

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.

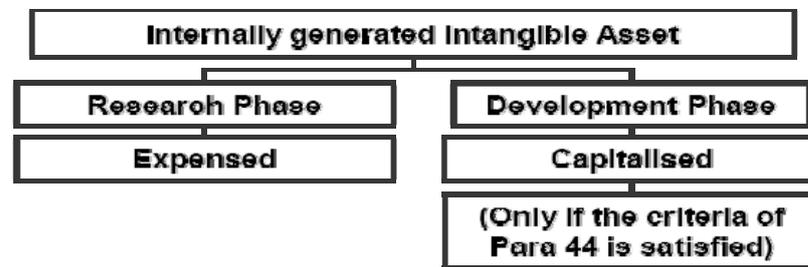
VALUATION OF INTANGIBLES (AS 26): Meaning - An intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes.

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:

- (a) It is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and
- (b) 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 (AS 26) 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 is 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.

9.8 Financial Reporting

Average Capital Employed

Question 2

Find out the average capital employed of ND Ltd. from its summarized Balance Sheet as at 31st March, 2012:

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
<i>Share Capital:</i>		<i>Fixed Assets:</i>	
Equity shares of ₹ 10 each	50.00	Land and buildings	25.00
9% Pref. shares fully paid up	10.00	Plant and machinery	80.25
<i>Reserve and Surplus:</i>		Furniture and fixture	5.50
General reserve	12.00	Vehicles	5.00
Profit and Loss	19.50	Investments	10.00
<i>Secured loans:</i>		<i>Current Assets:</i>	
16% Debentures	5.00	Stock	6.75
16% Term loan	18.00	Sundry Debtors	4.90
Cash credit	13.30	Cash and bank	10.40
<i>Current Liabilities and Provisions:</i>			
Sundry creditors	2.70		
Provision for taxation	6.40		
<i>Proposed dividend on:</i>			
Equity shares	10.00		
Preference shares	<u>0.90</u>		
	<u>147.80</u>		<u>147.80</u>

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

Balances as on 1.4.2011 to the following accounts were:

Profit and Loss account ₹ 8.20 lakhs, General reserve ₹ 6.50 lakhs.

Answer

Computation of Average Capital employed

	(₹ in lakhs)	
Total Assets as per Balance Sheet		147.8
Less: Non-trade investments (20% of ₹ 10 lakhs)		<u>(2.00)</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	6.40	(45.40)
Capital Employed as on 31.03.2012		100.40
Less: ½ of profit earned:		
Increase in Reserve balance	5.50	
Increase in Profit & Loss A/c	11.30	
Proposed Dividend	<u>10.90</u>	
	<u>27.70</u>	
50% of Total		<u>13.85</u>
Average capital employed		<u>86.55</u>

Valuation of Goodwill

Question 3

The following summarized Balance Sheet of X Ltd. is given:

X Ltd.
Summarised Balance Sheet as on 31st March, 2012

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

In 2001 when the company commenced operation the paid up capital was same. The Loss/Profit for each of the last 5 years was:- years 2007-2008 – Loss (₹ 5,50,000); 2008-2009 ₹9,82,000; 2009-2010 ₹11,70,000; 2010-2011 ₹14,50,000; 2011-2012 ₹ 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 2011-2012 the Income-tax rate of 45% should be taken into consideration. 10% dividend in 2008-2009 and 2009-2010 and 15% dividend in 2010-2011 and 2011-2012 have been paid. Market price of shares of the company on 31st March, 2012 is ₹ 125. With effect from 1st April, 2012 Managing Director's remuneration has been approved by the Government to be ₹ 8,00,000 in place of ₹ 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 ₹ 4,00,000 per annum for the next five years.

9.10 Financial Reporting

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

Answer

(i) Future Maintainable Profit

Year	Profit (P) ₹	Weight (W)	Product (PW) ₹
2008-2009	9,82,000	1	9,82,000
2009-2010	11,70,000	2	23,40,000
2010-2011	14,50,000	3	43,50,000
2011-2012	17,00,000	4	68,00,000
		<u>10</u>	<u>1,44,72,000</u>
Weighted average annual profit (after tax) = $\frac{\sum PW}{\sum W} = ₹ \frac{1,44,72,000}{10}$			14,47,200
Weighted average annual profit before tax $\left(₹ 14,47,200 \times \frac{100}{60} \right)$			24,12,000
Less: Increase in Managing Director's remuneration			<u>(2,00,000)</u>
			22,12,000
Add: Saving in cost of materials			<u>4,00,000</u>
			26,12,000
Less: Taxation @ 45%			<u>(11,75,400)</u>
Future maintainable profit			<u>14,36,600</u>

(ii) Average Capital Employed

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	
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. ₹ 17,00,000 × ½		<u>(8,50,000)</u>
Average capital employed		<u>66,20,000</u>

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

Market price of share = ₹ 125

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

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

(iv) Valuation of goodwill

	₹
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 (₹ 7,74,600 × 3)	23,23,800

Question 4

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

Liabilities	As at	As at	Assets	As at	As at
	31.3.2011	31.3.2012		31.3.2011	31.3.2012
	₹ in lakhs	₹ in lakhs		₹ in lakhs	₹ in lakhs
Share capital	500	500	Fixed assets	550	650
General reserve	400	425	10% Investment	250	250
Profit and Loss account	60	90	Stock	260	300
18% Term loan	180	165	Debtors	170	110
Sundry creditors	35	45	Cash at bank	46	45
Provision for tax	11	13	Fictitious assets	10	8
Proposed dividend	<u>100</u>	<u>125</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 ₹ 1,100 lakhs on 31.3.11 and ₹ 1,250 lakhs on 31.3.2012 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 31st March, 2012 included foreign debtors of \$ 35,000 recorded in the books at ₹ 35 per U.S. Dollar. The closing exchange rate was \$ 1 = ₹ 39.

9.12 Financial Reporting

- (vi) Creditors on 31st March, 2012 included foreign creditors of \$ 60,000 recorded in the books at \$ 1 = ₹ 33. The closing exchange rate was \$ 1 = ₹ 39.
- (vii) Profits for the year 2011-12 included ₹ 60 lakhs of government subsidy which was not likely to recur.
- (viii) ₹ 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 2011-12 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 Ltd. 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)	₹ in lakhs	
	As on 31.3.11	As on 31.3.12
Replacement Cost of Fixed Assets	1,100.00	1,250.00
Trade Investment (50%)	125.00	125.00
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>1,727.00</u>	<u>1,861.40</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 = $\frac{\text{CE as on 31.3.2011} + \text{CE as on 31.3.2012}}{2}$	
$= \frac{1501+1634.80}{2} = 1567.90$ lakhs	
2. Future Maintainable Profit	₹ in lakhs
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
<i>Less:</i> Non-Trading investment income (10% of ₹ 125)	12.50
Subsidy	60.00
Exchange Loss on creditors [0.6 lakhs × (39-33)]	3.60
Additional Depreciation on increase in value of Fixed Assets (current year) $(1,250 - 650 = 600 \times \frac{5}{100})$ i.e.,	<u>30.00</u>
	<u>(106.10)</u>
	253.90
<i>Add:</i> Exchange Gain on Debtors [0.35 lakhs × (39-35)]	1.40
Research and development expenses written off	125.00
Stock Adjustment (30-26)	<u>4.00</u>
	<u>130.40</u>
	384.30
<i>Add:</i> Expected increase of 10%	<u>38.43</u>
Future Maintainable Profit before Tax	422.73
<i>Less:</i> Tax @ 40% (40% of ₹ 422.73)	<u>(169.09)</u>
Future Maintainable Profit	<u>253.64</u>
3. Valuation of Goodwill	₹ in lakhs
(i) According to Capitalisation of Future Maintainable Profit Method	
Capitalised value of Future Maintainable Profit	1,690.93
$= \frac{253.64}{15} \times 100$	
<i>Less:</i> Average capital employed	<u>1,567.90</u>
Value of Goodwill	<u>123.03</u>
Or	
(ii) According to Capitalization of Super Profit Method	
Future Maintainable Profit	253.64

