio of P Ltd. before Merger. Hence, the E.P.S. of P Ltd after merger would get diluted.

#### Question 15

The following is the Balance Sheet (as at 31<sup>st</sup> December, 2009) of Sun Ltd.:

| <i>Liabilities</i>            |          | <i>Assets</i>        |            |
|-------------------------------|----------|----------------------|------------|
|                               |          | <i>Rs.</i>           | <i>Rs.</i> |
| <b>Share Capital:</b>         |          | <b>Fixed Assets:</b> |            |
| 80,000 Equity shares of Rs.10 | 8,00,000 | Goodwill             | 1,00,000   |
| each fully paid up            |          |                      |            |

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|                                                       |                  |                        |                  |
|-------------------------------------------------------|------------------|------------------------|------------------|
| 50,000 Equity shares of Rs.10 each Rs.8 paid up       | 4,00,000         | Plant and Machinery    | 8,00,000         |
| 36,000 Equity shares of Rs.5 each fully paid up       | 1,80,000         | Land and Building      | 10,00,000        |
| 30,000 Equity shares of Rs.5 each Rs.4 paid-up        | 1,20,000         | Furniture and Fixtures | 1,00,000         |
| 3,000 10% Preference shares of Rs.100 each fully paid | 3,00,000         | Vehicles               | 2,00,000         |
| <b>Reserve and Surplus:</b>                           |                  | Investments            | 3,00,000         |
| General reserve                                       | 1,40,000         | <b>Current Assets:</b> |                  |
| Profit and Loss account                               | 2,10,000         | Stock                  | 2,10,000         |
| <b>Secured Loan:</b> 12% Debenture                    | 2,00,000         | Debtors                | 1,95,000         |
| <b>Unsecured Loan:</b> 15% Term loan                  | 1,50,000         | Prepaid Expenses       | 40,000           |
| Deposits                                              | 1,00,000         | Advances               | 45,000           |
| <b>Current Liabilities:</b>                           |                  | Cash and Bank balance  | 2,00,000         |
| Bank Loan                                             | 50,000           | Preliminary Expenses   | 10,000           |
| Creditors                                             | 1,50,000         |                        |                  |
| Outstanding expenses                                  | 20,000           |                        |                  |
| Provision for tax                                     | 2,00,000         |                        |                  |
| <b>Proposed Dividend:</b>                             |                  |                        |                  |
| Equity                                                | 1,50,000         |                        |                  |
| Preference                                            | 30,000           |                        |                  |
|                                                       | <u>32,00,000</u> |                        | <u>32,00,000</u> |

### Additional Information:

- (1) In 2007 a new machinery costing Rs.50,000 was purchased, but wrongly charged to revenue (no rectification has yet been made for the same).
- (2) Stock is overvalued by Rs.10,000 in 2008. Debtors are to be reduced by Rs.5,000 in 2009, some old furniture (Book value Rs.10,000) was disposed of for Rs.6,000.
- (3) Fixed assets are worth 5 per cent more than their actual book value. Depreciation on appreciated value of fixed assets except machinery is not to be considered for valuation of goodwill.
- (4) Of the investment 20 per cent is trading and the balance is non-trading. All trade investments are to be valued at 20 per cent below cost. Trade investment were purchased on 1<sup>st</sup> January, 2009. 50 percent of the non-trade investments were



*acquired on 1<sup>st</sup> January, 2008 and the rest on 1<sup>st</sup> January, 2007. A uniform rate of dividend of 10 percent is earned on all investments.*

- (5) *Expected increase in expenditure without commensurate increase in selling price is Rs.20,000.*
- (6) *Research and Development expenses anticipated in future Rs.30,000 per annum.*
- (7) *In a similar business a normal return on capital employed is 10%.*
- (8) *Profit (after tax) are as follows:*  
*In 2007 – Rs.2,10,000, in 2008 – Rs.1,90,000 and in 2009 – Rs.2,00,000.*
- (9) *Current income tax rate is 50%, expected income tax rate will be 40%.*

