FINAL EXAMINATION

(REVISED SYLLABUS - 2008)

GROUP - IV

Paper-18 : BUSINESS VALUATION MANAGEMENT

Q1. (a) Choose the correct alternative.

(i) If the operating profits of a company register a growth without employing more capital then:

(A) the economic value added will increase.

(B) the economic value added will decrease.

(C) the economic value added will remain constant.

(ii) If unproductive capital of a firm is liquidated the economic value added :

(A) will decrease.

(B) will not be affected.

(C) will increase.

(iii) Firms that intend to buy only a small percentage of the outstanding stock can buy them in the market, in a process called—

(A) repurchase tender

(B) open market purchase

(C) privately negotiated repurchases.

(iv) Which of the following is not aninput in calculating cash flow return on investment?

(A) Gross investment.

(B) The salvage value of the asset.

(C) Commercial life of the asset.

(v) If the divestiture value is greater than the present value of the expected cash flows, the value of the divesting firm will

(A) increase on the divestiture.

(B) decrease on the divestiture.

(C) remains same on divestiture.

(vi) Which of the following is not a direct cost of bankruptcy?

(A) Rise in legal and administrative costs.

(B) Present value effects of delays in paying out the cash flows.

(C) The loss in revenue that may occur due to the customers' perception that the firm is in trouble.

(vii) A strategy of anti- takeover under which the target company makes a counter bid for the raider's company is known as —

(A) Green mail

(B) Pac-man Defence

(C) Bear hug

(viii) A growth stock is usually indicated by

(A) Very high EPS

(B) Huge equity base

(C) High market discounting

(ix) A stock with a dividend payout ratio of 40% , required rate of return of 20% and a constant growth rate of 10% will have a P/E of

(A) 2 times

(B) 4 times

(C) 7.5 times.

(x) When the right is not exercised, the value of option will be :

(A) Zero

(B) Less than zero

(C) Equal to market price of underlying asset.

Answer 1. (a)

(i) — (A) the economic value added will increase
(ii) — (C) will increase
(iii) — (B) open market purchase
(iv) — (C) Commercial life of the asset.
(v) — (A) increase on the divestiture.
(vi) — (C) The loss in revenue that may occur due to customers' perception that the firm is trouble.
(vii) — (B) Pac-man Defence
(viii) — (C) High market discounting
(ix) — (B) 4 times
(x) — (A) zero

Q 1. (b) State whether following statements are True (T) or False (F).

(i) The concept of 'value' is different from cost and price.

(ii) EVA is inversely related to shareholders' value.

(iii) Replacement value of an asset is future cost of a new asset at the time of replacement.

(iv) Take-over defenses are also referred to as anti-takeover defenses.

(v) Value Gap in context of acquisitions refer to the difference between book value and the purchase price of a company.

(vi) If a patent is developed internally, its cost is capitalized.

(vii) Hedging protects against the price risk but not against gains or losses.

(viii) The CAPM model assumes perfect market competition.

(ix) The market value of a property is the price paid to acquire it.

(x) Under DCF mode of asset valuation, we need to estimate the cash flows during life of the asset.

Answer 1. (b)

(i) True. It is worth of a thing.

(ii) False. EVA is directly related to shareholders' value

(iii) False. Replacement value is the current cost of a new asset of same kind.

(iv) True.

(v) False. Value Gap is the differnece between intrinsic value and purchase price of a company.

(vi) False. The cost has to be expended.

(vii) True.

(viii) True.

(ix) False. The price paid may or may not represent the market value of the property.

(x) True.

Q 1. (c) Fill in the blanks with appropriate words :

(i) Assets held as stock in trade are not_____ (investments/disinvestments.)

(ii) _____ is a Government granted right to authors, sculptures, painters for their creations. (Patent/Copy right)

(iii) Networth of a firm as per Balance Sheet is called its_____ (book value, market value)

(iv) If expected rate of return is more than required rate, stock should be_____ (bought, sold)

(v) In a conglomerate merger, the concerned companies are in _____ lines of business. (related, unrelated)

(vi) Synergy is whole that is_____ than sum of its parts. (less, more)

(vii) The risk that the cash flows will not be delivered is called_____ (liquidity risk, default risk)

(viii) Organizational capital is a _____ component of intellectual capital. (primary, secondary)

(ix) The absolute measures of risk in capital budgeting include sensitivity analysis and _____ . (standard deviation/coefficient of variation).

(x) In case of Deep Discount Bonds, the issue price is always _____ the face value. (less than, more than)

Answer 1. (c)

(i) investments

(ii) Copyright

(iii) book value

(iv) bought

(v) unrelated

(vi) more

(vii) default risk

(viii) primary

(ix) standard deviation

(x) less than

Q. 2. (a) Discuss the steps involved in valuing a firm under Discounted Cash Flow Method.

(b) The financial data of PH Pharma is as follows :

Paid up capital (4 lac shares)	**₹ 40 lacs**
Reserves and Surplus	**₹180 lacs**
Profit after tax	**₹ 32 lacs**

The P/E multiple of the shares of PH Pharma is 7. The company has taken up an expansion project at Ghaziabad. The cost of the project is ₹ 200 lacs. It proposes to fund it with a term loan of ₹ 100 lacs XYZ Bank and balance by a rights issue. The rights will be priced at ₹ 25 per share(₹ 15 premium.)

You are required to calculate —

(i) The value of the rights and the market capitalization of PH Pharma after the rights issue, and

(ii) The Net Asset Value (NAV) of the shares after the rights issue.

Answer 2. (a)

Steps in valuing firm under Discounted Cash Flow Method

(i) Computation of Free Cash Flows for the forecast period. Free cash flow is the post tax cash flow generated from operations of the company after providing for investments in fixed capital and net working capital required for operations of the firm. Thus it is the cash flow available for distribution to shareholders (by way of dividend and buyback of shares) and lenders (by way of interest payment and debt repayment).Symbolically, free cash flow = Net income (+) Depreciation (+/_) Non cash items (–) Changes in Working Capital (–) Capital expenditure (+) (New debt issues-repayment of debt) (–) preference dividends.

(ii) Determination of Discount Rate for estimating present value. In general, the cost of capital is the appropriate discount rate.

(iii) Computation of Present Value of cash flows. The free cash flows are discounted using appropriate discount rate.

(iv) Estimation of Terminal Value, i.e present value of cash flows occurring after the forecast period.

(v) Value of firm = It is aggregate of the present value of free cash flows and the terminal value.

Answer 2. (b)

(i) Amount needed by rights issue = ₹ 200-₹ 100 = ₹ 100 lacs.

Subscription price/right share = ₹ 25

Number of rights share on offer = ₹ 100,00,000/25 = ₹ 4,00,000 shares.

Hence ratio of rights is 1 share for every share held.

Earning per share = ₹ 32,00,000/4,00,000 = ₹ 8 per share.

P/E multiple = 7

Market price= ₹8 × 7 = ₹ 56 per shares.

Value of the rights R = (P – S)/(N+1) [where P = Cum rights market price per share, S = Subscription price of rights share, N = Number of existing shares required for a rights issue]

Or R = (56 – 25)/(1+1) = ₹ 15.50

Market value after the rights issue = (N × P+ S)/(N+1)= (1 × 56+25)/2 = ₹ 40.50

Number of shares outstanding after rights issue = 4 + 4 = 8 lac shares.

Market capitalization = Ex-rights price × Number of outstanding shares = ₹ 40.5 × 8 = ₹324 lacs.

(ii) Net Asset Value(NAV) per share after the rights issue :

		(₹ in lac)
Paid –up Capital		80
Reserves and Surplus :		
Existing	180	
Premium on right issue	60	240
		320

Number of shares outstanding = 8 lac shares.

NAV per share = ₹ 320 lac/8 lac = ₹ 40 per share.

Q. 3. (a) Q is seeking the price to pay for a security, whose standard deviation is 3.00 per cent. The correlation coefficient for the security with the market is 0.8 and the market standard deviation is 2.2 per cent. The return from government securities is 5.2 per cent and from the market portfolio is 9.8 per cent. Q knows that, by calculating the required return, he can then determine the price to pay for the security. What is the required return on the security?

(b) P inherited the following securities :

Types of Security	Nos.	Annual Coupon %	Maturity Years	Yield%
Bond A (₹ 1,000)	10	9	3	12
Bond B (₹ 1,000)	10	10	5	12
Preference shares C (₹ 100)	100	11	*	13*
Preference shares D (₹ 100)	100	12	*	13*

***likelihood of being called at a premium over par.**

Compute the current value of the portfolio.