9.14 Financial Reporting

Less: Normal Profit @ 15% on average capital employed (1,567.90 × 15%)		<u>235.19</u>
Super Profit		<u>18.45</u>
Capitalised value of super profit $\frac{18.45}{15} \times 100$ i.e. Goodwill		123.00

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

Leverage Effect on Goodwill

		₹ in lakhs
Future Maintainable Profit on equity fund		253.64
Future Maintainable Profit on Long-term Trading Capital employed		
Future Maintainable Profit After Tax	253.64	
Add: Interest on Long-term Loan (Term Loan)		
(After considering Tax) $165 \times 18\% = 29.7 \times \frac{(100 - 40)}{100}$	<u>17.82</u>	271.46
Average capital employed (Equity approach)		1,567.90
Add: 18% Term Loan (180+165)/2		<u>172.50</u>
Average capital employed (Long-term Fund approach)		<u>1,740.40</u>
Value of Goodwill		
(A) Equity Approach		
Capitalised value of Future Maintainable Profit =		
$\frac{253.64}{15} \times 100 =$		1,690.93
Less: Average capital employed		<u>(1,567.90)</u>
Value of Goodwill		<u>123.03</u>
(B) Long-Term Fund Approach		
Capitalized value of Future Maintainable Profit = $\frac{271.46}{12} \times 100$		2262.17
Less: Average capital employed		<u>(1,740.40)</u>
Value of Goodwill		<u>521.77</u>

Comments on Leverage effect of Goodwill : Adverse Leverage effect on goodwill is 398.74 lakhs (i.e., ₹ 521.77 – 123.03). 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:

		₹ in lakhs
(1)	Stock adjustment	
	(i) Excess current cost of closing stock over its Historical cost (330 – 300)	30.00
	(ii) Excess current cost of opening stock over its Historical cost (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 (\$35,000×39)	13.65
	(ii) Value of foreign exchange debtors at the original exchange rate (\$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 (\$60,000×39)	23.40
	(ii) Value of foreign exchange creditors at the original exchange rate(\$60,000×33)	<u>19.80</u>
	(iii) Difference [(i) – (ii)]	<u>3.60</u>

Question 5

The summarized Balance Sheet of Domestic Ltd. as on 31st March, 2012 is as under:

(All figures are in lakhs)

Liabilities	₹	₹	Assets	₹
Equity Shares ₹ 10 each		3,000	Goodwill	744
Reserves (including provision for taxation of ₹ 300 lakhs)		1,000	Premises and Land at 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	32		Work-in-progress at cost	130
Profit for the year (After taxation)			Finished Goods at cost	180
	<u>1,100</u>	1,132	Book Debts	400

9.16 Financial Reporting

			<i>Investment (meant for replacement of Plant and Machinery)</i>	1,600
			<i>Cash at Bank and Cash in hand</i>	192
			<i>Discount on Debentures</i>	10
			<i>Underwriting Commission</i>	<u>16</u>
		<u>7,632</u>		<u>7,632</u>

The resale value of Premises and Land is ₹ 1,200 lakhs and that of Plant and Machinery is ₹ 2,400 lakhs. 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 ₹ 1,500 lakhs. 10% of book debts is bad. In a similar company the market value of equity shares of the same denomination is ₹ 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:

2006-07		₹ 67 lakhs
2007-08	(-)	₹ 1,305 lakhs (loss)
2008-09		₹ 469 lakhs
2009-10		₹ 546 lakhs
2010-11		₹ 405 lakhs

The unusual negative profitability of the company during 2007-08 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 2006-07 and continued till the last quarter of 2007-08.

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).

Answer

<i>Present value of assets:</i>		<i>(₹ in lacs)</i>	<i>(₹ in lakhs)</i>
1.	Calculation of capital employed		
	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>
			6,918
	<i>Less: Liabilities:</i>		
	Provision for taxation	300	
	5% Debentures	2,000	
	Secured loans	200	
	Sundry creditors	<u>300</u>	<u>2,800</u>
	Total capital employed on 31.3.2012		<u>4,118</u>
2.	Profit available for shareholders for the year 2011-12		
	Profit for the year as per Balance Sheet		1,100
	<i>Less: Depreciation to be considered</i>		
	Premises and land	24*	
	Plant & machinery	240*	
	Motor vehicles	<u>4</u>	<u>268</u>
			832
	<i>Less: Bad debts</i>		<u>(40)</u>
	Profit for the year 2011-12		<u>792</u>
3.	Average capital employed		
	Total capital employed		4118
	<i>Less: ½ of profit for the current year [Refer point 2]</i>		<u>(396)</u>
	Average capital employed		<u>3722</u>
4.	Average profit to determine Future Maintainable Profits		
	Profit for the year 2011-12	792	
	Profit for the year 2010-11	405	
	Profit for the year 2009-10	546	
	Profit for the year 2008-09	<u>469</u>	
		<u>2212 / 4</u>	<u>553</u>
5.	Calculation of General Expectation:		
	Domestic Ltd. pays ₹ 2 as dividend (20%) for each share of ₹ 10.		
	Market value of equity shares of the same denomination is ₹ 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.

9.18 Financial Reporting

	Therefore, share of ₹ 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%.	
		(₹ in lakhs)
6.	Calculation of super profit Future maintainable profit [See point 4] <i>Less:</i> Normal profit (10% of average capital employed as computed in point 3) Super Profit	553 <u>(372.2)</u> 180.8
7.	Valuation of Goodwill Goodwill at 4 years' purchase of Super Profit (180.8×4)	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 2006-07 and 2007-08 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:

(₹ in lakhs)							
Liabilities	P Ltd.	Q Ltd.	R Ltd.	Assets	P Ltd.	Q Ltd.	R Ltd.
Equity shares of ₹ 10 each	12.00	14.00	6.00	Goodwill	-	1.00	-
Reserves	2.00	1.00	2.00	Net tangible block	16.00	12.00	10.00
10 % Debentures	4.00	-	2.00	Current assets	6.00	5.00	2.00
Trade and expenses creditors	<u>4.00</u>	<u>3.00</u>	<u>2.00</u>				
	<u>22.00</u>	<u>18.00</u>	<u>12.00</u>		<u>22.00</u>	<u>18.00</u>	<u>12.00</u>

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

Answer

Valuation of Goodwill

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

Working Note:

Calculation of Capital Employed

	P Ltd. ₹	Q Ltd. ₹	R Ltd. ₹
Tangible fixed assets	20,00,000	10,00,000	12,00,000
Current assets	7,00,000	2,80,000	1,60,000
	27,00,000	12,80,000	13,60,000
Less: Debentures and Creditors	(8,00,000)	(3,00,000)	(4,00,000)
	19,00,000	9,80,000	9,60,000

Question 7

From the following information determine the possible value of brand under the potential earning model:

	(₹ in lakhs)
(a) Profit before tax	13.00
(b) Income tax	3.00

9.20 Financial Reporting

(c) Tangible Fixed Asset	20.00
(d) Identifiable Intangible other than brand model	10.00
(e) Expected return on tangible fixed assets	6.00

Appropriate capitalization factor for intangibles is 25%.