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

**Answer**

**Computation of Value of Shares**

|                                                | Rs.              |
|------------------------------------------------|------------------|
| Value of Net Assets (As computed for Goodwill) | 21,02,073        |
| Value of Goodwill [Refer W.N.3]                | 11,406           |
| Non-trade investments                          | <u>2,40,000</u>  |
|                                                | 23,53,479        |
| Less: Preference Share Capital                 | 3,00,000         |
| Proposed Dividend of Preference shares         | 30,000           |
| Proposed Dividend of Equity shares             | <u>1,50,000</u>  |
| Net Assets available for Equity Shareholders   | <u>18,73,479</u> |

**Computation of Number of Equivalent Equity Shares:**

| Equity shares                                                   | No. of Equivalent Shares                      |
|-----------------------------------------------------------------|-----------------------------------------------|
| 80,000 shares+ 50,000 shares =<br>1,30,000 shares of Rs.10 each | $1,30,000 \times \frac{10}{10}$<br>1,30,000   |
| 36,000 shares+ 30,000 shares =<br>66,000 shares of Rs.5 each    | $66,000 \times \frac{5}{10}$<br><u>33,000</u> |
| Total Equivalent Equity Shares of Rs.10 each                    | <u>1,63,000</u>                               |

### Calculation of Ex-Dividend intrinsic value of different categories of Equity Shares of Sun Ltd.

Net Assets available to deemed fully paid-up Equity Shareholders  
= Net Assets as computed above + Notional Cash from partly paid-up shares  
= Rs.18,73,479 + (50,000 x 2 + 30,000x1)  
= Rs.18,73,479 + 1,00,000 + 30,000 = Rs.20,03,479

### Computation of Ex-Dividend value per Equity Share

- (i) Value of Rs.10 fully paid Equity Share =  $\frac{20,03,479}{1,63,000}$  = Rs.12.29 per share (approx.)
- (ii) Value of Rs.8 paid-up Equity Share = 12.29 - 2 = Rs.10.29 per share (approx.)
- (iii) Value of Rs.5 fully paid-up Equity Share =  $12.29 \times \frac{5}{10}$  = Rs.6.15 per share (approx.)
- (iv) Value of Rs.4 paid-up Equity Share = 6.15 - 1 = Rs.5.15 per share (approx.)

### Calculation of Cum-Dividend intrinsic value of different categories of Equity Shares of Sun Ltd.

Value of Net Assets (including proposed dividend on equity shares) = Rs.18,73,479 + 1,50,000  
= Rs.20,23,479

Net assets (including dividend) available to deemed fully paid-up Equity Shareholders  
= Net Assets as computed above + Notional Cash from partly paid-up shares  
= Rs.20,23,479 + (50,000 x 2 + 30,000x1)  
= Rs.20,23,479 + 1,00,000 + 30,000 = Rs.21,53,479

### Computation of Cum-Dividend value per share\*

- (i) Value of Rs.10 fully paid Equity Share =  $\frac{21,53,479}{1,63,000}$  = Rs.13.21 per share (approx.)
- (ii) Value of Rs.8 paid-up Equity Share = 13.21 - 2 = Rs.11.21 per share (approx.)
- (iii) Value of Rs.5 fully paid-up Equity Share =  $13.21 \times \frac{5}{10}$  = Rs.6.605 per share (approx.)
- (iv) Value of Rs.4 paid-up Equity Share = 6.605 - 1 = Rs.5.605 per share (approx.)

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\* **Note:** Candidates can also arrive at the cum-dividend value of shares by calculating the percentage of proposed dividend of equity shares to paid-up capital and adding that percentage of paid-up value of each share to ex-dividend value of equity shares.

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**Valuation**

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**Working Notes:****1. Calculation of Average Capital Employed****Rs.****Fixed Assets:**

|                                                                         |                 |
|-------------------------------------------------------------------------|-----------------|
| Plant and Machinery (including Rs.36,450 for a Machine charged in 2007) | 8,36,450        |
| Land and Building                                                       | 10,00,000       |
| Furniture & Fixtures (1,00,000-4,000)                                   | 96,000          |
| Vehicles                                                                | <u>2,00,000</u> |

21,32,450

**Add: Appreciation @ 5%**1,06,623

22,39,073

Trade Investment  $\left( 3,00,000 \times \frac{20}{100} \right) \times \frac{80}{100}$