Answer 3. (a)

$$\text{Beta coefficient} = \frac{\text{Correlation coefficient between the security and the market} \times \text{Std. deviation of the security return}}{\text{Std. deviation of the market return}}$$

$$= \frac{(.8) \times (.03)}{(.022)} = 1.091$$

Now, required return on the security : Rate of return on risk free security + beta coefficient (required return on market portfolio – rate of return on risk free security)

= 5.2 + 1.091 (9.8 – 5.2)

= 5.2 + 5.02 = 10.22%

Answer 3. (b)

Current value of the portfolio :

(i) 10 Nos. Bond A, ₹ 1,000 par value, 9% Bonds maturity 3 years :

		₹	₹
Current value of interest on bond A			
1-3 years:	₹ 900 × Cumulative P.V. @ 12% (1-3 years)		
	= ₹ 900 × 2.402	2,162	
Add: Current value of amount received on maturity of Bond A			
End of 3rd year: ₹ 1,000 × 10 × P.V. @ 12% (3rd year)			
	= ₹ 10,000 × 0.712	7,120	9,282

(ii) 10 Nos. Bond B, ₹ 1,000 par value, 10% Bonds maturity 5 years:

Current value of interest on bond B			
1-5 years:	₹ 1,000 × Cumulative P.V. @ 12% (1-5 years)		
	= ₹ 1,000 × 3.605	3,605	
Add: Current value of amount received on maturity of Bond B			
End of 5th year: ₹ 1,000 × 10 × P.V. @ 12% (5th year)			
	= ₹ 10,000 × 0.567	5,670	9,275

(iii) 100 Preference shares C, ₹ 100 par value, 11% coupon

$$\frac{11\% \times 100\,\text{Nos.} \times ₹\,100}{13\%} = \frac{1,100}{0.13}$$ 8,462

(iv) 100 Preference shares D, ₹ 100 par value, 12% coupon

$$\frac{12\% \times 100\,\text{Nos.} \times ₹\,100}{13\%} = \frac{1,200}{0.13}$$ 9,231 17,693

Total current value of the portfolio [(i) + (ii) + (iii) + (iv)] 36,250

Q. 4. (a) From the following data calculate the cost of merger :

(i) when the merger is financed by cash ii)when the merger is financed by stock

Particulars	*Firm A*	*Firm B*
Market price per share (₹)	**60**	**15**
Number of shares	**1,00,000**	**50,000**
Market value of firm (₹)	**60,00,000**	**750000**

Firm A intends to pay ₹ 10,00,000 cash for B if B's market price reflects only its value as a separate entity.

(b) (i) Why do M & A take place?

(ii) Why do they fail?

Answer 4. (a)

(i) Cost of merger when the merger is financed by cash :

Cost of merger = (Cash – MV_B) +(MV_B– PB_B)

Where, MV_B = Market value of share.

PB_B = Intrinsic value of Firm B

= (10,00,000 – 750000) + (750000 – 750000)

= ₹ 250000+0

= ₹ 250000.

If cost of merger becomes negative, shareholders of Firm A gain higher by acquiring Firm B in terms of its market value.

(ii) Cost of merger when the merger is financed by stock :

Cost of merger = α PV_B - PV_B

Where, α PV_B = Value in firm A that firm B's shareholders get.

No. of shares equivalent to ₹ 10,00,000 = 10,00,000/60

= 16,667

Apparent cost of merger :

16667 shares @ ₹ 60 = ₹ 1000000

Less : Value of firm B = ₹ 750000

Apparent Cost of merger = ₹ 250000

PV_{AB} = PV_A+ PV_B

= ₹ (6000000 + 750000)

= ₹ 6750000.

Proportion that Firm B's Shareholders get in Firm A's capital structure will be :

α = 16667/(100000+16667)

= 16667/116667

= 0.143

True cost of merger = (6750000 × 0.143 – 750000)

= 965250 – 750000

= ₹ 215250

As apparent cost is more than true cost, merger is beneficial to Firm B.

Answer 4. (b)

(i) Mergers and Acquisitions take place to take advantage of the following :

(A) Synergy in operating economies- It is considered that total value from combination is greater than the sum of values the component companies independently. The reason is benefits derived from –

- Economies of scale through sharing of central services such as procurement, accounting, financial control, resources management, top level management and control.
- Economies of Vertical Integration by moving both forward (towards the customer) and backward (towards supplies of raw materials and inputs).

- Companies having complementary resources.
- Investible surplus funds leading to looking for investment opportunities.
- Eliminating inefficiencies by making use of unexploited opportunities to cut cost and improve revenues.

(B) Taxation advantages-Mergers take place to have benefits of tax laws and a profit earning company may merge with loss making one that will shield the income from taxation.

(ii) Mergers fail mainly due to the following reasons :

(A) Lack of integration synergies.

(B) Key employees leaving the merged organization.

(C) Lack of common goals

(D) Corporate culture clashes.

(E) Paying too much premium.

(F) Poor level of communication both internally and externally.

(G) Lack of sufficient due diligence by the acquiring company.

Q. 5. (a) The summarized Balance Sheet of R Co. Ltd as on December , 2011 is given below:

Liabilities	₹	*Assets*		₹
Equity Share capital	**20,00,000**	**Fixed assets**		**19,00,000**
(2,00,000 @ ₹ 10 each)		**Investments**		**1,00,000**
13% Pref. share capital	**1,00,000**	**Current assets:**		
Retained earnings	**4,00,000**	**Inventories**	**500000**	
12% Debentures	**3,00,000**	**Debtors**	**400000**	
Current Liabilities	**2,00,000**	**Bank**	**100000**	**10,00,000**
	30,00,000			**30,00,000**

Negotiations for takeover of R Ltd. result in its acquisition by A Ltd. The purchase consideration consists of (i) ₹ 330000, 13% debentures of A Ltd. for redeeming the 12% debentures of R Ltd., (ii) ₹ 1,00,000, 12% convertible preference shares in A Ltd. for the payment of preference share capital of R Ltd. (iii) 1,50,000 equity shares of A Ltd. to be issued at its current market price of ₹ 15 (iv) A Ltd. would meet dissolution expenses of ₹ 30,000.

The break-up figures of eventual disposition by A Ltd. of unrequired assets and liabilities of R Ltd. are :

Investments	**₹ 125000**
Debtors	**₹ 350000**
Inventories	**₹ 425000**
Payment of Current Liabilities	**₹ 190000**

The project is expected to generate yearly operating CFAT of ₹ 700000 for 6years. It is estimated that fixed assets of R Ltd. would fetch ₹ 3,00,000 at the end of 6th year.

The firm's cost of capital is 15%. Comment on the financial prudence of meger decision of A Ltd. (PV at 15% rate of discount is 1st year 0.870; in 2nd year 0.756; in 3rd year 0.658; in 4th year, 0.572; in 5th year 0.496; and 6th year 0.432.)

(b) What do you understand by restructuring? Why do companies go for restructure?

Answer 5. (a)

Cost of acquisition of R Ltd. under Break-up value method to A Ltd.

		₹
Sale proceeds of assets :		
Investments		125000
Debtors		350000
Inventories		425000
		900000
Add : Cash at bank of R Ltd.		100000
	I	1000000
Proposed Payments :		
Dissolution Expenses		30000
Current Liabilities		190000
13% Debentures		330000
12% Convertible pref. shares		100000
Equity share capital (15 × 150000)		2250000
	II	2900000
Net cost of acquisition (II - I)		1900000

NPV after merger :

Year	Cash flow after tax (₹)	Discount factor @ 15%	PV (₹)
1	700000	0.870	609000
2	700000	0.756	529200
3	700000	0.658	460600
4	700000	0.572	400400
5	700000	0.496	347200
6	700000	0.432	302400
6	300000	0.432	129600
			2778400
Less : Net Cost of acquisition			1900000
NPV after Merger			878400

As the NPV is positive after merger, the proposal may be accepted.

Answer 5. (b)

Restructuring is a process by which a firm does an analysis of itself at a point of time and alters what it owes and owns, refocuses itself to specific tasks of performance improvements. Restructuring would sometimes radically alter a firm's capital structure, asset mix and organization so as to enhance the firm's value.

There are basically six reasons why companies are going for restructuring :

(i) The globalization of business has compelled Indian companies to open new export houses to meet global competition. Global market concept has necessitated many companies to restructure because lowest cost producers only can survive in the competitive global market.

(ii) Changed fiscal and government policies like deregulation/decontrol has led many companies to go for newer market and customer segments.

(iii) Revolution information technology has made it necessary for companies to adapt new changes in the communication/information technology for improving corporate performance.

(iv) Many companies have divisionalised into smaller businesses. Wrong divisionalisation strategy has led to revamp themselves. Product divisions which do not fit into the company's main line of business are being divested. Fierce competition is forcing Indian companies to relaunch themselves.

(v) Improved productivity and cost reduction has necessitated downsizing of the work force both at works and managerial level.

(vi) Convertibility of rupee has attracted medium-sized companies to operate in the global market.

Q. 6. (a) XYZ Ltd . wants to acquire majority shares in SBF Ltd. The β factor of SBF Ltd. β share is 1.2 and its current market price is ₹ 180 . The company is paying dividend of ₹ 15 p.a. The risk free rate is 5.5% and expected return on such securities 7%.

Calculate the value of share of SBF Ltd.

(b) The total market value of the equity share of ABQ Ltd. is ₹ 60,00,000 and the total value of the debt is ₹ 40,00,000. The treasurer estimate that the beta of the stock is currently 1.5 and that the expected risk premium on the market is 10 per cent. The treasury bill rate is 8 per cent.

***Required*:**

(i) What is the beta of the Company's existing portfolio of assets?

(ii) Estimate the Company's Cost of capital and the discount rate for an expansion of the company's present business.

Answer 6. (a)

As per CAPM for valuation,

$E(R_i) = R_f + \beta [E(R_m) - R_f]$

Where,

$E(R_i)$ = Expected rate of return

$E(R_m)$ = Market rate of return

R_f = Risk free return

$E(R_i) = 5.5+1.2(7-5.5)$

$= 5.5 +1.2 \times 1.5$

$= 5.5 + 1.8$

$= 7.3\%$

Dividend yield = Annual dividend/expected return.

= ₹ 15/.073

= ₹ 205.

As per CAPM model value of a share is ₹ 205 against current market price of ₹ 180.

Amount of extra price that XYZ can pay is ₹ 205 – ₹ 180 = ₹ 25.

Answer 6. (b)

(i) $\beta_{\text{company assets}} = \beta_{\text{equity}} \times \frac{V_E}{V_0} + B_{\text{debt}} \times \frac{V_D}{V_0}$

If company's debt capital is riskless then above relationship become:

$$\text{Here } \beta_{equity} = 1.5\beta_{assets} = \beta_{equity}\ \frac{V_E}{V_0}$$

$$\beta_{debt} = 0$$

Note : Since β_{debt} is not given it is assumed that company debt capital is virtually riskless.