Answer

Calculation of possible value of brand under potential earning model

	₹ in lakhs
Profit after tax (13 – 3)	10.00
Less: Profit allocated to tangible fixed assets	<u>(6.00)</u>
Profit relating to intangible assets including brand	<u>4.00</u>
Capitalisation factor 25%	
Capitalised value of intangibles including brand $\left(\frac{4.00}{25} \times 100\right)$	16.00
Less: Identifiable intangibles other than brand	<u>(10.00)</u>
Brand value	<u>6.00</u>

Question 8

The following are the summarized Balance Sheets of two companies, A Ltd., and B Ltd. as on 31-03-2011:

Liabilities	A Ltd. ₹	B Ltd. ₹	Assets	A Ltd. ₹	B Ltd. ₹
Equity shares of ₹ 10 each	15,00,000	10,00,000	Goodwill	2,00,000	1,00,000
Reserves	3,00,000	2,00,000	Net tangible block	17,00,000	14,00,000
10% Debentures	6,00,000	4,00,000	Current Assets	8,00,000	6,00,000
Creditors	<u>3,00,000</u>	<u>5,00,000</u>			
	<u>27,00,000</u>	<u>21,00,000</u>		<u>27,00,000</u>	<u>21,00,000</u>

Additional information:

(i) Assets are to be revalued as follows:

	A Ltd. ₹	B Ltd. ₹
Revaluation of Tangible Block	21,00,000	12,00,000
Revaluation of Current Assets	10,00,000	4,00,000

(ii)

	A Ltd. ₹	B Ltd. ₹
Average annual profit for three years before charging debenture interest	4,50,000	3,10,000

(iii) Goodwill is to be valued at four year's purchase of average super profits for three years. Average is to be calculated after adjustment of depreciation at 10% on the amount of increase/decrease on revaluation of fixed assets. In the case of B Ltd. a claim of ₹10,000, which was omitted, is to be adjusted against its average profit. Income tax is to be ignored.

(iv) Normal profit on capital employed is to be taken at 15%, capital employed being considered on the basis of revalued amount of tangible assets.

Ascertain the value of goodwill of A Ltd. and B Ltd.

Answer

Valuation of Goodwill

	₹	₹
Average annual profit	4,50,000	3,10,000
Less: Debenture Interest	(60,000)	(40,000)
	3,90,000	2,70,000
Less: Depreciation on amount increased on revaluation (W.N.2)	(40,000)	-
Add: Depreciation on amount reduced on revaluation (W.N.2)	-	20,000
Less: Omission of claim	-	(10,000)
Average profit	3,50,000	2,80,000
Less: Normal profit @ 15% on closing capital employed (W.N.1)	(3,30,000)	(1,03,500)
Super profit	20,000	1,76,500
Goodwill valued at four years' purchase of super profits	80,000	7,06,000

Working Notes:

1. Calculation of Closing Capital Employed

	A Ltd.	B Ltd.
	₹	₹
Tangible Fixed Assets (Revalued)	21,00,000	12,00,000

9.22 Financial Reporting

Current Assets (Revalued)	10,00,000	4,00,000
	31,00,000	16,00,000
Less: Debentures	(6,00,000)	(4,00,000)
Creditors	(3,00,000)	(5,00,000)
Claim	-	(10,000)
Closing Capital Employed	22,00,000	6,90,000

2. Excess / short depreciation

	A Ltd.	B Ltd.
	₹	₹
Revalued Assets	21,00,000	10,00,000
Less: Tangible Assets as per the Balance Sheet	(17,00,000)	(12,00,000)
Upward/(Downward) revaluation	4,00,000	(2,00,000)
(Increase)/Decrease in depreciation @ 10%	(40,000)	20,000

Question 9

From the following information, determine the possible value of brand as per potential earning model:

	₹ in lakhs
(i) Profit After Tax (PAT)	2,500
(ii) Tangible fixed assets	10,000
(iii) Identifiable intangible other than brand	1,500
(iv) Weighted average cost of capital (%)	14%
(v) Expected normal return on tangible assets weighted average cost (14%) + normal spread 4%	18%
(vi) Appropriate capitalisation factor for intangibles	25%

Answer

(a) Calculation of possible value of brand

	₹ in lakhs
Profit after Tax	2,500
Less: Profit allocated to tangible assets [18% of ₹10,000]	<u>(1,800)</u>
Profit allocated to intangible assets including brand	<u>700</u>

Capitalisation factor 25%	
Capitalised value of intangibles including brand [$\frac{700}{25} \times 100$]	2,800
Less: Identifiable intangibles other than brand	<u>(1,500)</u>
Brand value	<u>1,300</u>

Question 10

The Balance Sheet of D Ltd. on 31st March, 2011 is as under:

Liabilities	₹	Assets	₹
1,25,000 shares of ₹ 100 each fully paid up	1,25,00,000	Goodwill	10,00,000
Bank overdraft	46,50,000	Building	80,00,000
Creditors	52,75,000	Machinery	70,00,000
Provision for taxation	12,75,000	Stock	80,00,000
Profit and loss account	<u>53,00,000</u>	Debtors (all considered good)	50,00,000
	<u>2,90,00,000</u>		<u>2,90,00,000</u>

In 1989, when the company started its activities the paid up capital was the same. The Profit/Loss for the last five years is as follows:

2006-2007: Loss (13,75,000), 2007-2008: Profit ₹ 24,55,000, 2008-2009: Profit ₹ 29,25,000, 2009-2010: Profit ₹ 36,25,000, 2010-2011: Profit ₹ 42,50,000.

Income-tax rate so far has been 40% and the above profits have been arrived at on the basis of such tax rate. From 2010-2011, the rate of income-tax should be taken at 45%. 10% dividend in 2007-2008, 2008-2009 and 15% dividend in 2009-2010 and 2010-2011 has been paid. Market price of this share on 31st March, 2011 is ₹ 125. With effect from 1st April, 2011, the Managing Directors remuneration will be ₹ 20,00,000 instead of ₹ 15,00,000. The company has secured a contract from which it can earn an additional ₹ 10,00,000 per annum for the next five years.

Calculate the value of goodwill at 3 years purchase of super profit. (For calculation of future maintainable profits weighted average is to be taken).

Answer**(i) Future Maintainable Profit**

Year	Profit (P) ₹	Weight (W)	Products (PW) ₹
2007-2008	24,55,000	1	24,55,000
2008-2009	29,25,000	2	58,50,000

9.24 Financial Reporting

2009-2010	36,25,000	3	1,08,75,000
2010-2011	42,50,000	<u>4</u>	<u>1,70,00,000</u>
		<u>10</u>	<u>3,61,80,000</u>
Weighted average annual profit (after tax)* = $\frac{3,61,80,000}{10}$			
= ₹ 36,18,000			
Weighted average annual profit before tax is 36,18,000 $\times \frac{100}{60}$			60,30,000
Less: Increase in Managing Director's remuneration			<u>(5,00,000)</u>
			55,30,000
Add: Contract advantage			<u>10,00,000</u>
			65,30,000
Less: Tax @ 45%			<u>(29,38,500)</u>
Future maintainable profit			<u>35,91,500</u>

(ii) Average Capital Employed

	₹	₹
Assets		
Building		80,00,000
Machinery		70,00,000
Stock		80,00,000
Debtors		<u>50,00,000</u>
		2,80,00,000
Liabilities		
Bank Overdraft	46,50,000	
Creditors	52,75,000	
Provision for taxation	12,75,000	
Additional provision for taxation**	<u>3,54,167</u>	<u>(1,15,54,167)</u>
Capital employed at the end of the year		1,64,45,833
Add: Dividend 15% during the year		<u>18,75,000</u>
		1,83,20,833
Less: ½ profit after tax for the year [(42,50,000-3,54,167)/2]		<u>19,47,917</u>
Average capital employed		<u>1,63,72,916</u>

* Loss amounting ₹ 13,75,000 for the year 2006-2007 has not been considered in calculation of weighted average profit assuming that the loss was due to abnormal conditions.

** Additional provision for taxation 5% of ₹ 70,83,333 (₹ 42,50,000/60%) has also been created assuming that the necessary rectification is being done in the financial statements for the year 2010-2011.

(iii) Normal Profit

Average dividend for the last four years

$$\frac{10+10+15+15}{4} = 12.5$$

Market Price of share = ₹ 125

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

Normal profit 10% of ₹ 1,63,72,916 ₹16,37,292**(iv) Valuation of Goodwill**

	₹
Future maintainable profit	35,91,500
Less: Normal profit	<u>(16,37,292)</u>
Super Profit	<u>19,54,208</u>
Goodwill at 3 years' purchase of super profits (₹ 19,54,208 x 3)	58,62,624

Valuation of Shares**Question 11**

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.

* Normal rate of return has been computed by dividend yield method.