48,000

**Current Assets:**

|                          |                 |
|--------------------------|-----------------|
| Stock                    | 2,10,000        |
| Debtors (1,95,000-5,000) | 1,90,000        |
| Prepaid Expenses         | 40,000          |
| Advances                 | 45,000          |
| Cash & Bank Balance      | <u>2,00,000</u> |

29,72,073

**Less: Outside Liabilities:**

|                      |                 |                 |
|----------------------|-----------------|-----------------|
| 12% Debentures       | 2,00,000        |                 |
| 15% Term Loan        | 1,50,000        |                 |
| Deposits             | 1,00,000        |                 |
| Bank Loan            | 50,000          |                 |
| Creditors            | 1,50,000        |                 |
| Outstanding Expenses | 20,000          |                 |
| Provision for Tax    | <u>2,00,000</u> | <u>8,70,000</u> |

## Financial Reporting

|                                                                        |                  |
|------------------------------------------------------------------------|------------------|
| Capital employed at the end of the year i.e. Net Assets                | 21,02,073        |
| Less: $\frac{1}{2}$ of the current year's Accounting Profit after Tax: |                  |
| Profit before Tax                                                      | 3,80,950         |
| Less: Tax 40%* of Rs.3,80,950                                          | <u>1,52,380</u>  |
|                                                                        | <u>2,28,570</u>  |
| 50% of Rs.2,28,570                                                     | <u>1,14,285</u>  |
| Average capital employed                                               | <u>19,87,788</u> |

## 2. Future Maintainable Profits

### Statement of Average Profit

| Particulars                                                         | 2007<br>Rs.       | 2008<br>Rs.       | 2009<br>Rs.     |
|---------------------------------------------------------------------|-------------------|-------------------|-----------------|
| Profit after Tax                                                    | 2,10,000          | 1,90,000          | 2,00,000        |
| Profit before Tax $\left( \text{PAT} \times \frac{1}{0.50} \right)$ | 4,20,000          | 3,80,000          | 4,00,000        |
| Add: Capital expenditure charged to revenue                         | 50,000            | -                 | -               |
| Less: Depreciation of the Machinery                                 | (5,000)           | (4,500)           | (4,050)         |
| Dividend on Non-Trade Investments                                   | (12,000)          | (24,000)          | (24,000)        |
| Over-valuation of closing stock                                     | -                 | (10,000)          | -               |
| Add: Overvaluation of opening stock                                 | -                 | -                 | 10,000          |
| Add: Loss on sale of furniture                                      | -                 | -                 | -               |
| (Presumed to be extra ordinary items)                               | -                 | -                 | 4,000           |
| Less: Provision for debtors                                         | <u>          </u> | <u>          </u> | <u>(5,000)</u>  |
|                                                                     | <u>4,53,000</u>   | <u>3,41,500</u>   | <u>3,80,950</u> |
| Total profit for the three years                                    |                   |                   | 11,75,450       |
| Average Profit = $\frac{\text{Rs.11,75,450}}{3}$                    |                   |                   | 3,91,817        |
| Less: Depreciation @ 10% on increase in the value of machinery      |                   |                   |                 |

\* Future tax rate has been considered.

## Valuation

|                                                                                                               |                 |                 |
|---------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| $8,36,450 \times \frac{5}{100} \times \frac{10}{100} = \text{Rs.} 41,823 \times \frac{10}{100} \text{ i.e.,}$ | 4,182           |                 |
| Expected increase in expenditure                                                                              | 20,000          |                 |
| Annual R & D Expenses anticipated in future                                                                   | <u>30,000</u>   | <u>54,182</u>   |
| Future Maintainable profit before tax                                                                         |                 | 3,37,635        |
| Less: Tax @ 40% of Rs.3,37,635                                                                                |                 | <u>1,35,054</u> |
| Future Maintainable Profit After Tax                                                                          |                 | <u>2,02,581</u> |
| <b>3. Computation of Goodwill</b>                                                                             | Rs.             |                 |
| Future Maintainable Profit After Tax                                                                          | 2,02,581        |                 |
| Less: Normal Profit (10% of Rs.19,87,788)                                                                     | <u>1,98,779</u> |                 |
| Super Profit                                                                                                  | <u>3,802</u>    |                 |
| Value of Goodwill = Super Profit x No. of years' purchase                                                     |                 |                 |
| = Rs.3,802 x 3                                                                                                | 11,406          |                 |