V_E = ₹ 60 lacs.

V_D = ₹ 40 lacs.

V_0 = ₹ 100 lacs.

$$\beta_{company\ assets} = 1.5 \times \frac{₹\ 60\ lakhs}{₹\ 100\ lakhs}$$

= 0.9

(ii) Company's cost of capital = $\beta_8\ \beta_A$ × Risk premium

Where β_8 = Risk free rate of return

β_A = Beta of company assets

Therefore, company's cost of capital = 8% + 0.9 × 10 = 17%

In case of expansion of the company's present business, the same rate of return i.e. 17% will be used. However, in case of diversification into new business the risk profile of new business is likely to be different. Therefore, different discount factor has to be worked out for such business.

Q. 7. The Capital Structure of M/s XYZ Ltd., on 31st March, 2012 was as follows:

	₹
Equity Capital 18,000 Shares of₹ 100 each	**18,00,000**
12% Preference Capital 5000 Shares of₹ 100 each	**5,00,000**
12% Secured Debentures	**5,00,000**
Reserves	**5,00,000**
Profit earned before Interest and Taxes during the year	**7,20,000**
Tax Rate (assumed)	**30%**

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

Subject to :

(a) The profit after tax covers Fixed Interest and Fixed Dividends at least 4 times.

(b) The Debt Equity ratio is at least 2;

(c) Yield on shares is calculated at 60% of distributed profits and 10% of undistributed profits;

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

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

Find out the value of Equity shares of the Company.

Answer 7.

Calculation of profit after tax (PAT)		₹
Profit before interest & tax (PBIT)		7,20,000
Less: Debenture interest (₹ 5,00,000 × 12/100)		60,000
Profit before tax (PBT)		6,60,000
Less : Tax @ 30%		198,000
Profit after tax (PAT)		462,000
Less: Preference dividend $\left(₹\ 5,00,000 \times \frac{12}{100}\right)$	60,000	
Equity dividend $\left(₹\ 18,00,000 \times \frac{15}{100}\right)$	2,70,000	3,30,000
Retained earnings (undistributed profit)		1,32,000

(a) Calculation of Interest and Fixed Dividend Coverage

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

$$= \frac{₹\ 3,96,000 + 60,000}{₹\ 60,000 + 60,000}$$

$$= \frac{₹\ 4,56,000}{₹\ 1,20,000} = 3.8 \text{ times}$$

(b) Calculation of Debt Equity Ratio

$$\text{Debt Equity Ratio} = \frac{\text{Debt (long term loans)}}{\text{Equity (shareholders' funds)}}$$

$$= \frac{\text{Debentures}}{\text{Preference share capital} + \text{Equity share capital} + \text{Reserves}}$$

$$= \frac{₹\ 5,00,000}{₹\ 5,00,000 + 18,00,000 + 5,00,000}$$

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

The ratio is less than the prescribed ratio.

(c) 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 ₹ 132,000)	13200
	175200

$$\text{Yields on equity shares} = \frac{\text{Yield on shares}}{\text{Equity share capital}} \times 100$$

$$= 175200/1800000 \times 100$$

$$= 9.73\%$$

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	Nil**
	16%

Value of an Equity Share

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

= 9.73/16 × 100 = ₹ 60.83.

* 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.

Q. 8. State with reference to accounting standard, how will you value the inventories in the following cases :

(a) In a production process, normal waste is 5% of input. 5,000 MT of input were put in process resulting in a wastage of 300 MT. Cost per MT of input is₹ 1,000. The entire quantity of waste is on stock at the year end.

(b) Per kg. of finished goods consisted of:

Material cost	**₹ 100 per kg.**
Direct labour cost	**₹ 20 per kg.**
Direct variable production overhead	**₹ 10 per kg.**

Fixed production charges for the year on normal capacity of one lac kgs. is ₹ 10 lacs. 2,000 kgs. of finished goods are on stock at the year end.

(c) A private limited company manufacturing fancy terry towels had valued its closing stock of inventories of finished goods at the realisable value, inclusive of profit and the export cash incentives. Firm contracts had been received and goods were packed for export, but the ownership in these goods had not been transferred to the foreign buyers.

Comment on the valuation of the stocks by the company.

Answer 8. (a)

As per para 13 of AS 2 (Revised), abnormal amounts of waste materials, labour or other production costs are excluded from cost of inventories and such costs are recognised as expenses in the period in which they are incurred.

In this case, normal waste is 250 MT and abnormal waste is 50 MT.

The cost of 250 MT will be included in determining the cost of inventories (finished goods) at the year end.The cost of abnormal waste amounting to ₹ 50,000 (50 MT × ₹ 1,000) will be charged in the profit and loss statement.

Answer 8. (b)

In accordance with paras 8 and 9 of AS 2 (Revised), the costs of conversion include a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods. The allocation of fixed production overheads for the purpose of their inclusion in the costs of conversion is based on the normal capacity of the production facilities.

Thus, cost per kg. of finished goods can be computed as follows:

	₹
Material cost	100
Direct labour cost	20
Direct variable production overhead	10
Fixed production overhead $\left(\frac{₹10,00,000}{1,00,000}\right)$	10

Thus, the value of 2,000 kgs. of finished goods on stock at the year end will be ₹ 2,80,000 (2,000 kgs.× ₹140).

Answer 8. (c)

Accounting Standard 2 "Valuation of Inventories" states that inventories should be valued at lower of historical cost and net realisable value. AS 9 on "Revenue Recognition" states, "at certain stages in specific industries, such as when agricultural crops have been harvested or mineral ores have been extracted, performance may be substantially complete prior to the execution of the transaction generating revenue. In such cases, when sale is assured under forward contract or a government guarantee or when market exists and there is a negligible risk of failure to sell, the goods invoiced are often valued at Net-realisable value."

Terry Towels do not fall in the category of agricultural crops or mineral ores. Accordingly, taking into account the facts stated, the closing stock of finished goods (Fancy terry towel) should have been valued at lower of cost and net-realisable value and not at net realisable value. Further, export incentives are recorded only in the year the export sale takes place. Therefore, the policy adopted by the company for valuing its closing stock of inventories of finished goods is not correct.

Q. 9. P Ltd. acquired 25% of shares in B Ltd. as on 31.3.2010 for ₹ 3 lacs. The Balance Sheet of Q Ltd. as on 31.3.2010 is given below :

	₹
Share Capital	**5,00,000**
Reserves and Surplus	**5,00,000**
	10,00,000
Fixed Assets	**5,00,000**
Investments	**2,00,000**
Current Assets	**3,00,000**
	10,00,000

During the year ended 31.3.2011 the folowing are the additional information available :

(i) P Ltd. received dividend from Q Ltd., for the year ended 31.3.2010 at 40% from the Reserves.

(ii) Q Ltd., made a profit after tax of ₹ 7 lacs for the year ended 31.3.2011.

(iii) Q Ltd., declared a dividend @ 50% for the year ended 31.3.2011 on 30.4.2011.

P Ltd. is preparing Consolidated Financial Statements in accordance with AS – 21 for its various subsidiaries. Calculate :

(i) Goodwill if any on acquisition of Q Ltd.'s shares.

(ii) How P Ltd., will reflect the value of investment in Q Ltd., in the Consolidated Finan cial Statements?

(iii) How the dividend received from Q Ltd. will be shown in the Consolidated Financial Statements?

Answer 9.

In terms of AS 23, Q Ltd. will be considered as an associate company of P Ltd. as shares acquired represent to more than 20%.

(i) Calculation of Goodwill

	₹ in lacs
Cost of investment	3.00
Less : Share in the value of Equity of Q.Ltd. as at the date of investment [25% of ₹ 10 lacs (₹ 5 lacs + ₹ 5 lacs)]	2.50
Goodwill	0.50

(ii)

P Ltd.

Consolidated Profit and Loss Account for the year ended 31st March, 2011

₹ in lacs

	By Share of profits in Q Ltd.		1.75
	By Dividend received from Q Ltd.	0.50	
	Transfer to investment A/c	0.50	Nil

(iii)

P Ltd.

Consolidated Balance Sheet as on 31.3.2011

₹ in lacs

	Investment in Q Ltd.		
	Share in Q Ltd.'s Equity	2.50	
	Less : Dividend received	0.50	
		2.00	
	Share of Profit for year 2010-2011	1.75	
		3.75	
	Add : Goodwill	0.50	4.25

Working Notes :

(i) Dividend received from Q Ltd. amounting to ₹ 0.50 lacs will be reduced from investment value in the books of P Ltd. However goodwill will not change.

(ii) Q Ltd. made a profit of ₹ 7 lacs for the year ended 31st March, 2011. P Ltd.'s share in the profits of ₹ 7 lacs is ₹ 1.75 lacs. Investment in Q Ltd. will be increased by ₹ 1.75 lacs and consolidated profit and loss account of P Ltd. will be credited with ₹ 1.75 lacs in the consolidated financial statement of P Ltd.

(iii) Dividend declared on 30th April, 2011 will not be recognised in the consolidated financial statements of P Ltd.

Q. 10. Write short Note on :

(a) Equity Curve- Outs(ECOs)

(b) Tracking Stocks

(c) Repurchase Agreement(REPO)

(d) Option linked Bonds.

Answer 10. (a)

Equity Carve- Outs(ECOs) :

In an equity carve –out(ECO), affirm separates out assets or a division, and creates shares with claim on these assets. It then sells these shares to the public. In a sense an ECO is the equivalent of an initial public offering of shares in the unit being carved out of the parent company. In general, the parent company retains control of the carved- out units though some equity carved –outs are followed by spin offs. A firm is much more likely to use an equity carved –out for a division that has high growth opportunities and significant investment needs. So, the initial market reaction to ECO is seen to be positive.