9.26 Financial Reporting

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

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

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 12

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 ₹ 100 each, fully paid

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

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

Retained Earnings ₹ 9,00,000

Answer

(i) Computation of Net assets

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

		₹
Paid up value of 'A' equity shares	10,000 x ₹ 100	10,00,000
Paid up value of 'B' equity shares	10,000 x ₹ 80	8,00,000
Paid up value of 'C' equity shares	10,000 x ₹ 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 ₹ 100 paid up

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

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

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

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

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

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

	₹
Total paid-up capital	
'A' equity shares (10,000 x ₹ 100)	10,00,000
'B' equity shares (10,000 x ₹ 80)	8,00,000
'C' equity shares (10,000 x ₹ 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 = $\frac{\text{Net assets value of all shares}}{\text{Paid up capital}}$ =	$\frac{32,00,000}{23,00,000}$ =
	= ₹ 1.391
Therefore,	
Net assets value of ₹ 100 paid up share	₹ 1.391 x 100
Net assets value of ₹ 80 paid up share	₹ 1.391 x 80
Net assets value of ₹ 50 paid up share	₹ 1.391 x 50
	₹ 139.10
	₹ 111.28
	₹ 69.55

Question 13

The summarized Balance Sheet of RNR Limited as on 31.12.2011 is as follows:

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
1,00,000 equity shares of ₹ 10 each fully paid	10	Goodwill	5
1,00,000 equity shares of ₹ 6 each, fully paid up	6	Fixed assets	15
		Other tangible assets	5
		Intangible assets (market value)	3

9.28 Financial Reporting

Reserves and Surplus	2		
Liabilities	<u>10</u>		
	<u>28</u>		<u>28</u>

Fixed assets are worth ₹ 24 lakhs. Other Tangible assets are revalued at ₹ 3 lakhs. The company is expected to settle the disputed bonus claim of ₹ 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 year.

After tax, profits and dividend rates were as follows:

Year	PAT (₹ in lakhs)	Dividend %
2008	3.0	11%
2009	3.5	12%
2010	4.0	13%
2011	4.1	14%

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

Akbar holds 20,000 equity shares of ₹ 10 each fully paid and 10,000 equity shares of ₹ 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

$$(i) \text{ Break up value of ₹1 of share capital} = \frac{\text{₹ } 28.98}{\text{₹ } 16.00} = \text{₹ } 1.81$$

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

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

Market value of shares:

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

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

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

- (ii) 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.

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

Market value of shares:

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

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

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

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

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

Working Notes:

(₹ 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: ½ of profits [½ (4.1 – Bonus 1.0)]		<u>1.55</u>
Average capital employed		<u>17.45</u>

(b) Calculation of super profit

Average profit = ¼ (3 + 3.5 + 4 + 4.1 – Bonus 1.0)		
= ¼ × 13.6		3.400
Less: Normal profit = 10 % of ₹ 17.45 lakh		<u>(1.745)</u>
Super profit		<u>1.655</u>

9.30 Financial Reporting

(c) Calculation of goodwill

3 Years' purchase of average super-profit	= $3 \times 1.655 = ₹ 4.965$ lakhs	
Increase in value of goodwill	= $\frac{1}{2}$ (book value + 3 years' super profit)	
	= $\frac{1}{2}$ (5 + 4.965)	
	= ₹ 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 14

The following is the summarized Balance Sheet of N Ltd. as on 31st March, 2012:

Balance Sheet

Liabilities	₹	Assets	₹
4,00,000 Equity shares of ₹ 10 each fully paid	40,00,000	Goodwill	6,00,000
13.5% Redeemable preference shares of ₹ 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
	<u>1,28,20,000</u>	Debtors	18,00,000
		Bank Balance	<u>3,20,000</u>
			<u>1,28,20,000</u>

Further information:

- Return on capital employed is 20% in similar businesses.
- Fixed assets are worth 30% more than book value. Stock is overvalued by ₹ 1,00,000, Debtors are to be reduced by ₹ 20,000. Trade investments, which constitute 10% of the total investment are to be valued at 10% below cost.
- Trade investments were purchased on 1.4.2011. 50% of Non-Trade Investments were purchased on 1.4.2009 and the rest on 1.4.2010. Non-Trade Investments yielded 15% return on cost.
- In 2009-2010 new machinery costing ₹ 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 2010-2011 furniture with a book value of ₹ 1,00,000 was sold for ₹ 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:
2008-2009 ₹ 16,00,000, 2009-2010 ₹ 18,00,000, 2010-2011 ₹ 21,00,000, 2011-2012 ₹ 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*

<i>Fixed Assets</i>	₹	₹
Building	24,00,000	
Machinery (₹ 22,00,000 + ₹ 1,45,800)	23,45,800	
Furniture	10,00,000	
Vehicles	<u>18,00,000</u>	
	75,45,800	
<i>Add: 30% increase</i>	<u>22,63,740</u>	
	98,09,540	
Trade investments (₹ 16,00,000 × 10% × 90%)	1,44,000	
Debtors (₹ 18,00,000 – ₹ 20,000)	17,80,000	
Stock (₹ 11,00,000 – ₹ 1,00,000)	10,00,000	
Bank balance	<u>3,20,000</u>	1,30,53,540
<i>Less: Outside liabilities</i>		
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**

	2008-2009	2009-2010	2010-2011	2011-2012
	₹	₹	₹	₹
Profit given	16,00,000	18,00,000	21,00,000	22,00,000

9.32 Financial Reporting

<i>Add:</i> 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
<i>Less:</i> 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>
				₹
Total adjusted profit for four years (2008-2009 to 2011-2012)				<u>72,25,800</u>
Average profit (₹ 72,25,800/4)				18,06,450
<i>Less:</i> Depreciation at 10% on additional value of machinery (22,00,000 + 1,45,800) × 30/100 i.e. ₹ 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 ₹ 81,53,540 = ₹ 16,30,708

(iv) Super profit: Expected profit – normal profit

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

(v) Goodwill: 2 years' purchase of super profit

₹ 1,05,368 × 2 = ₹ 2,10,736

2. Net assets available to equity shareholders

	₹	₹
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
<i>Less:</i> 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

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

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 15

The Capital Structure of M/s XYZ Ltd., on 31st March, 2012 was as follows:

	₹
<i>Equity Capital – 18,000 Shares of ₹ 100 each</i>	<i>18,00,000</i>
<i>12% Preference Capital – 5,000 Shares of ₹ 100 each</i>	<i>5,00,000</i>
<i>12% Secured Debentures</i>	<i>5,00,000</i>
<i>Reserves</i>	<i>5,00,000</i>
<i>Profit earned before Interest and Taxes during the year</i>	<i>7,20,000</i>
<i>Tax Rate</i>	<i>40%</i>
<i>Generally the return on equity shares of this type of Industry is 15%.</i>	

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.

9.34 Financial Reporting

Answer

Calculation of profit after tax (PAT)	₹	₹
Profit before interest & tax (PBIT)		7,20,000
Less: Debenture interest (₹ 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 $\left(₹ 5,00,000 \times \frac{12}{100} \right)$	60,000	
Equity dividend $\left(₹ 18,00,000 \times \frac{15}{100} \right)$	<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

$$= \frac{\text{PAT} + \text{Debenture interest}}{\text{Debenture interest} + \text{Preference dividend}} = \frac{₹ 3,96,000 + ₹ 60,000}{₹ 60,000 + ₹ 60,000} = \frac{₹ 4,56,000}{₹ 1,20,000} = 3.8$$

Calculation of Debt Equity Ratio

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

$$\text{Debt Equity Ratio} = \frac{₹ 5,00,000}{₹ 28,00,000} = .179$$

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 ₹ 2,70,000)	1,62,000
10% of undistributed profits (10% of ₹ 66,000)	<u>6,600</u>
	<u>1,68,600</u>

$$\text{Yields on equity shares} = \frac{\text{Yield on shares}}{\text{Equity share capital}} \times 100 = \frac{\text{₹ 1,68,600}}{\text{₹ 18,00,000}} \times 100 = 9.37\%$$

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	
= $\frac{\text{Actual yield}}{\text{Expected yield}} \times \text{Paid up value of a share} = \frac{9.37}{16} \times 100 = \text{₹ 58.56}$	

* 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 16

The following abridged Balance Sheet as at 31st March, 2012 pertains to Glorious Ltd.