### Question 16

Following is the Balance Sheet of Rampal Limited as on 31<sup>st</sup> March, 2009:

| Liabilities                                  | Rs.              | Assets                  | Rs.              |
|----------------------------------------------|------------------|-------------------------|------------------|
| 1,00,000 equity shares of Rs.10 each         | 10,00,000        | Goodwill                | 5,00,000         |
| 10,000, 12% preference shares of Rs.100 each | 10,00,000        | Buildings               | 15,00,000        |
| General reserve                              | 6,00,000         | Plant                   | 10,00,000        |
| Profit and Loss account                      | 4,00,000         | Investment in 10% stock | 4,80,000         |
| 15% debentures                               | 10,00,000        | Stock-in-trade          | 6,00,000         |
| Creditors                                    | 8,00,000         | Debtors                 | 4,00,000         |
|                                              |                  | Cash                    | 1,00,000         |
|                                              |                  | Preliminary expenses    | 2,20,000         |
|                                              | <u>48,00,000</u> |                         | <u>48,00,000</u> |

Additional information are given below:

- Nominal value of investment is Rs.5,00,000 and its market value is Rs.5,20,000.
- Following assets are revalued:

## Financial Reporting

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- |       |                |               |
|-------|----------------|---------------|
| (i)   | Building       | Rs. 32,00,000 |
| (ii)  | Plant          | Rs. 18,00,000 |
| (iii) | Stock-in-trade | Rs. 4,50,000  |
| (iv)  | Debtors        | Rs. 3,60,000  |
- (c) Average profit before tax of the company is Rs. 12,00,000 and 12.50% of the profit is transferred to general reserve, rate of taxation being 50%.
- (d) Normal dividend expected on equity shares is 8% while fair return on closing capital employed is 10%.
- (e) Goodwill may be valued at three year's purchase of super profits.  
Ascertain the value of each equity share under fair value method.

### Answer

|    |                                         |                  |                 |
|----|-----------------------------------------|------------------|-----------------|
| 1. | <b>Capital Employed</b>                 | Rs.              | Rs.             |
|    | Assets:                                 |                  |                 |
|    | Buildings                               |                  | 32,00,000       |
|    | Plant                                   |                  | 18,00,000       |
|    | Stock                                   |                  | 4,50,000        |
|    | Debtors                                 |                  | 3,60,000        |
|    | Cash                                    |                  | 1,00,000        |
|    |                                         |                  | <hr/> 59,10,000 |
|    | Less: Liabilities:                      |                  |                 |
|    | Creditors                               | 8,00,000         |                 |
|    | Debentures                              | <u>10,00,000</u> | 18,00,000       |
|    | Capital Employed                        |                  | <hr/> 41,10,000 |
| 2. | <b>Actual Profit</b>                    |                  |                 |
|    | Average Profit                          |                  | 12,00,000       |
|    | Less: Income from investment            |                  | 50,000          |
|    |                                         |                  | <hr/> 11,50,000 |
|    | Less: Income Tax @ 50%                  |                  | <u>5,75,000</u> |
|    | So, Actual Profit                       |                  | <u>5,75,000</u> |
| 3. | <b>Profit for Equity Shareholders</b>   |                  |                 |
|    | Actual Profit                           |                  | 5,75,000        |
|    | Less: Transferred to reserve @ 12.50%   |                  | 71,875          |
|    | Less: Preference Dividend               |                  | <hr/> 1,20,000  |
|    | Profit available to Equity Shareholders |                  | <hr/> 3,83,125  |