Answer 10. (b)

Tracking stocks :

A number of companies have created shares in divisions or subsidiaries that track the performance of just these units. These shares are called tracking stocks. The firm may receive cash from issuing tracking stock but the transaction can also be cash free. The parent company usually retains complete control over the units. Over time, the stock holders in the parent company and in the carved unit may face a conflict of interest between them.

Answer 10. (c)

Repurchase Agreement (REPO) :

A REPO is the sale of a security with an agreement that the security will be bought back at a specified price at the end of the agreement period. The seller of the security in the agreement raises funds, whereas the buyer earns interest from the arrangement. From the buyer's perspective this is called a reverse repurchase agreement.

Investors in repurchase agreement are usually money market funds and corporations with excess cash to invest for a short period. Usually, investors earn higher interest rate than they would earn from treasury securities.

Answer 10. (d)

Option-linked Bonds :

Firms have gradually recognized the value of combining options with straight bonds to create option – linked bonds that more closely match a firm's specific needs. The benefit for the issuer is that it tailors the cash flows of the firm and reduces the likelihood of default. Finally, option-linked bonds are bonds with coupon and principal payments linked to the price of a commodity or the occurrence of specific events. Hence it allows firms to customize bonds to meet their specific needs.

Q. 11. (a) R Ltd. presents the following information for the year ending 31.03.2011 and 31.03.2012 from which you are required to calculate the Deferred Tax Asset/Liability assuming tax rate of 30% and state how the same should be dealt with as per relevant accounting standard.

	31.03.2011 ₹ (lacs)	31.03.2012 ₹ (lacs)
Depreciation as per books	4,010.10	4,023.54
Unabsorbed carry forward business loss and depreciation allowance	2,016.60	4,110.00
Disallowance under Section 43B of Income tax Act, 1961	518.35	611.45
Deferred Revenue Expenses	4.88	-
Provision for Doubtful Debts	282.51	294.35

R Ltd. had incurred a loss of ₹ 504 lacs for the year ending 31.03.2012 before providing for Current Tax of ₹ 26.00 lacs.

(b) X Ltd. began construction of a new building on 1st January, 2011. It obtained Rs.1 lakh special loan to finance the construction of the building on 1st January, 2011 at an interest rate of 10%. The company's other outstanding two non-specific loans were:

Amount	Rate of Interest
₹ 5,00,000	11%
₹ 9,00,000	13%

The expenditure that were made on the building project were as follows:

		₹
January	2011	2,00,000
April	2011	2,50,000
July	2011	4,50,000
December	2011	1,20,000

Building was completed by 31st December, 2011. Following the principles prescribed in AS-16 'Borrowing Cost,' calculate the amount of interest to be capitalized and pass one Journal Entry for capitalizing the cost and borrowing cost in respect of the building.

Answer 11. (a)

Particulars	**₹ in lacs 31.3.2011**	**₹ in lacs 31.3.2012**
Carried Forward Business Loss and Depreciation Allowance	2,016.60	4,110.00
Add: Disallowance under Section 43 B of Income Tax Act,1961	518.35	611.45
Provision for Doubtful Debts	282.51	294.35
	2,817.46	5,015.80
Less: Depreciation	4,010.10	4,023.54
	(-) 1,192.64	992.26
Less: Deferred Revenue Expenditure*	4.88	-
Timing Differences	(-) 1,197.52	992.26
Deferred Tax Liability	359.26	
Deferred Tax Asset		297.68

Where an enterprise has unabsorbed depreciation or carry forward of losses under tax laws, deferred tax assets should be recognized only to the extent that there is virtual certainty supported by convincing evidence that future taxable income will be available against which such deferred tax assets can be realized. The existence of unabsorbed depreciation or carry forward of losses is strong evidence that future taxable income may not be available. Deferred Tax Asset of Rs. 297.68 lacs should not be recognized as an asset as per para 17 of AS 22 on 'Accounting for Taxes on Income'. Deferred Tax Liability of Rs. 359.26 lacs should be disclosed under a separate heading in the balance sheet of R Ltd., separately from current assets and current liabilities.

Answer 11. (b)

(i) Computation of average accumulated expenses

		₹
₹ 2,00,000 x 12 / 12	=	2,00,000
₹ 2,50,000 x 9 / 12	=	1,87,500
₹ 4,50,000 x 6 / 12	=	2,25,000
₹ 1,20,000 x 1 / 12	=	10,000
		6,22,500

(ii) Calculation of average interest rate other than for specific borrowings

Amount of loan (in ₹)	**Rate of interest**	**Amount of interest (in ₹)**
5,00,000	11% =	55,000
9,00,000	13% =	1,17,000
14,00,000		1,72,000
Weighted average rate of interest	=	12.285% (approx)

$$\frac{1,72,000}{14,00,000} \times 100$$

* It is assumed that the deferred revenue expenditure is actually incurred during the year ended 31st March, 2011 and it is fully allowed under the Income Tax Act.

(iii) Interest on average accumulated expenses

		₹
Specific borrowings (₹ 1,00,000 X 10%)	=	10,000
Non-specific borrowings (₹ 5,22,500* × 12.285%)	=	64,189
Amount of interest to be capitalized	=	74,189

(iv) Total expenses to be capitalized for building

	₹
Cost of building ₹ (2,00,000 + 2,50,000 + 4,50,000 + 1,20,000)	10,20,000
Add: Amount of interest to be capitalised	74,189
	10,94,189

(v) Journal Entry

Date	Particulars		Dr. (₹)	Cr. (₹)
31.12.2011	Building account	Dr.	10,94,189	
	To Bank account			10,94,189
	(Being amount of cost of building and borrowing cost thereon capitalized)			

Q. 12. (a) A Company is in the process of setting up a production line for manufacturing a new product. Based on trial runs conducted by the company, it was noticed that the production lines output was not of the desied quality. However, company has taken a decision to manufacture and sell the sub-standard product over the next one year due to the huge investment involved.

In the background of the relevant accounting standard, advise the company on the cut-off date for capitalization of the project cost.

(b) Prepare a schedule as on 31.3.2012 in respect of the above three categories of assets and support the schedule with relevant accounting standards.

(i) QR Ltd. imported fixed assets worth ₹ 1,000 lacs on 1.4.2011, when the exchange rate was ₹ 40 per US $. The assets were fully financed by foreign currency loan repayable in five equal annual installments. As on 31.3.2012, the first installment was paid at the Exchange Rate of ₹ 42.

(ii) The company's fixed assets stood at ₹ 3,000 lacs as on 1.4.2011. It provides depreciation at 10% per annum under the WDV method. However it noticed that about ₹ 500 lacs worth of non-imported assets acquired on 1.4.2011 will be obsolete in 2 years time. It wants to write off these assets over 2 years.

(iii) A few days after the beginning of the year, the company acquired assets for ₹ 500 lacs on which it received a government grant of 10%.

Answer 12. (a)

As per provisions of AS 10 'Accounting for Fixed Assets', expenditure incurred on start-up and commissioning of the project, including the expenditure incurred on test runs and experimental production, is usually capitalized as an indirect element of the construction cost. However, the expenditure incurred after the

* (₹ 6,22,500 – ₹ 1,00,000)

plant has begun commercial production i.e., production intended for sale or captive consumption, is not capitalized and is treated as revenue expenditure even though the contract may stipulate that the plant will not be finally taken over until after the satisfactory completion of the guarantee period. In the present case, the company did not stop production even if the output was not of the desired quality, and continued the sub-standard production due to huge investment involved in the project. Capitalization should cease at the end of the trial run, since the cut-off date would be the date when the trial run was completed.

Answer 12. (b)

In the books of QR Ltd.

Schedule of Fixed Assets as on 31st March, 2012

(Amount in ₹ lacs)

Fixed Assets	Gross Block (at cost)				Depreciation			Net Block		
	As at 1.4.11	Addi-tions	Deduc-tions	As at 31.3.12	Up to 31.3.11	For the year	On Deduction	Total upto 31.3.12	As at 31.3.12	As at 31.3.12
Imported Assets	–	1,000	–	1,000	–	100	–	100	900	–
Non-Imported Assets (acquired on 1.4.2011)	–	500	–	500	–	250	–	250	250	–
Other Assets	3,000	450	–	3,450	–	345	–	345	3,105	3,000
Total	3,000	1,950	–	4,950	–	695	–	695	4,255	3,000

(1) As per para 13 of AS 11 (Revised 2003) 'The Effects of Changes in Foreign Exchange Rates', exchange differences arising on repayment of liabilities incurred for the purpose of acquiring fixed assets are recognized as income/expense in the period in which they arise.

Calculation of Exchange Difference:

Foreign currency loan $= \frac{₹ 1,000 \text{ lacs}}{₹ 40}$

= 25 lacs US $

Exchange difference = 25 lacs US $ × (42 – 40)

= ₹ 50 lacs (including exchange loss on payment of first instalment)

Thus, exchange loss of ₹ 50 lacs should be recognized as expense in the profit and loss account for the year ended 31st March, 2012.

(2) It was noticed that about ₹ 500 lacs worth of non-imported assets acquired on 1.4.2011 will be obsolete in two years time. Hence, these assets have been written off at the rate of 50%.

(3) Para 14 of AS 12 on Accounting for Government Grants regards two methods of presentation of grants related to specific fixed assets in financial statements. Under the first method which has been applied in the given case, the grant is shown as a deduction from the gross value of the fixed assets in arriving at its book value. Thus, only 90% of the cost of fixed assets has been shown as addition after adjusting the grant amount.

Alternatively, the grant can be treated as a deferred income which should be recognised in the profit and loss statement over the useful life of fixed assets in the proportions in which depreciation on the assets will be charged.