Liabilities	₹ in lakhs	Assets	₹ in lakhs
Share Capital:		Goodwill, at cost	420
180 lakhs Equity shares of ₹ 10 each, fully paid up	1,800	Other Fixed Assets	11,166
90 lakhs Equity shares of ₹ 10 each, ₹ 8 paid up	720	Current Assets	2,910
150 lakh Equity shares of ₹ 5 each, fully paid-up	750	Loans and Advances	933
Reserves and Surplus	5,457		
Secured Loans	4,500		
Current Liabilities	1,242		
Provisions	<u>960</u>		
	<u>15,429</u>		<u>15,429</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.

9.36 Financial Reporting

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

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

For the year ended 31st March, 2012 the company has earned ₹ 1,371 lakhs as profit after tax, which can be considered to be normal for the company. Average EPS for a fully paid share of ₹ 10 of a Company in the same industry is ₹ 2.

Answer

(i) Intrinsic value on the basis of book values

	₹ in lakhs	₹ 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 @ ₹ 2 per share		<u>180</u>
		<u>8,907</u>

Equivalent number of equity shares of ₹ 10 each.

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

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

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

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

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

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

(ii) Valuation on dividend yield basis:

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

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

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

(iii) Valuation on the basis of EPS:

Profit after tax = ₹ 1,371 lakhs

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

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

Earning per fully paid share of ₹ 10 = ₹ 0.419 × 10 = ₹ 4.19

Earning per share of ₹ 10 each, ₹ 8 paid-up = ₹ 0.419 × 8 = ₹ 3.35

Earning per share of ₹ 5, fully paid-up = ₹ 0.419 × 5 = ₹ 2.10

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

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

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

Question 17

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 summarized Balance Sheet of X Ltd., as at 31st December, 2011:

Liabilities	₹	Assets	₹
Share Capital:		Fixed assets	6,00,000
4,000 equity shares of ₹ 100 each fully paid-up	4,00,000	Current assets:	
General reserve	3,00,000	Stock	2,00,000
Bank overdraft	2,40,000	Sundry debtors	3,40,000
Sundry creditors	3,00,000	Cash and bank balances	1,00,000
	<u>12,40,000</u>		<u>12,40,000</u>

9.38 Financial Reporting

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

	2011 ₹	2010 ₹	2009 ₹	2008 ₹	2007 ₹
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 31.12.2011 are:*

	Replacement cost ₹	Realizable value ₹
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 31.12.2011 using each of the following bases:

- (a) *Balance sheet value*
(b) *Replacement cost*
(c) *Realizable value*
(d) *P/E ratio model.*

Answer

		₹	₹
(a)	Balance Sheet Value		
	Capital	4,00,000	
	Reserve	<u>3,00,000</u>	7,00,000

(b)	Replacement cost value			
	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
(c)	Realizable value			
	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

(d) **P/E ratio model:** 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 $80,000 \times 6 = ₹ 4,80,000$

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

Question 18

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 (₹ in lakhs)</i>	60	12
<i>Number of shares (lakhs)</i>	12	5
<i>Earning per share (₹)</i>	5	2.40
<i>Market price per share (₹)</i>	150	48
<i>Price earning ratio</i>	30	20

It is expected that the net profit after tax of the two companies would continue to be ₹ 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 ₹ 60 per share to the shareholders of R Ltd.*

(ii) *P Ltd. offers to pay ₹ 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.

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

Answer

- (i) In this case, P Ltd. offers to pay ₹ 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

$$= \frac{\text{Total Net Profit after Interest and Tax}}{\text{Total Number of shares}} = \frac{72,00,000}{14,00,000} = ₹ 5.14 \text{ per share}$$

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

- (ii) In this case, P Ltd. offers ₹ 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 ₹ 0.16 in E.P.S. of merged company in comparison to E.P.S. of R Ltd. of ₹ 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 ₹ 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 ₹ 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 19

The following is the summarized Balance Sheet (as at 31st December, 2011) of Sun Ltd.:

<i>Liabilities</i>	₹	<i>Assets</i>	₹
Share Capital:		Fixed Assets:	
80,000 Equity shares of ₹ 10 each fully paid up	8,00,000	Goodwill	1,10,000
50,000 Equity shares of ₹ 10 each ₹ 8 paid up	4,00,000	Plant and Machinery	8,00,000
36,000 Equity shares of ₹ 5 each fully paid up	1,80,000	Land and Building	10,00,000
30,000 Equity shares of ₹ 5 each ₹ 4 paid-up	1,20,000	Furniture and Fixtures	1,00,000
3,000 10% Preference shares of ₹ 100 each fully paid	3,00,000	Vehicles	2,00,000
Reserves and Surplus:		Investments	3,00,000
General reserve	1,40,000	Current Assets:	
Profit and Loss account	2,10,000	Stock	2,10,000
Secured Loan: 12% Debenture	2,00,000	Debtors	1,95,000
Unsecured Loan: 15% Term loan	1,50,000	Prepaid Expenses	40,000
Deposits	1,00,000	Advances	45,000

9.42 Financial Reporting

Current Liabilities:		Cash and Bank balance	2,00,000
Bank Loan	50,000		
Creditors	1,50,000		
Outstanding expenses	20,000		
Provision for tax	2,00,000		
Proposed Dividend:			
Equity	1,50,000		
Preference	30,000		
	32,00,000		32,00,000

Additional Information:

- (1) In 2009 a new machinery costing ₹ 50,000 was purchased, but wrongly charged to revenue (no rectification has yet been made for the same).
- (2) Stock is overvalued by ₹ 10,000 in 2010. Debtors are to be reduced by ₹ 5,000 in 2011, some old furniture (Book value ₹ 10,000) was disposed of for ₹ 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 1st January, 2011. 50 percent of the non-trade investments were acquired on 1st January, 2010 and the rest on 1st January, 2009. 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 ₹ 20,000.
- (6) Research and Development expenses anticipated in future ₹ 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 2009 – ₹ 2,10,000, in 2010 – ₹ 1,90,000 and in 2011 – ₹ 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

		₹
Value of Net Assets (As computed for Goodwill)		21,06,273
Value of Goodwill [Refer W.N.3]		5,556
Non-trade investments		<u>2,40,000</u>
		23,51,829
Less: Preference Share Capital	3,00,000	
Proposed Dividend of Preference shares	30,000	
Proposed Dividend of Equity shares	<u>1,50,000</u>	<u>(4,80,000)</u>
Net Assets available for Equity Shareholders		<u>18,71,829</u>

Computation of Number of Equivalent Equity Shares:

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

= ₹ 18,71,829 + (50,000 x ₹ 2 + 30,000 x ₹ 1)

= ₹ 18,71,829 + ₹ 1,00,000 + ₹ 30,000 = ₹ 20,01,829

Computation of Ex-Dividend value per Equity Share

(i) Value of ₹ 10 fully paid Equity Share = $\frac{20,01,829}{1,63,000}$ = ₹ 12.28 per share (approx.)

(ii) Value of ₹ 8 paid-up Equity Share = 12.28 - 2 = ₹ 10.28 per share (approx.)

(iii) Value of ₹ 5 fully paid-up Equity Share = $12.28 \times \frac{5}{10}$ = ₹ 6.14 per share (approx.)

(iv) Value of ₹ 4 paid-up Equity Share = 6.14 - 1 = ₹ 5.14 per share (approx.)

9.44 Financial Reporting

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) = ₹ 18,71,829 + ₹ 1,50,000
= ₹ 20,21,829

Net assets (including dividend) available to deemed fully paid-up Equity Shareholders

= Net Assets as computed above + Notional Cash from partly paid-up shares

= ₹ 20,21,829 + (50,000 × ₹ 2 + 30,000 × ₹ 1)

= ₹ 20,21,829 + ₹ 1,00,000 + ₹ 30,000 = ₹ 21,51,829

Computation of Cum-Dividend value per share*

(i) Value of ₹ 10 fully paid Equity Share = $\frac{21,51,829}{1,63,000}$ = ₹ 13.20 per share (approx.)