---

4. **Normal Profit** = 10% of Capital Employed = Rs.41,10,000 ÷ 10 = Rs.4,11,000
5. **Super Profit** = Actual profit – Normal profit  
= Rs.5,75,000 – 4,11,000 = Rs.1,64,000
6. **Goodwill** = Rs.1,64,000 × 3 = Rs.4,92,000
7. **Net Asset for equity shareholders** = Capital Employed + Goodwill + Investment  
– Preference Capital  
=Rs.(41,10,000+4,92,000+4,80,000- 10,00,000) = Rs.40,82,000/-
8. **Value Per Share (Intrinsic Value Method)** = Rs.40,82,000 ÷ 1,00,000 = Rs.40.82
9. **Yield Method** =  $\frac{\text{Pr ofit for Equity Shareholder}}{\text{Equity Capital}} \times 100 = \frac{\text{Rs.3,83,125}}{10,00,000} \times 100 = 38.31\%$   
  
 Value per Share (Yield Method) =  $\frac{\text{Expected Rate of Dividend}}{\text{Normal Rate of Dividend}} \times \text{Paid up value}$   

$$= \frac{38.31}{8} \times 10 = \text{Rs.47.89}$$
10. **Value of equity share under Fair Value Method**  
 (Intrinsic Value + Yield Value) divided by 2 = (40.82 + 47.89) divided by 2 =  
 Rs.44.36 (approx.)

### Valuation of Business

#### Question 17

*Timby Ltd. is in the business of making sports equipment. The Company operates from Thailand. To globalise its operations Timby has identified Fine Toys Ltd. an Indian Company, as a potential take over candidate. After due diligence of Fine Toys Ltd. the following information is available:*

- (a) *Cash Flow Forecasts (Rs. in crore):*

| Year           | 10  | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
|----------------|-----|----|----|----|----|----|----|----|----|----|
| Fine Toys Ltd. | 24  | 21 | 15 | 16 | 15 | 12 | 10 | 8  | 6  | 3  |
| Timby Ltd.     | 108 | 70 | 55 | 60 | 52 | 44 | 32 | 30 | 20 | 16 |

- (b) *The net worth of Fine Toys Ltd. (in lakh Rs.) after considering certain adjustments suggested by the due diligence team reads as under:*

|             |     |
|-------------|-----|
| Tangible    | 750 |
| Inventories | 145 |
| Receivables | 75  |
|             | 970 |

## Financial Reporting

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Less:

|                                               |     |       |
|-----------------------------------------------|-----|-------|
| Creditors                                     | 165 |       |
| Bank Loans                                    | 250 | (415) |
| Represented by equity shares of Rs. 1000 each |     | 555   |

Talks for take over have crystalized on the following:

1. Timby Ltd. will not be able to use Machinery worth Rs.75 lakhs which will be disposed of by them subsequent to take over. The expected realization will be Rs.50 lakhs.
2. The inventories and receivables are agreed for takeover at values of Rs.100 and Rs.50 lakhs respectively which is the price they will realize on disposal.
3. The liabilities of Fine Toys Ltd. will be discharged in full on take over alongwith an employee settlement of Rs.90 lakhs for the employees who are not interested in continuing under the new management.
4. Timby Ltd. will invest a sum of Rs.150 lakhs for upgrading the Plant of Fine Toys Ltd. on takeover. A further sum of Rs.50 lakhs will also be incurred in the second year to revamp the machine shop floor of Fine Toys Ltd.
5. The Anticipated Cash Flows (in Rs. crore) post takeover are as follows:

| Year | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   | 10  |
|------|----|----|----|----|----|----|----|-----|-----|-----|
|      | 18 | 24 | 36 | 44 | 60 | 80 | 96 | 100 | 140 | 200 |

You are required to advise the management the maximum price which they can pay per share of Fine Toys Ltd. if a discount factor of 20 per cent is considered appropriate.