Note : As regards fixed assets standing at ₹ 3,000 lacs as on 1.4.2011, in the absence of information in respect of cost and depreciation amount provided upto 31.3.2011, the entire given amount has been shown under gross block as at 1.4.2011.

Q. 13. (a) L Ltd. took a machine on lease from M Ltd., the fair value being ₹ 7,00,000. The economic life of the machine as well as the lease term is 3 years. At the end of each year L Ltd. pays ₹ 3,00,000. Guaranteed Residual Value (GRV) is ₹ 22,000 on expiry of the lease. Implicit Rate of Return (IRR) is 15% p.a. and present value factors at 15% are 0.869, 0.756 and 0.657 at the end of first, second and third years respectively. Calculate the value of machine to be considered by L Ltd. and the interest (Finance charges) in each year.

(b) An equipment is leased for 3 years and its useful life is 5 years. Both the cost and the fair value of the equipment are ₹ 3,00,000. The amount will be paid in 3 instalments and at the termination of lease lessor will get back the equipment. The unguaranteed residual value at the end of 3 years is ₹ 40,000. The (internal rate of return) IRR of the investment is 10%. The present value of annuity factor of ₹ 1 due at the end of 3rd year at 10% IRR is 2.4868. The present value of ₹ 1 due at the end of 3rd year at 10% rate of interest is 0.7513.

(i) State with reason whether the lease constitutes finance lease.

(ii) Calculate unearned finance income

Answer 13. (a)

Value of machine will be lower of the fair value or present value (PV) of Minimum Lease Payments (MLP).

Present value (PV) of Minimum Lease Payments (MLP)

Year	MLP	PV at 15% ₹	PV Amount ₹
1	3,00,000	0.869	2,60,700
2	3,00,000	0.756	2,26,800
3	3,22,000 (considering residual value)	0.657	2,11,554
			6,99,054

Since PV of MLP ₹ 6,99,054 being lower than the fair value ₹ 7,00,000, therefore, value of machine will be taken as ₹ 6,99,054.

Calculation of interest (finance charges)

Year		Liability ₹	Interest at 15% ₹	Principal ₹	Lease rental ₹
		6,99,054	1,04,858	1,95,142	3,00,000
1st	Less: Principal	1,95,142		(Rental – Interest)	
		5,03,912	75,587	2,24,413	3,00,000
2nd	Less: Principal	2,24,413		(Rental – Interest)	
		2,79,499	41,925	2,58,075	3,00,000
3rd	Less: Principal	2,58,075		(Rental – Interest)	
	Residual value	21,424*			

Answer 13. (b)

(i) Present value of residual value = ₹ 40,000 × 0.7513 = ₹ 30,052

Present value of lease payments = ₹ 3,00,000 – ₹ 30,052 = ₹ 2,69,948.

* The difference between this figure and guaranteed residual value (₹ 22,000) is due to approximation in computing the interest rate implicit in the lease.

The present value of lease payments being 89.98% $\left(\frac{2,69,948}{3,00,000}\times 100\right)$ of the fair value, i.e. being a substantial portion thereof, the lease constitutes a finance lease.

(ii) Calculation of unearned finance income

	₹
Gross investment in the lease [(₹ 1,08,552* × 3) + ₹ 40,000]	3,65,656
Less: Cost of the equipment	3,00,000
Unearned finance income	65,656

Q. 14. (a) The Balance Sheets of Q Ltd. for the years ended on 31.3.2010, 31.3.2011 and 31.3.2012 are as follows :

Liabilities	**31.3.2010 ₹**	**31.3.2011 ₹**	**31.3.2012 ₹**
3,20,000 Equity Shares of₹ 10 each fully paid	**32,00,000**	**32,00,000**	**32,00,000**
General Reserve	**24,00,000**	**28,00,000**	**32,00,000**
Profit and Loss Account	**2,80,000**	**3,20,000**	**4,80,000**
Creditors	**12,00,000**	**16,00,000**	**20,00,000**
	70,80,000	**79,20,000**	**88,80,000**
Assets	**31.3.2010 ₹**	**31.3.2011 ₹**	**31.3.2012 ₹**
Goodwill	**20,00,000**	**16,00,000**	**12,00,000**
Building and Machinery(Less: Depreciation)	**28,00,000**	**32,00,000**	**32,00,000**
Stock	**20,00,000**	**24,00,000**	**28,00,000**
Debtors	**40,000**	**3,20,000**	**8,80,000**
Bank Balance	**2,40,000**	**4,00,000**	**8,00,000**
	70,80,000	**79,20,000**	**88,80,000**

Actual valuation were as under :

Particulars	**31.3.2010 ₹**	**31.3.2011 ₹**	**31.3.2012 ₹**
Building and Machinery	**36,00,000**	**40,00,000**	**44,00,000**
Stock	**24,00,000**	**28,00,000**	**32,00,000**
Net Profit (including opening balance) after writing off depreciation and goodwill, tax provision and transfer to General Reserve	**8,40,000**	**12,40,000**	**16,40,000**

Capital employed in the business at market values at the beginning of 2009–2010 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 Q Ltd. is 12½%.

* Annual lease payments = $\frac{₹2,69,948}{2.4868}$ = ₹ 1,08,552 (approx.)

The balance in the General Reserve account on 1st April, 2009 was ₹ 20 lakhs.

The goodwill shown on 31.3.2000 was purchased on 1.4.2009 for ₹ 20,00,000 on which date the balance in the Profit and Loss Account was ₹ 2,40,000. Find out the average capital employed each year.

Goodwill is to be valued at 5 years purchase of super profits (Simple average method). Also find out the total value of the business as on 31.3.2012.

(b) Following are the information of two companies for the year ended 31st March, 2012 :

Particulars	*R Ltd*	*S Ltd*
Equity Shares of ₹ 10 each	8,00,000	10,00,000
10% Preference Shares of ₹ 10 each	6,00,000	4,00,000
Profit after tax	3,00,000	3,00,000

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

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

(A) If you are buying a small lot.

(B) If you are buying controlling interest shares.

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

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

Answer 14. (a)

Note:

1. Since goodwill has been paid for, it is taken as part of capital employed. Capital employed at the end of each year is shown below.
2. Assumed that the building and machinery figure as revalued is after considering depreciation.

	31.3.2010 ₹	**31.3.2011** ₹	**31.3.2012** ₹
Goodwill	20,00,000	16,00,000	12,00,000
Building and Machinery (revalued)	36,00,000	40,00,000	44,00,000
Stock (revalued)	24,00,000	28,00,000	32,00,000
Debtors	40,000	3,20,000	8,80,000
Bank Balance	2,40,000	4,00,000	8,00,000
Total Assets	82,80,000	91,20,000	1,04,80,000
Less: Creditors	12,00,000	16,00,000	20,00,000
Closing Capital	70,80,000	75,20,000	84,80,000
Opening Capital	73,20,000	70,80,000	75,20,000
	1,44,00,000	1,46,00,000	1,60,00,000
Average Capital	72,00,000	73,00,000	80,00,000

Maintainable profit has to be found out after making adjustments as given below :

	31.3.2010 ₹	31.3.2011 ₹	31.3.2012 ₹
Net Profit as given	8,40,000	12,40,000	16,40,000
Less: Opening Balance	2,40,000	2,80,000	3,20,000
	6,00,000	9,60,000	13,20,000
Add: Under valuation of closing stock	4,00,000	4,00,000	4,00,000
	10,00,000	13,60,000	17,20,000
Less: Adjustment for valuation in opening stock		4,00,000	4,00,000
	10,00,000	9,60,000	13,20,000
Add: Goodwill written-off		4,00,000	4,00,000
	10,00,000	13,60,000	17,20,000
Add: Transfer to Reserves	4,00,000	4,00,000	4,00,000
	14,00,000	17,60,000	21,20,000
Less: 12½% Normal Return	9,00,000	9,12,500	10,00,000
Super Profit	5,00,000	8,47,500	11,20,000

Average super profits = (₹ 5,00,000 + ₹ 8,47,500 + ₹ 11,20,000)/3
= 24,67,500 / 3 = ₹ 8,22,500

Goodwill = 5 years purchase = ₹ 8,22,500 × 5 = ₹ 41,12,500.

	₹
Total Net Assets (31/3/2012)	84,80,000
Less: Goodwill	12,00,000
	72,80,000
Add: Goodwill	41,12,500
Value of Business	1,13,92,500

Answer 14. (b)

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

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

R Ltd. : ₹ $\frac{2.4}{18} \times 100 =$ ₹ 13.33

S Ltd. : ₹ $\frac{208}{18} \times 100 =$ ₹ 11.56

(B) Buying controlling interest equity shares

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

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

R Ltd : ₹ $\frac{3}{18} \times 100$ = ₹ 16.67

S Ltd : ₹ $\frac{2.6}{18} \times 100$ = ₹ 14.44

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

Preference dividend coverage ratio is given by :

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

R Ltd : $\frac{₹3,00,000}{₹60,000}$ = 5 times

S Ltd : $\frac{₹3,00,000}{₹40,000}$ = 7.5 times

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

(iii) Yes, the rates will be different for buying a small lot of equity shares, if the R Ltd. retains 30% and S Ltd. 10% of profits.