(ii) Value of ₹ 8 paid-up Equity Share = 13.20 – 2 = ₹ 11.20 per share (approx.)

(iii) Value of ₹ 5 fully paid-up Equity Share = $13.20 \times \frac{5}{10}$ = ₹ 6.60 per share (approx.)

(iv) Value of ₹ 4 paid-up Equity Share = 6.60 – 1 = ₹ 5.60 per share (approx.)

Working Notes:

1. Calculation of Average Capital Employed

Fixed Assets:		₹
Plant and Machinery (including ₹ 36,450 for a Machine charged in 2009)		8,36,450
Land and Building		10,00,000
Furniture & Fixtures		1,00,000
Vehicles		<u>2,00,000</u>
		21,36,450
Add: Appreciation @ 5%		<u>1,06,823</u>
		22,43,273
Trade Investment $\left(3,00,000 \times \frac{20}{100}\right) \times \frac{80}{100}$		48,000
Current Assets:		
Stock		2,10,000

* 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.

Debtors (1,95,000-5,000)		1,90,000
Prepaid Expenses		40,000
Advances		45,000
Cash & Bank Balance		<u>2,00,000</u>
		29,76,273
<i>Less: Outside Liabilities:</i>		
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>
Capital employed at the end of the year i.e. Net Assets		21,06,273
<i>Less: $\frac{1}{2}$ of the current year's Accounting Profit after Tax:</i>		
Profit before Tax (₹ 4,00,000 – 4,050)	3,95,950	
<i>Less: Tax 50%</i>	<u>(1,97,975)</u>	
	<u>1,97,975</u>	
50% of ₹ 1,97,975		<u>(98,987.5)</u>
Average capital employed		<u>20,07,286</u>

2. Future Maintainable Profits

Statement of Average Profit			
Particulars	2009 ₹	2010 ₹	2011 ₹
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
<i>Add:</i> Capital expenditure charged to revenue	50,000	-	-
<i>Less:</i> 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)	-
<i>Add:</i> Overvaluation of opening stock	-	-	10,000
<i>Add:</i> Loss on sale of furniture	-	-	-

9.46 Financial Reporting

(Presumed to be extra ordinary items)	-	-	4,000
Less: Provision for debtors			<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 = $\frac{₹ 11,75,450}{3}$			3,91,817
Less: Depreciation @ 10% on increase in the value of machinery			
$8,36,450 \times \frac{5}{100} \times \frac{10}{100} =$		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 ₹ 3,37,635			<u>(1,35,054)</u>
Future Maintainable Profit After Tax			<u>2,02,581</u>

3. Computation of Goodwill

	₹
Future Maintainable Profit After Tax	2,02,581
Less: Normal Profit (10% of ₹ 20,07,286)	<u>(2,00,729)</u>
Super Profit	<u>1,852</u>
Value of Goodwill = Super Profit x No. of years' purchase	
= ₹ 1,852 x 3	5,556

Question 20

Following is the Balance Sheet of Rampal Limited as on 31st March, 2012:

Liabilities	₹	Assets	₹
1,00,000 equity shares of ₹ 10 each	10,00,000	Goodwill	7,20,000
10,000, 12% preference shares of ₹ 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
	<u>48,00,000</u>		<u>48,00,000</u>

Additional information are given below:

- (a) Nominal value of investment is ₹ 5,00,000 and its market value is ₹ 5,20,000.
 (b) Following assets are revalued:

(i)	Building	₹ 32,00,000
(ii)	Plant	₹ 18,00,000
(iii)	Stock-in-trade	₹ 4,50,000
(iv)	Debtors	₹ 3,60,000

- (c) Average profit before tax of the company is ₹ 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.	Capital Employed		
	Assets: Buildings		32,00,000
	Plant		18,00,000
	Stock		4,50,000
	Debtors		3,60,000
	Cash		<u>1,00,000</u>
			59,10,000
	Less: Liabilities:		
	Creditors	8,00,000	
	Debentures	<u>10,00,000</u>	<u>(18,00,000)</u>
	Capital Employed		<u>41,10,000</u>
2.	Actual Profit		
	Average Profit		12,00,000
	Less: Income from investment		<u>(50,000)</u>
			11,50,000
	Less: Income Tax @ 50%		<u>(5,75,000)</u>
	Actual Profit		<u>5,75,000</u>
3.	Profit for Equity Shareholders		
	Actual Profit		5,75,000

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Less: Transferred to reserve @ 12.50%	(71,875)
Less: Preference Dividend	<u>(1,20,000)</u>
Profit available to Equity Shareholders	<u>3,83,125</u>

4. **Normal Profit** = 10% of Capital Employed = ₹ 41,10,000 ÷ 10 = ₹ 4,11,000
5. **Super Profit** = Actual profit – Normal profit = ₹ 5,75,000 – ₹ 4,11,000 = ₹ 1,64,000
6. **Goodwill** = ₹ 1,64,000 × 3 = ₹ 4,92,000
7. **Net Asset for equity shareholders** = Capital Employed + Goodwill + Investment – Preference Capital
 = ₹ (41,10,000+4,92,000+4,80,000- 10,00,000) = ₹ 40,82,000
8. **Value Per Share (Intrinsic Value Method)** = ₹ 40,82,000 ÷ 1,00,000 = ₹ 40.82
9. **Yield Method** = $\frac{\text{Profit for Equity Shareholder}}{\text{Equity Capital}} \times 100 = \frac{3,83,125}{10,00,000} \times 100 = 38.31\%$
 Value per Share (Yield Method) = $\frac{\text{Expected Rate of Dividend}}{\text{Normal Rate of Dividend}} \times \text{Paid up value}$
 = $\frac{38.31}{8} \times 10 = ₹ 47.89$
10. **Value of equity share under Fair Value Method**
 (Intrinsic Value + Yield Value) divided by 2 = (40.82 + 47.89) divided by 2 = ₹ 44.36 (approx.)

Question 21

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

Liabilities	₹	Assets	₹
3,00,000 Equity Shares of ₹ 10 each fully paid	30,00,000	Goodwill	3,00,000
12.5% Redeemable preference shares of ₹ 100 each fully paid	20,00,000	Building	20,00,000
General Reserve	14,00,000	Plant & Machinery	22,00,000
Profit & Loss A/c	3,00,000	Furniture	10,00,000
Secured Loan	10,00,000	Investments	16,00,000
Creditors	30,00,000	Stock	12,00,000
		Debtors	20,00,000
		Bank Balance	4,00,000
	1,07,00,000		1,07,00,000

Additional Information:

- (i) Fixed assets are worth 20% more than book value. Stock is overvalued by ₹ 1,00,000. Debtors are to be reduced by ₹ 40,000. Trade investments, which constitute 10% of the total investments are to be valued at 10% below cost.
- (ii) 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.
- (iii) In 2008-2009, Furniture with a book value of ₹ 1,00,000 was sold for ₹ 50,000. This loss should be treated as non-recurring or extraordinary item for the purpose of calculating adjusted average profit.
- (iv) In 2007-2008, new machinery costing ₹ 2,00,000 was purchased, but wrongly charged to revenue. This amount should be adjusted taking depreciation at 10% on reducing value method.
- (v) Return on capital employed is 20% in similar business.
- (vi) goodwill is to be valued at two years purchase of super profits based on simple average profits of last four years.

Profit of last four years are as under:

Year	Amount (₹)
2006-2007	13,00,000
2007-2008	14,00,000
2008-2009	16,00,000
2009-2010	18,00,000

- (vii) It is assumed that preference dividend has been paid till date.
- (viii) Depreciation on the overall increased value of assets (worth 20% more than book value) need not be considered. Depreciation on the additional value of only plant and machinery to be considered taking depreciation at 10% on reducing value method while calculating average adjusted profit.