### Answer

#### Calculation of Maximum Price that can be quoted for take over of Fine Toys Ltd.

|                                                                              | Rs. in lakhs | Rs. in lakhs  |
|------------------------------------------------------------------------------|--------------|---------------|
| Present (Discounted) value of incremental cash flows<br>(Refer Working Note) |              | 7,845.02      |
| Add: Proceeds from disposal of fixed assets                                  | 50.00        |               |
| Proceeds from disposal of inventories                                        | 100.00       |               |
| Receipts from debtors                                                        | <u>50.00</u> | <u>200.00</u> |
|                                                                              |              | 8,045.02      |
| Less: Settlement of creditors                                                | 165.00       |               |
| Bank Loans                                                                   | 250.00       |               |



## Valuation

|                                                                                                |              |                 |
|------------------------------------------------------------------------------------------------|--------------|-----------------|
| Employee settlement                                                                            | 90.00        |                 |
| Renovation of Plant                                                                            | 150.00       |                 |
| Revamp of machine shop floor (Rs. 50 lakhs × 0.6944)*                                          | <u>34.72</u> | <u>689.72</u>   |
| Maximum value that can be offered                                                              |              | <u>7,355.30</u> |
| Maximum price per share of Fine Toys Ltd. (Rs. 7,355.30 lakhs / 55,500 shares) = Rs. 13,252.79 |              |                 |

### Working Note:

#### Present Value of Incremental Cash Flows

|      |                          |                            |                        |                     |                       | (Rs. in lakhs)  |
|------|--------------------------|----------------------------|------------------------|---------------------|-----------------------|-----------------|
| Year | Cash flow after takeover | Cash flows before takeover | Incremental Cash flows | Discount factor@20% | Discounted Cash flows |                 |
| 1    | 1,800                    | 1600                       | 200                    | 0.8333              | 166.66                |                 |
| 2    | 2,400                    | 2000                       | 400                    | 0.6944              | 277.76                |                 |
| 3    | 3,600                    | 3000                       | 600                    | 0.5787              | 347.22                |                 |
| 4    | 4,400                    | 3200                       | 1200                   | 0.4823              | 578.76                |                 |
| 5    | 6,000                    | 4400                       | 1600                   | 0.4019              | 643.04                |                 |
| 6    | 8,000                    | 5200                       | 2800                   | 0.3349              | 937.72                |                 |
| 7    | 9,600                    | 6000                       | 3600                   | 0.2791              | 1,004.76              |                 |
| 8    | 10,000                   | 5500                       | 4500                   | 0.2326              | 1,046.70              |                 |
| 9    | 14,000                   | 7000                       | 7000                   | 0.1938              | 1,356.60              |                 |
| 10   | 20,000                   | 10800                      | 9200                   | 0.1615              | <u>1,485.80</u>       |                 |
|      |                          |                            |                        |                     |                       | <u>7,845.02</u> |

### Question 18

The Balance Sheet of R Ltd. for the year ended on 31<sup>st</sup> March, 2006, 2007 and 2008 are as follows:

|                                                  |              |              |              | (Rs. in thousands) |
|--------------------------------------------------|--------------|--------------|--------------|--------------------|
| Liabilities                                      | 31.3.2006    | 31.3.2007    | 31.3.2008    |                    |
| 3,20,000 equity shares of Rs.10 each, fully paid | 3,200        | 3,200        | 3,200        |                    |
| General reserve                                  | 2,400        | 2,800        | 3,200        |                    |
| Profit and Loss account                          | 280          | 320          | 480          |                    |
| Creditors                                        | 1,200        | 1,600        | 2,000        |                    |
|                                                  | <u>7,080</u> | <u>7,920</u> | <u>8,800</u> |                    |

\* Discount factor of year 2 @20% .

## Financial Reporting

### Assets

|                                           |              |              |              |
|-------------------------------------------|--------------|--------------|--------------|
| Goodwill                                  | 2,000        | 1,600        | 1,200        |
| Building and Machinery less, depreciation | 2,800        | 3,200        | 3,200        |
| Stock                                     | 2,000        | 2,400        | 2,800        |
| Debtors                                   | 40           | 320          | 880          |
| Bank balance                              | 240          | 400          | 800          |
|                                           | <u>7,080</u> | <u>7,920</u> | <u>8,880</u> |

### Additional information:

(a) Actual valuations were as under

|                                                                                                                                   |       |       |       |
|-----------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|
| Building and machinery less, depreciation                                                                                         | 3,600 | 4,000 | 4,400 |
| Stock                                                                                                                             | 2,400 | 2,800 | 3,200 |
| Net profit (including opening balance after writing off depreciation, goodwill, tax provision and transferred to general reserve) | 840   | 1,240 | 1,640 |

(b) Capital employed in the business at market value at the beginning of 2005-06 was Rs.73,20,000 which included the cost of goodwill. The normal annual return on average capital employed in the line of business engaged by R Ltd. is 12½% .