The new rates will be calculated as follows :

R Ltd : ₹ $\frac{2.1}{18} \times 100$ = ₹ 11.67

S Ltd : ₹ $\frac{2.34}{18} \times 100$ = ₹ 13.00

Working Notes :

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

	R Ltd	**S Ltd**
Profit before tax	3,00,000	3,00,000
Less : Preference dividend	60,000	40,000
Earnings available to equity shareholders (A)	2,40,000	2,60,000
Number of Equity Shares (B)	80,000	1,00,000
Earning per share (A/B)	3.0	2.60
Retained earnings 20%	48,000	52,000
Dividend declared 80% (C)	1,92,000	2,08,000
Dividend per share (C/B)	2.40	2.08

2. Computation of dividend per share (R Ltd retains 30% and S Ltd. 10% of profits)

Earnings available for Equity Shareholders	2,40,000	2,60,000
Number of Equity Shares	80,000	1,00,000
Retained Earnings	72,000	26,000
Dividend Distribution	1,68,000	2,34,000
Dividend per share	2.10	2.34

Q. 15. (a) DKL Ltd. has a capital base of ₹ 1 crore and has earned profits to the tune of ₹ 11 lacs. The Return on Investment (ROI) of the particular industry to which the company belongs is 12.5%. If the services of a particular executive are acquired by the company, it is expected that the profits will increase by ₹ 2.5 lacs over and above the target profit. Determine the amount of maximum bid price for that particular executive and the maximum salary that could be offered to him.

(b) Briefly describe the method of valuation of human resources as suggested by Jaggi and Lau. Also point out the special merit and demerit of this method.

Answer 15. (a)

Capital Base = ₹ 1,00,00,000
Actual Profit = ₹ 11,00,000
Target Profit @ 12.5% = ₹ 12,50,000

Expected Profit on employing the particular executive

= ₹ 12,50,000 + 2,50,000 = ₹ 15,00,000

Additional Profit = Expected Profit – Actual Profit

= 15,00,000 – 11,00,000 = ₹ 4,00,000

$$\text{Maximum bid price} = \frac{\text{Additional Profit}}{\text{Rate of Return on Investment}}$$

$$= \frac{4,00,000}{12.5} \times 100 = ₹\ 32,00,000$$

Maximum salary that can be offered = 12.5% of ₹ 32,00,000 i.e., 4,00,000

Maximum salary can be offered to that particular executive upto the amount of additional profit i.e., ₹ 4,00,000.

Answer 15. (b)

Jaggi and Lau suggested a model for valuation of human resources. According to them, proper valuation of human resources is not possible unless the contributions of individuals as a group are taken into consideration. A group refers to homogeneous employees whether working in the same department or division of the organization or not. An individual's expected service tenure in an organization is difficult to predict, but on a group basis, it is relatively easy to estimate the percentage of people in a group likely to leave the organization in future. This model attempts to calculate the present value of all existing employees in each rank. Such present value is measured with the help of the following steps :

(i) Ascertain the number of employees in each rank.

(ii) Estimate the probability that an employee will be in his rank within the organization on terminated/ promoted in the next period. This probability will be estimated for a specified time-period.

(iii) Ascertain the economic value of an employee in a specified rank during each time period.

(iv) The present value of existing employees in each rank is obtained by multiplying the above three factors and applying an appropriate discount rate.

Jaggi and Lau tried to simplify the process of measuring the value of human resources by considering a group of employees as basis of valuation. But in the process they ignored the exceptional qualities of certain skilled employees. The performance of a group may be seriously affected in the event of exit of a single individual.

Merit

Jaggi and Lau model approached the valuation of human resources on the basis of grouping of employees. Under this method, calculations get simplified and the chances of errors get reduced.

Demerit

This model ignores individual skills of the employees. The varied skills of the employees is not recognized in the valuation process under Jaggi and Lau model.

Q. 16. (a) The following information is available of Z Ltd; calculate E.V.A. :

Debt capital 12%	**₹ 2,000 crores**
Equity capital	**₹ 500 crores**
Reserve and surplus	**₹ 7,500 crores**
Capital employed	**₹ 10,000 crores**
Risk-free rate	**9%**
Beta factor	**1.05**
Market rate of return	**19%**
Equity (market) risk premium	**10%**
Operating profit after tax	**₹ 2,100 crores**
Tax rate	**30%**

(b) ABC Ltd., has undertaken a project for expansion of capacity as per the following details :

	Plan ₹	Actual ₹
April, 2011	**2,00,000**	**2,00,000**
May, 2011	**2,00,000**	**3,00,000**
June, 2011	**10,00,000**	**–**
July, 2011	**1,00,000**	**–**
August, 2011	**2,00,000**	**1,00,000**
September, 2011	**5,00,000**	**7,00,000**

The company pays to its bankers at the rate of 12% p.a., interest being debited on a monthly basis. During the half year company had ₹ 10 lacs overdraft upto 31st July, surplus cash in August and again overdraft of over ₹ 10 lacs from 1.9.2011. The company had a strike during June and hence could not continue the work during June. Work was again commenced on 1st July and all the works were completed on 30th September. Assume that expenditure were incurred on 1st day of each month.

Calculate **:**

(i) Interest to be capitalised.

(ii) Give reasons wherever necessary.

Assume **:**

(i) Overdraft will be less, if there is no capital expenditure.

(II) The Board of Directors based on facts and circumstances of the case has decided that any capital expenditure taking more than 3 months as substantial period of time.

Answer 16. (a)

E.V.A. = NOPAT – COCE

NOPAT = Net Operating Profit after Tax

COCE = Cost of Capital Employed

COCE = Weighted Average Cost Of Capital × Average Capital Employed

= WACC × Capital Employed

Debt Capital	= ₹ 2,000 crores
Equity capital 500 + 7,500	= ₹ 8,000 crores
Capital employed	= 2,000 + 8,000 = ₹ 10,000 crores
Debt to capital employed	= $\frac{2,000}{10,000}$ = 0.20
Equity to Capital employed	= $\frac{8,000}{10,000}$ = 0.80
Debt cost before Tax	12%
Less : Tax (30% of 12%)	3.6%
Debt cost after Tax	8.4%

According to Capital Asset Pricing Model (CAPM)

Cost of Equity Capital = Risk Free Rate + Beta × Equity Risk Premium

Or

= Risk Free Rate + Beta (Market Rate – Risk Free Rate)

= 9 + 1.05 × (19-9)

= 9 + 1.05 × 10 = 19.5%

WACC = Equity to CE × Cost of Equity capital + Debt to CE x Cost of debt

= 0.8 × 19.5% + 0.20 × 8.40%

= 15.60% + 1.68% = 17.28%

COCE = WACC × Capital employed

= 17.28% × 10,000 crores = 1728 crores

E.V.A. = NOPAT – COCE

= ₹ 2,100 – ₹ 1,728 = ₹ 372 crores

Answer 16. (b)

ABC Ltd.

Month	ActualExpenditure ₹	Interest Capitalised ₹	Cumulative Amount ₹	
April, 2011	2,00,000	2,000	2,02,000	
May, 2011	3,00,000	5,020	5,07,020	
June, 2011	–	5,070	5,12,090	Note 2
July, 2011	–	5,120	5,17,210	
August, 2011	1,00,000	–	6,17,210	Note 3
September, 2011	7,00,000	10,000	13,27,210	Note 4
	13,00,000	27,210	13,27,210	

Note :

1. There would not have been overdraft, if there is no capital expenditure. Hence, it is a case of specific borrowing as per AS 16 on Borrowing Costs.
2. The company had a strike in June and hence could not continue the work during June. As per para 14 (c) of AS 16, the activities that are necessary to prepare the asset for its intended use or sale are in progress. The strike is not during extended period. Thus during strike period, interest need to be capitalised.
3. During August, the company did not incur any interest as there was surplus cash in August. Therefore, no amount should be capitalised during August as per para 14(b) of AS 16.
4. During September, it has been taken that actual overdraft is ₹ 10 lacs only. Hence, only ₹ 10,000 interest has been capitalised even though actual expenditure exceeds ₹ 10 lacs.

   Alternatively, interest may be charged on total amount of (₹ 6,17,210 + ₹ 7,00,000 = 13,17,210) for the month of September, 2011 as it is given in the question that overdraft was over ₹ 10 lacs from 1.9.2011 and not exactly ₹ 10 lacs. In that case, interest amount ₹ 13,172 will be capitalised for the month of September.

Q. 17. (a) AF Ltd. is a non-banking finance c ompany. It mak es available the c osts and mark et price of various investments held by it as on 31.3.2012:

(Figures in ₹ Lacs)

	Cost	Market Price
Scripts:		
A. Equity Shares-		
A	**60.00**	**61.20**
B	**31.50**	**24.00**
C	**60.00**	**36.00**
D	**60.00**	**120.00**
E	**90.00**	**105.00**
F	**75.00**	**90.00**
G	**30.00**	**6.00**

B.	**Mutual funds-**		
	MF-1	**39.00**	**24.00**
	MF-2	**30.00**	**21.00**
	MF-3	**6.00**	**9.00**
C.	**Government securities-**		
	GV-1	**60.00**	**66.00**
	GV-2	**75.00**	**72.00**

(i) Can the company adjust depreciation of a particular item of investment within a category?

(ii) What should be the value of investments as on31.3.2012?

(iii) Is it possible to off-set depreciation in investment in mutual funds against appreciation of the value of investment in equity shares and government securities?

(b) An unquoted long term investment is carried in the books at a cost of ₹ 2 lacs. The published accounts of the unlisted company received in May, 2012 showed that the company was incurring cash losses with declining market share and the long term investment may not fetch more than ₹ 20,000. State with reasons, how you would deal with it in the financial statements as on 31st March 2012.

Answer 17. (a)

(i) Quoted current investments for each category shall be valued at cost or market value, whichever is lower. For this purpose, the investments in each category shall be considered scrip-wise and the cost and market value aggregated for all investments in each category. If the aggregate market value for the category is less than the aggregate cost for that category, the net depreciation shall be provided for or charged to the profit and loss account. If the aggregate market value for the category exceeds the aggregate cost for the category, the net appreciation shall be ignored. Therefore, depreciation of a particular item of investments can be adjusted within the same category of investments.