Find out the intrinsic value of the equity share. Ignore income tax and dividend tax.

Answer

Calculation of Intrinsic Value of Equity Shares of Bat Ltd.

Net Assets available for Equity Shareholders.

	₹	₹
Goodwill (W.N.1)		4,14,484
Sundry fixed assets		64,14,960

9.50 Financial Reporting

Trade and non-trade investments (1,44,000+14,40,000)			15,84,000
Debtors			19,60,000
Stock			11,00,000
Bank balance			4,00,000
Total Assets			1,18,73,444
Less: Outside liabilities			
	10,00,000		
	30,00,000	40,00,000	
		20,00,000	(60,00,000)
Net assets available for equity shareholders			<u>58,73,444</u>

$$\text{Value of an equity share} = \frac{\text{Net Assets Available to Equity Shareholders}}{\text{Number of Equity Shares}}$$

$$= \frac{\text{₹ } 58,73,444}{3,00,000} = \text{₹ } 19.59 \text{ (approx)}$$

Working Notes:

1. Calculation of Goodwill

(i) Capital Employed

	₹	₹
Fixed assets:		
Building	20,00,000	
Plant and machinery (₹ 22,00,000 + ₹ 1,45,800)	23,45,800	
Furniture	<u>10,00,000</u>	
	53,45,800	
Add: 20% Appreciation	<u>10,69,160</u>	
	64,14,960	
Trade investments (₹ 16,00,000 x 10% x 90%)	1,44,000	
Debtors (₹ 20,00,000 – ₹ 40,000)	19,60,000	
Stock (₹ 12,00,000 – ₹ 1,00,000)	11,00,000	
Bank Balance	<u>4,00,000</u>	1,00,18,960
Less: Outside liabilities:		
Secured Loan	10,00,000	
Creditors	<u>30,00,000</u>	<u>(40,00,000)</u>
Capital employed		<u>60,18,960</u>

(ii) Future Maintainable Profit

Calculation of Average Adjusted Profit

	2006-2007 ₹	2007-2008 ₹	2008-2009 ₹	2009-2010 ₹
Profit	13,00,000	14,00,000	16,00,000	18,00,000
Add: Capital expenditure on Machinery charged to revenue	-	2,00,000	-	-
Loss on sale of furniture			50,000	
	<u>13,00,000</u>	<u>16,00,000</u>	<u>16,50,000</u>	<u>18,00,000</u>
Less: Depreciation on machinery	-	(20,000)	(18,000)	(16,200)
Income from non-trade investments (W.N.2)			(1,08,000)	(2,16,000)
Reduction in the value of stock	-	-	-	(1,00,000)
Bad debts	-	-	-	(40,000)
Adjusted Profit	13,00,000	15,80,000	15,24,000	14,27,800
Total adjusted profit for four years				58,31,800
Average profit (₹ 58,31,800/4)				14,57,950
Less: Depreciation at 10% on Additional Value of Machinery (22,00,000 + 1,45,800) x 20% x 10%				<u>(46,916)</u>
Average Adjusted Profit				<u>14,11,034</u>

(iii) Normal Profit @ 20% on Capital Employed,

i.e. 20% on ₹ 60,18,960 = ₹ 12,03,792

(iv) Super Profit = Average Adjusted profit–Normal profit

= ₹ 14,11,034 – ₹ 12,03,792 = ₹ 2,07,242

(v) Goodwill

= 2 years' purchase of super profit

= ₹ 2,07,242 x 2 = ₹ 4,14,484

2. Trade investments = ₹ 16,00,000 x 10% x 90% = ₹ 1,44,000

Non-trade investment = ₹ 16,00,000 - ₹ 1,60,000 = ₹ 14,40,000

Non-trade investment purchased on 1.4.2008 = 50% of ₹ 14,40,000 = ₹ 7,20,000

Non-trade investment purchased on 1.4.2009 = ₹ 14,40,000 – ₹ 7,20,000 = ₹ 7,20,000

Income from non-trade investment:

In the year 2008-2009 : 7,20,000 x 15% = ₹ 1,08,000

In the year 2009-2010 : 7,20,000 x 15% = ₹ 1,08,000

7,20,000 x 15% = ₹ 1,08,000

₹ 2,16,000

Valuation of Business

Question 22

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 (₹ 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 lakhs) after considering certain adjustments suggested by the due diligence team reads as under:*

Tangible		750
Inventories		145
Receivables		<u>75</u>
		970
Less:		
Creditors	165	
Bank Loans	250	(415)
Represented by equity shares of ₹ 1,000 each		555

Talks for take over have crystalized on the following:

- Timby Ltd. will not be able to use Machinery worth ₹ 75 lakhs which will be disposed of by them subsequent to take over. The expected realization will be ₹ 50 lakhs.*
- The inventories and receivables are agreed for takeover at values of ₹ 100 and ₹ 50 lakhs respectively which is the price they will realize on disposal.*
- The liabilities of Fine Toys Ltd. will be discharged in full on take over alongwith an employee settlement of ₹ 90 lakhs for the employees who are not interested in continuing under the new management.*
- Timby Ltd. will invest a sum of ₹ 150 lakhs for upgrading the Plant of Fine Toys Ltd. on takeover. A further sum of ₹ 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 ₹ 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.

	₹ in lakhs	₹ in lakhs
Present (Discounted) value of incremental cash flows (Refer Working Note)		7,845.02
<i>Add:</i> 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
<i>Less:</i> Settlement of creditors	165.00	
Bank Loans	250.00	
Employee settlement	90.00	
Renovation of Plant	150.00	
Revamp of machine shop floor (₹ 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. (₹ 7,355.30 lakhs / 55,500 shares) = ₹		13,252.79

Working Note:

Present Value of Incremental Cash Flows

(₹ 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

* Discount factor of year 2 @20% .

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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 23

The summarized Balance Sheet of R Ltd. for the year ended on 31st March, 2010, 2011 and 2012 are as follows:

	(₹ in thousands)		
	31.3.2010	31.3.2011	31.3.2012
<i>Liabilities</i>			
3,20,000 equity shares of ₹ 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>8,880</u>
<i>Assets</i>			
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 2009-10 was ₹ 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 1st April, 2009 was ₹ 20 lakhs.
- (d) The goodwill shown on 31.3.2010 was purchased on 1.4.2009 for ₹ 20 lakhs on which date the balance in the Profit and Loss account was ₹ 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 31.3.2012.

Answer

Total value of business	₹
Total net Asset as on 31.3.2012	84,80,000
Less: Goodwill as per Balance Sheet	(12,00,000)
Add: Goodwill as calculated in Working Note 2	<u>41,12,500</u>
Value of Business	<u>1,13,92,500</u>

Working Notes:**1. Capital Employed at the end of each year**

	31.3.2010 ₹	31.3.2011 ₹	31.3.2012 ₹
Goodwill	20,00,000	16,00,000	12,00,000
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	<u>2,40,000</u>	<u>4,00,000</u>	<u>8,00,000</u>
Total Assets	82,80,000	91,20,000	104,80,000
Less: Creditors	<u>(12,00,000)</u>	<u>(16,00,000)</u>	<u>(20,00,000)</u>
Closing Capital	70,80,000	75,20,000	84,80,000
Add: Opening Capital	<u>73,20,000</u>	<u>70,80,000</u>	<u>75,20,000</u>
Total	<u>1,44,00,000</u>	<u>1,46,00,000</u>	<u>1,60,00,000</u>
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) Future Maintainable Profit	31.3.2010	31.3.2011	31.3.2012
Net Profit as given	8,40,000	12,40,000	16,40,000

9.56 Financial Reporting

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	<u>4,00,000</u>	<u>4,00,000</u>	<u>4,00,000</u>
Future Maintainable Profit	14,00,000	17,60,000	21,20,000
Less: 12.50% Normal Return	<u>(9,00,000)</u>	<u>(9,12,500)</u>	<u>(10,00,000)</u>
(ii) Super Profit	5,00,000	8,47,500	11,20,000

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

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

Question 24

From the following information, calculate the value of a share if you want to

- (i) buy a small lot of shares;
(ii) buy a controlling interest in the company.