(c) The balance in the general reserve on 1<sup>st</sup> April, 2005 was Rs.20 lakhs.

(d) The goodwill shown on 31.3.2006 was purchased on 1.4.2005 for Rs.20 lakhs on which date the balance in the Profit and Loss account was Rs.2,40,000. Find out the average capital employed in each year.

(e) Goodwill is to be valued at 5 year's purchase of Super profit (Simple average method). Find out the total value of the business as on 31.3.2008.

### Answer

#### Total value of business

|                                               |                   |
|-----------------------------------------------|-------------------|
|                                               | Rs.               |
| Total net Asset as on 31.3.2008               | 84,80,000         |
| Less: Goodwill as per Balance Sheet           | 12,00,000         |
| Add: Goodwill as calculated in Working Note 2 | 41,12,500         |
| Value of Business                             | <u>113,92,500</u> |

#### Working Notes:

1. Capital Employed at the end of each year

|          | 31.3.2006<br>Rs. | 31.3.2007<br>Rs. | 31.3.2008<br>Rs. |
|----------|------------------|------------------|------------------|
| Goodwill | 20,00,000        | 16,00,000        | 12,00,000        |

## Valuation

|                                      |            |            |            |
|--------------------------------------|------------|------------|------------|
| Building and Machinery (Revaluation) | 36,00,000  | 40,00,000  | 44,00,000  |
| Stock (Revalued)                     | 24,00,000  | 28,00,000  | 32,00,000  |
| Debtors                              | 40,000     | 3,20,000   | 8,80,000   |
| Bank Balance                         | 2,40,000   | 4,00,000   | 8,00,000   |
| Total Assets                         | 82,80,000  | 91,20,000  | 104,80,000 |
| Less: Creditors                      | 12,00,000  | 16,00,000  | 20,00,000  |
| Closing Capital                      | 70,80,000  | 75,20,000  | 84,80,000  |
| Add: Opening Capital                 | 73,20,000  | 70,80,000  | 75,20,000  |
| Total                                | 144,00,000 | 146,00,000 | 160,00,000 |
| Average Capital                      | 72,00,000  | 73,00,000  | 80,00,000  |

Since the goodwill has been purchased, it is taken as a part of Capital employed.

## 2. Valuation of Goodwill

|                                                |           |           |           |
|------------------------------------------------|-----------|-----------|-----------|
| (i) <b>Future Maintainable Profit</b>          | 31.3.2006 | 31.3.2007 | 31.3.2008 |
| Net Profit as given                            | 8,40,000  | 12,40,000 | 16,40,000 |
| Less: Opening Balance                          | 2,40,000  | 2,80,000  | 3,20,000  |
| Adjustment for Valuation of Opening Stock      | -         | 4,00,000  | 4,00,000  |
| Add: Adjustment for Valuation of closing stock | 4,00,000  | 4,00,000  | 4,00,000  |
| Goodwill written off                           | -         | 4,00,000  | 4,00,000  |
| Transferred to General Reserve                 | 4,00,000  | 4,00,000  | 4,00,000  |
| Future Maintainable Profit                     | 14,00,000 | 17,60,000 | 21,20,000 |
| Less: 12.50% Normal Return                     | 9,00,000  | 9,12,500  | 10,00,000 |
| (ii) <b>Super Profit</b>                       | 5,00,000  | 8,47,500  | 11,20,000 |

(iii) **Average Super Profit** = Rs.(5,00,000 + 8,47,500+11,20,000) ÷ 3 = Rs.8,22,500

(iv) **Value of Goodwill** at five years' purchase= Rs.8,22,500 × 5 = Rs.41,12,500.