(ii) Value of Investments as on 31.3.2012

Type of Investment	Valuation Principle	Valuation (₹ in lacs)
Equity Shares (Aggregated)	Lower of cost or market Value	406.50
Mutual Funds	NAV (Market value, assumed)	54.00
Government securities	Cost	135.00
		595.50

As per para 14 of AS 13 "Accounting for Investments", the carrying amount for current investments is the lower of cost and market price. Sometimes, the concern of an enterprise may be with the value of a category of related current investments and not with each individual investment, and accordingly, the investments may be computed at the lower of cost and market value computed category wise.

(iii) Inter category adjustments of appreciation and depreciation in values of investments cannot be done. It is not possible to offset depreciation in investment in mutual funds against appreciation of the value of investments in equity shares and Government securities.

Answer 17. (b)

Investments classified as long term investments should be carried in the financial statements at cost. However, provision for diminution shall be made to recognise a decline, other than temporary, in the value of the investments, such reduction being determined and made for each investment individually. Para 17 of AS 13 'Accounting for Investments' states that indicators of the value of an investment are obtained by reference to its market value, the investee's assets and results and the expected cash flows from the investment. On these bases, the facts of the given case clearly suggest that the provision for diminution should be made to reduce the carrying amount of long term investment to ₹ 20,000 in the financial statements for the year ended 31st March, 2012.

Q. 18. TVT Ltd. has two divisions – 'Q' and 'R'. The Balance Sheet as at 31st December, 2011 was as under :

	Q Ltd (₹ crores)	R Ltd (₹ crores)	Total (₹ crores)
Fixed Assets :			
Cost	600	600	1,200
Depreciation	500	200	700
W.D.V. (written down value)	100	400	500
Net Current Assets :			
Current assets	400	300	700
Less : Current liabilities	200	200	400
	200	100	300
Total	300	500	800
Financed by :			
Loan funds:			
(Secured by a charge on fixed assets)	—	100	100
Own Funds :			
Equity capital (fully paid up ₹ 10 shares)			50
Reserves and surplus	—	—	650
	?	?	700
Total	300	500	800

It is decided to form a new company 'INT Ltd.' for international business to take over the assets and liabilities of R division.

Accordingly 'INT Ltd.' was formed to takeover at Balance Sheet figures the assets and liabilities of R division. 'INT Ltd.' is to allot 5 crore equity shares of ₹ 10 each in the company to the members of 'TVT Ltd.' in full settlement of the consideration. The members of 'TVT Ltd.' are therefore to become members of 'INT Ltd.' as well without having to make any further investment.

(a) You are asked to pass journal entries in relation to the above in the books of 'TVT Ltd.' and also in 'INT Ltd.'. Also show the Balance Sheets of both the companies as on 1st January, 2012 showing corresponding figures, before the reconstruction also.

(b) The directors of both the companies ask you to find out the net asset value of equity shares pre and post-demerger.

(c) Comment on the impact of demerger on "shareholders wealth".

Answer 18.

Journal of TVT Ltd.

(₹ *in crores*)

Particulars		***Dr.*** ₹	***Cr.*** ₹
Current liabilities account	Dr.	200	
Loan fund (secured) account	Dr.	100	
Provision for depreciation account	Dr.	200	
Loss on reconstruction account (Balancing figure)	Dr.	400	
To Fixed assets account			600
To Current assets account			300
(Being the assets and liabilities of International division taken out of the books on transfer of the division to TNT Ltd.; the consideration being allotment to the members of the company of one equity share of ₹ 10 each of that company at par for every share held in the company vide scheme of reorganisation)*			

Journal of INT Ltd.

(₹ *in crores*)

Particulars		***Dr.*** ₹	***Cr.*** ₹
Fixed assets account (600 – 200)	Dr.	400	
Current assets account	Dr.	300	
To Current liabilities account			200
To Loan funds (secured) account			100
To Equity share capital account			50
To Capital reserve account			350
(Being the assets and liabilities of International division of TVT Ltd. taken over by INT Ltd. and allotment of 5 crore equity shares of ₹ 10 each at par as fully paid up to the members of TVT Ltd.)			

* Any other alternative set of entries may be given with the same net effect on various accounts.

TVT Ltd.

Balance Sheet as on 1st January, 2012

(₹ *in crores*)

		After reconstruction		Before reconstruction	
I.	**SOURCES OF FUNDS**				
(1)	Shareholders' Funds				
	(a) Capital	50		50	
	(b) Reserves and Surplus (Schedule A)	250		650	
			300		700
(2)	Loans Funds				
	Secured Loans		–		100
	Total		300		800
II.	**APPLICATION OF FUNDS**				
(1)	Fixed Assets				
	(a) Gross Block	600		1,200	
	(b) Less: Depreciation	500		700	
	(c) Net block		100		500
(2)	Investments	–		–	
(3)	Current Assets	400		700	
	Less: Current liabilities	200		400	
	Net current assets		200		300
	Total		300		800

Schedule to Balance Sheet

(₹ *in crores*)

	After reconstruction	*Before reconstruction*
A. Reserves and surplus	650	650
Less : Loss on reconstruction	400	–
	250	650

Note to Accounts : Consequent to reconstruction of the company and transfer of international division of TVT Ltd. to newly incorporated Company INT Ltd., the members of the company have been allotted 5 crore equity shares of ₹ 10 each at par of 'INT Ltd.'

INT Ltd.

Balance Sheet as on January 1, 2012

(₹ in crores)

I.	**SOURCES OF FUNDS**		
(1)	Shareholder's Funds		
	(a) Capital (Schedule A)	50	
	(b) Reserves and Surplus	350	400
(2)	Loans Funds		
	Secured Loans		100
	Total		500
II.	**APPLICATION OF FUNDS**		
(1)	Fixed Assets		400
(2)	Investments		–
(3)	Current Assets	300	
	Less: Current Liabilities	200	
	Net current assets		100
	Total		500

Schedule to Balance Sheet

(₹ in crores)

A. Share Capital :	
Issued and paid up capital:	
5 crore equity shares of ₹ 10 each fully paid up (All the above equity shares have been issued for consideration other than cash to the members of TVT Ltd. on takeover of International division.)	50

(b) Net Asset Value of an equity share

	Pre-Demerger	Post-Demerger
TVT Ltd.	$\frac{₹\ 700\ crores}{5\ crore\ shares}$ = ₹ 140	$\frac{₹\ 300\ crores}{5\ crore\ shares}$ = ₹ 60
INT Ltd.	–	$\frac{₹\ 400\ crores}{5\ crore\ shares}$ = ₹ 80

(c) Demerger into two companies has no impact on 'net asset value' of shareholding. Pre-demerger, it was ₹ 140 per share. After demerger, it is ₹ 60 + ₹ 80 = ₹ 140 per original share.

It is only the yield valuation that is expected to change because of separate focussing on two distinct businesses whereby profitability is likely to improve on account of de-merger.

Q. 19. PQ Ltd. and QR Ltd. decide to amalgamate and to form a new company PR Ltd. The following are their balance sheets as at 31.3.2012:

Liabilities	*PQ Ltd.*	*QR Ltd.*	*Assets*	*PQ Ltd.*	*QR Ltd.*
Share Capital			**Fixed Assets**	**7,50,000**	**2,00,000**
(₹ 100) each	**10,00,000**	**6,00,000**	**Investments :**		
General Reserve	**1,00,000**	**50,000**	**1,500 Shares in MB**	**3,50,000**	**–**
Investment Allowance Reserve	**40,000**	**30,000**	**4,000 Shares in AB**	**–**	**5,00,000**
12% Debentures (₹ 100 each)	**3,00,000**	**1,00,000**	**Current Assets**	**4,00,000**	**1,00,000**
Sundry Creditors	**60,000**	**20,000**			
	15,00,000	**8,00,000**		**15,00,000**	**8,00,000**

Calculate the amount of purchase consideration for PQ Ltd. and QR Ltd. and draw up the balance sheet of PR Ltd. after considering the following:

(a) Assume amalgamation is in the nature of purchase.

(b) Fixed assets of PQ Ltd. are to be reduced by ₹ 50,000 and that of QR Ltd. are to be taken at ₹ 3,00,000.

(c) 12% debentureholders of PQ Ltd. and QR Ltd. are discharged by PR Ltd. by issuing such number of its 15% debentures of ₹ 100 each so as to maintain the same amount of interest.

(d) Shares of PR Ltd. are of ₹ 100 each.

Also show, how the investment allowance reserve will be treated in the Financial Statement assuming the Reserve will be maintained for 3 years.

Answer 19.

Calculation of Purchase consideration

(i) Value of Net Assets of PQ Ltd. and QR Ltd. as on 31st March, 2012

	PQ Ltd. ₹		**QR Ltd.** ₹	
Assets taken over :				
Fixed Assets	7,00,000		3,00,000	
Current Assets	4,00,000	11,00,000	1,00,000	4,00,000
Less: Liabilities taken over:				
Debentures	2,40,000*		80,000**	
Sundry Creditors	60,000	3,00,000	20,000	1,00,000
		8,00,000		3,00,000

* $3,00,000 \times \frac{12}{100} \times \frac{100}{15} = ₹ 2,40,000$

** $1,00,000 \times \frac{12}{100} \times \frac{100}{15} = ₹ 80,000$

(ii) Value of Shares of PQ Ltd. and QR Ltd.

The value of shares of PQ Ltd. is ₹ 8,00,000 plus 1/4 of the value of the shares of QR Ltd.
Similarly, the value of shares of QR Ltd. is ₹ 3,00,000 plus 2/5 of the value of shares of PQ Ltd.
Let 'a 'denote the value of shares of PQ Ltd. and 'm' denote the value of shares of QR Ltd. then
a = 8,00,000 + 1/4 m ; and
m = 3,00,000 + 2/5 a.