Year	Profit (₹)	Capital Employed (₹)	Dividend %
2007	55,00,000	3,43,75,000	12
2008	1,60,00,000	8,00,00,000	15
2009	2,20,00,000	10,00,00,000	18
2010	2,50,00,000	10,00,00,000	20

The market expectation is 12%.

Answer

- (i) **Buying a small lot of shares:** If the purpose of valuation is to provide data base to aid a decision of buying a small (non-controlling) position of the equity of a company, dividend yield method is most appropriate. Dividend rate is rising continuously, weighted average will be more appropriate for calculation of average dividend.

Year	Rate of dividend	Weight	Product
2007	12	1	12
2008	15	2	30
2009	18	3	54
2010	20	<u>4</u>	<u>80</u>
		<u>10</u>	<u>176</u>

$$\text{Average dividend} = \frac{176}{10} = 17.6\%$$

Value of share on the basis of dividend for buying a small lot of shares will be

$$\frac{\text{Average dividend rate}}{\text{Market expectation rate}} \times 100 = \frac{17.6}{12} \times 100 = ₹146.67 \text{ per share.}$$

- (ii) **Buying a controlling interest in the company:** If the purpose of valuation is to provide data base to aid a decision of buying controlling interest in the company, total profit will be relevant to determine the value of shares as the shareholders have capacity to influence the decision of distribution of profit. As the profit is rising, weighted average will be more appropriate for calculation of average profit/yield.

Year	Yield % (Profit/Capital employed) x100	Weight	Product
2007	16	1	16
2008	20	2	40
2009	22	3	66
2010	25	<u>4</u>	<u>100</u>
		<u>10</u>	<u>222</u>

$$\text{Average yield} = \frac{222}{10} = 22.2\%$$

If controlling interest in the company is being taken over, then the value per share will be

$$= \frac{\text{Average yield rate}}{\text{Market expectation rate}} \times 100 = \frac{22.2}{12} \times 100 = ₹ 185 \text{ per share.}$$

Question 25

NRPL (Nuclear Reactors Private Limited) is engaged in the business of design and construction of nuclear reactors that are supplied exclusively to the Atomic Energy Department. The core component of such reactors is outsourced by NRPL from FIL (Fusion Industrials Ltd.) the sole manufacturer of this item. NRPL wants to gain leadership in this industry and seeks to take over FIL. NRPL estimates that its Goodwill in the industry will increase by a minimum of ₹ 300 crores consequent on the acquisition. NRPL has made the following calculation of the economic benefits presently available and that foreseen as a result of the acquisition.

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(i) Projected Cash Flows of NRPL for the next 5 years:

Year	1	2	3	4	5
Cash flow (₹ in crores)	1,000	1,500	2,000	2,500	3,000

(ii) Projected Cash Flow of FIL for the next 5 years.

Year	1	2	3	4	5
Cash flow (₹ in crores)	400	400	600	800	1,000

(iii) Audited net worth of FIL

	₹
Fixed assets	2,000
Investments (non-trade)	1,000
Current assets	<u>1,000</u>
Total	4,000
Current liabilities	<u>1,000</u>
Net worth	<u>3,000</u>

(iv) Other information:

- 10% of the fixed assets of FIL will not be required in the event of the acquisition and the same has ready buyers for ₹ 100 crore.
- Current Assets include surplus stocks of ₹ 20 crore that can realize ₹ 30 crore.
- Investments have a ready market for ₹ 1,500 crore.
- The current liabilities are to be paid off immediately; ₹ 510 crores are payable on account of a compensation claim awarded against FIL, which has been treated as a contingent liability in the accounts on which 20 percent was provided for.
- NRPL has estimated the combined cash flows post merger as under:

Year	1	2	3	4	5
Cash flow (₹ in crores)	1,500	2,000	2,500	3,000	3,500

You are required to advise NRPL the maximum value it can pay for takeover of FIL; also show the current valuation of FIL as a 'Stand Alone' entity. The Discount rate of 15% is advised appropriate, values for which are given below:

Year	P.V
1	0.870
2	0.756
3	0.658
4	0.572
5	0.497

Answer

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

(₹ in crores)

Year	1	2	3	4	5
Projected cash flows of NRPL after merger with FIL	1,500	2,000	2,500	3,000	3,500
Less: Projected cash flows of NRPL Ltd. without merger	<u>(1,000)</u>	<u>(1,500)</u>	<u>(2,000)</u>	<u>(2,500)</u>	<u>(3,000)</u>
	<u>500</u>	<u>500</u>	<u>500</u>	<u>5,00</u>	<u>500</u>

(2) Valuation of FIL in case of merger

Year	Cash Flows from operations (₹ in crores)	Discount Factor	Discounted Cash Flow (₹ in crores)
1	500	0.870	435.00
2	500	0.756	378.00
3	500	0.658	329.00
4	500	0.572	286.00
5	500	0.497	<u>284.50</u>
			<u>1,676.50</u>

(3) Maximum value to be quoted

	₹ in crores	₹ in crores
Value as per discounted cash flows from operations		1,676.50
Add: Increase in goodwill of NRPL on acquisition of FIL		<u>300</u>
		1,976.50
Add: Cash to be collected immediately by disposal of assets:		
Fixed Assets	100	
Investments	1,500	
Stock	<u>30</u>	<u>1,630.00</u>
		3,606.50
Less: Current liabilities (1,000 – 102) (See Note below)	898	
Compensations claim	<u>510</u>	<u>(1,408.00)</u>
		<u>2,198.50</u>

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So, NRPL. can quote as high as ₹ 2,198.50 crores for taking over the business of FIL.

(4) Valuation of FIL ignoring merger (as a 'Stand Alone' entity)

Year	Cash Flows (₹ in crores)	Discount Factor	Discounted Cash Flow (₹ in crores)
1	400	0.870	348.00
2	400	0.756	302.40
3	600	0.658	394.80
4	800	0.572	457.60
5	1,000	0.497	<u>497.00</u>
			<u>1,999.80</u>

Exercises

Question 1

The summarised Balance Sheets of X Ltd. are as follows:

	(₹ in lakhs)	
	As at 31.3.2011	As at 31.3.2012
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:

- Current cost of fixed assets excluding non-trade investments on 31.3.2011 ₹ 2,200 lakhs and on 31.3.2012 ₹ 2,532.8 lakhs.

2. Current cost of stock on 31.3.2011 ₹ 670 lakhs and on 31.3.2012 ₹ 750 lakhs.
3. Non-trade investments in 10% government securities ₹ 490 lakhs.
4. Debtors include foreign exchange debtors amounting to \$ 70,000 recorded at the rate of \$ 1 = ₹ 17.50 but the closing exchange rate was \$ 1 = ₹ 21.50.
5. Creditors include foreign exchange creditors amounting to \$ 1,20,000 recorded at the rate of \$ 1 = ₹ 16.50 but the closing exchange rate was \$ 1 = ₹ 21.50.
6. Profit included ₹ 120 lakhs being government subsidy which is not likely to recur.
7. ₹ 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 2011-2012 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. Iral, a director contends that the company does not have any goodwill. Examine his contention.

[Answer: Capital employed as at 31.3.11 and 31.3.12 will be ₹ 2840 and ₹ 3,154.6 lakhs respectively; average capital employed ₹ 2,997.3 lakhs; Future maintainable profit ₹ 488.88 Lakhs; Goodwill ₹ 39.28 lakhs]

Question 2

Capital structure of Lot Ltd. as at 31.3.2012 as under:

	(₹ in lakhs)
Equity share capital	10
10% preference share capital	5
15% debentures	8
Reserves	4

Lot Ltd. earns a profits of ₹ 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 ₹ 100 per share.

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[Answer: Profit for calculation of interest and fixed dividend coverage ₹ 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: = $\frac{5.39}{13.00} \times ₹ 100 = ₹ 41.46$]

Question 3

Write short notes on:

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