**EXERCISES****Question 1**

The Balance Sheets of X Ltd. are as follows:

|                                          | (Rs. in lakhs)  |                 |
|------------------------------------------|-----------------|-----------------|
|                                          | As at 31.3.2009 | As at 31.3.2010 |
| Liabilities                              |                 |                 |
| Share Capital                            | 1,000.0         | 1,000.0         |
| General Reserve                          | 800.0           | 850.0           |
| Profit and Loss Account                  | 120.0           | 175.0           |
| Term Loans                               | 370.0           | 330.0           |
| Sundry Creditors                         | 70.0            | 90.0            |
| Provision for Tax                        | 22.5            | 25.0            |
| Proposed Dividend                        | <u>200.0</u>    | <u>250.0</u>    |
|                                          | <u>2,582.5</u>  | <u>2,720.0</u>  |
| Assets                                   |                 |                 |
| Fixed Assets and Investments (Non-trade) | 1,600.0         | 1,800.0         |
| Stock                                    | 550.0           | 600.0           |
| Debtors                                  | 340.0           | 220.0           |
| Cash and Bank                            | <u>92.5</u>     | <u>100.0</u>    |
|                                          | <u>2,582.5</u>  | <u>2,720.0</u>  |

Other Information:

1. Current cost of fixed assets excluding non-trade investments on 31.3.2009 Rs. 2,200 lakhs and on 31.3.2010 Rs. 2,532.8 lakhs.
2. Current cost of stock on 31.3.2009 Rs. 670 lakhs and on 31.3.2010 Rs. 750 lakhs.
3. Non-trade investments in 10% government securities Rs. 490 lakhs.
4. Debtors include foreign exchange debtors amounting to \$ 70,000 recorded at the rate of \$ 1 = Rs. 17.50 but the closing exchange rate was \$ 1 = Rs. 21.50.
5. Creditors include foreign exchange creditors amounting to \$ 1,20,000 recorded at the rate of \$ 1 = Rs. 16.50 but the closing exchange rate was \$ 1 = Rs. 21.50.
6. Profit included Rs. 120 lakhs being government subsidy which is not likely to recur.
7. Rs. 247 lakhs being the last instalment of R and D cost were written off the profit and loss account. This expenditure is not likely to recur.
8. Tax rate during 2009-2010 was 50% effective future tax rate is estimated at 40%.
9. Normal rate of return is expected at 15%.

Based on the information furnished, Mr. Irail, a director contends that the company does not have any goodwill. Examine his contention.

**[Answer: Capital employed as at 31.3.09 and 31.3.10 will be Rs. 2840 and Rs. 3,154.6 lakhs respectively; average capital employed Rs. 2,997.3 lakhs; Future maintainable profit Rs. 488.88 Lakhs; Goodwill Rs. 39.28 lakhs]**

### Question 2

Capital structure of Lot Ltd. as at 31.3.2010 as under:

|                              | (Rs. in lakhs) |
|------------------------------|----------------|
| Equity share capital         | 10             |
| 10% preference share capital | 5              |
| 15% debentures               | 8              |
| Reserves                     | 4              |

Lot Ltd. earns a profits of Rs. 5 lakhs annually on an average before deduction of interest on debentures and income tax which works out to 40%.

Normal return on equity shares of companies similarly placed is 12% provided:

- (a) Profit after tax covers fixed interest and fixed dividends at least 3 times.
- (b) Capital gearing ratio is .75.
- (c) Yield on share is calculated at 50% of profits distributed and at 5% on undistributed profits.

Lot Ltd. has been regularly paying equity dividend of 10%.

Compute the value per equity share of the company considering the paid up value of Rs. 100 per share.

**[Answer: Profit for calculation of interest and fixed dividend coverage Rs. 3,48,000;**

**Calculation of interest and fixed dividend coverage::  $\frac{3,48,000}{1,70,000} = 2.05$  times ; Capital**

**gearing ratio:  $\frac{13,00,000}{14,00,000} = 0.93$  (approximately); Yield on equity shares**

**$\frac{53,900}{10,00,000} \times 100 = 5.39\%$ ; Expected yield of equity shares: 13.00; Value per equity**

**share: =  $\frac{5.39}{13.00} \times \text{Rs. } 100 = \text{Rs. } 41.46$ ]**

### Question 3

Write short notes on:

- (i) Difficulties in brand accounting
- (ii) Market value model of business valuation
- (iii) Cost approach of valuation