Substituting the value of m,
a = 8,00,000 + 1/4 (3,00,000 + 2/5 a)
a = 8,00,000 + 75,000 + 1/10 a
9/10 a = 8,75,000
a = 9,72,222
m = 3,00,000 + 2/5 (9,72,222)
m = 6,88,889

(iii) Amount of Purchase Consideration

	PQ Ltd. ₹	**QR Ltd.** ₹
Total value of shares (as determined above)	9,72,222	6,88,889
Less: Internal investments:		
2/5 for shares held by MB Ltd.	3,88,889	
1/4 for shares held by AB Ltd.	—	1,72,222
Amount due to outsiders	5,83,333	5,16,667

Purchase Consideration will be satisfied by PR Ltd. as follows :

	PQ Ltd. ₹	**QR Ltd.** ₹
In shares (of ₹ 100 each)	5,83,300	5,16,600
In cash	33	67

(iv) Net Amount of Goodwill/Capital Reserve

	₹	₹
Total Purchase Consideration		
AB Ltd.	5,83,333	
MB Ltd.	5,16,667	11,00,000
Less: Net Assets taken over		
AB Ltd.	8,00,000	
MB Ltd.	3,00,000	11,00,000
		Nil

(Alternatively, the calculations may be made separately for both the companies)

Balance Sheet of PR Ltd.
as at 31st March, 2012

Liabilities	Amount ₹	Assets	Amount ₹
Share Capital 10,999 shares of	10,99,900	Goodwill	–
₹ 100 each		Fixed Assets	10,00,000
(All the above shares are allotted as fully paid-up for consideration other than cash)		Investments	–
Investment Allowance Reserve	70,000	Current Assets	4,99,900
15% Debentures	3,20,000	(5,00,000 – 33 – 67)	
Sundry Creditors	80,000	Miscellaneous Expenditure (to the extent not written off or adjusted):	
		Amalgamation Adjustment Account	70,000
	15,69,900		15,69,900

Treatment of Investment Allowance Reserve :

According to para 39 (read with para 18) of AS 14 on Accounting for Amalgamations, where the requirements of the relevant statute for recording the statutory reserves in the books of the transferee company are to complied with, the statutory reserves of the transferor company should be recorded in the financial statements of the transferee company. The corresponding debit should be given to a suitable account head (e.g., 'Amalgamation Adjustment Account) which should be disclosed as a part of 'miscellaneous expenditure' or other similar category in the balance sheet. When the identity of the statutory reserves is no longer required to be maintained, both the reserves and the aforesaid account should be reversed.

Q. 20. (a) Calculate the value vista in a business locality of a of a plot having an area of 8 kottah (5760 sq.ft). The value of single frontage land in the locality is ₹ 100000 per kottah (720 sq. ft). Increased rent that can be expected due to the existence of vista is ₹ 500/- per month. Outgoings (for amenities) are assumed to be 30% of rent. Interest required on capital is 8%.

(b) The servient tenement which consists of open land has been compulsorily acquired for ₹ 4000 per sq. ft. The dominant tenement has easement rights consisting of window openings on the ground and three upper floors extending 60 ft. in length. What is the apportioned value of these easements out of the award for the servient tenement? Assume that the width of the land must be left open between buildings is 12 ft.

Answer 20. (a)

Gross Rent	₹ 500 per month × 12	= ₹ 6000 p.a
Outgoings :		
30% of Gross Rent	₹ 6000 × 30%	= (–) ₹ 1800 p.a
Net rent		= ₹ 4200 p.a
Multiplying by the Years' Purchase (Y.P) @ 8% on perpetuity 1/i = 1/.08		= 12.5
Capitalised value of amenities of vista		= ₹ 52500/- (4,200 × 12.5)
Vista valuation reckoned per kottah (720 sq. ft)		= ₹ 52500/8 kottah = ₹ 6562.50
Value of land as increased by vista		= ₹ 1,00,000 + ₹ 6562.50
		= ₹ 106562.50

Answer 20. (b)

Area of strip of land to cover the window openings = 12 ft. × 60 ft. = 720 sq.ft.

Apportioned value = 720 sq.ft@ ¼ th of (₹ 400 × 720)

= 1/4 of ₹ 288000= ₹ 72000

Q. 21. (a) The following financial share date pertaining to TT Ltd, a company dealing in software are as follows :

₹ in crores

Year ended 31st March	**2012**	**2011**	**2010**
EBIT (₹)	**696.03**	**325.65**	**155.86**
Non- branded Income (₹)	**53.43**	**35.23**	**3.46**
Inflation compound factor @ 8 %	**1.0000**	**1.087**	**1.181**
Remuneration of Capital	**5% of Average capital employed**		
Average capital employed (₹)	**1112.00**		
Corporate Tax rate	**35%**		
Capitalization factor	**16%**		

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

(b) What is the methodology of brand valuation?

Answer 21. (a)

TT Ltd.

Computation Of Brand Value **₹ in Crores**

Year ended 31st March		**2012**	**2011**	**2010**
EBIT	(₹)	696.03	325.65	155.86
Less : Non-brand income	(₹)	53.43	35.23	3.46
Adjusted Profits	(₹)	642.60	290.42	152.40
Inflation Compound Factor @ 8 %		1.0000	1.087	1.181
Present Value of Profits for the brand	(₹)	642.60	315.69	179.98
Weight age Factor		3	2	1
Weight age Profits	(₹)	1927.80	631.38	179.98
Profits	(₹)	456.53		
Remuneration of Capital(5% of Average capital employed)		55.60		
Brand Related		400.93		
Corporate tax @35%		140.33		
Brand Earning		260.60		
Capitalisation		16%		

Brand Value : Return/Capitalisation Rate)

260.60/0.16 = ₹ 1628.75 crore.

Answer 21. (b)

Brand valuation methodology is comprised of four elements :

(i) **Financial analysis :** To identify business earnings and earnings from intangibles for each of the distinct segments being assessed.

(ii) **X Market Analysis :** To measure the role that a brand plays in driving demand for services in the markets in which it operates and hence to determine what proportion of earnings from intangibles are attributable to the brand. This is measured by an indicator referred to as Role of Branding Index.

(iii) **Brand Analysis :** To assess the competitive strengths and weaknesses of the brand and hence the security of future earnings expected from the brand. This is measured by an indicator referred to as Brand Strength Score.

(iv) **Legal Analysis :** To establish that the brand is a true piece of property.

There are various methods including models like Inter Brand Model that deal with a number of factors including penetration, effectiveness, recall, international presence etc.

In ultimate analysis, the value of a brand depends on what difference it makes to capturing minds of customers and enabling differentiation of the products and making an impact on markets in terms of visibility, mind bending and effect on sales and profit/ earnings. This in the ultimate analysis will be a true test of the strength of a brand vis-à-vis competing brands and products. The valuation technique thus involves assessing these and determining a numerical value based on a brand strength index multiplied by the above normal earnings multiplied by appropriate capitalization factor.

Q. 22. (a) State the impact of the following on the value of a European Call Option by selecting the appropriate from(Increase/Decrease/ No impact).

(i) Increase in the current share price of the underlying from ₹ 100 to ₹ 120

(ii) Strike Price has increased from ₹ 75 to ₹ 80.

(iii) The volatility of the underlying represented by σ has increased from 0.15 to 0.20.

(iv) Time to expiration has decreased from 3 months to 1 month.

(v) Risk Free Interest Rate has decreased from 9% to 8.5%.

(b) The settlement price of sensex futures contract on a particular day was ₹ 4600. The initial margin was set at ₹ 10,000, while the maintenance margin was fixed at ₹ 8000/- The multiple of each contract is 50.

The settlement prices on the following four days were as follows:

Day	Settlement Price ₹
1	4700
2	4500
3	4650
4	4750
5	4700

Calculate the mark to market cash flows and the daily closing balances in the accounts of :

(i) an investor who has gone long, and

(ii) an investor who has gone short at 4600.

Calculate net profit (loss) on each of the contracts.

Answer 22. (a)

(i) Value will increase.
(ii) Value will decrease.
(iii) Value will increase.
(iv) Value will decrease.
(v) Value will decrease.

Answer 22. (b)

(i) Status of the investor who has gone long on the contract:

Margin Account

Day	Settlement Price	Opening balance	Mark to Market	Margin call	Closing Balance
1	4700	10000	5000	-	15000
2	4500	15000	(-) 10000	5000	10000
3	4650	10000	7500	-	17500
4	4750	17500	5000	-	22500
5	4700	22500	(-) 2500	-	20000

Net Profit (loss) on the contract = + 5000-10000 + 7500 + 5000 – 2500 = ₹ 5000

ii) Status of the investor who has gone short on the contract:

Margin Account

Day	Settlement Price	Opening balance	Mark to Market	Margin call	Closing Balance
1	4700	10000	(-) 5000	5000	10000
2	4500	10000	10000	-	20000
3	4650	20000	(-) 7500	-	12500
4	4750	12500	(-) 5000	2500	10000
5	4700	10000	2500	-	12500

Net Profit (Loss) on the contract

= (–) 5000 + 10000 – 7500 – 5000 + 2500 = (₹ 5000) loss.

Q. 23. (a) Briefly discuss methods of valuation of intangibles.

(b) PQR Publishers Ltd. has been approached by other publishers XYZ Ltd. which is interested in buying the copy right of the book 'shareholders value creation'.

To estimate the value of the copy right, the following assumptions are made;

(i) The book is expected to generate₹ 1,50,000 in after – tax cash flows each year for the next three years to ABC Publishers Ltd. and ₹ 1,00,000 a year for the subsequent two years. These are the cash flows after author royalties, promotional expenses and production costs.

(ii) About 40% of these cash flows are from large organisations that make bulk orders and considered predictable and stable. The cost of capital applied to these cash flows is 7%.

(iii) The remaining 60% of the cash flows are tothe general public and this segment of the cash flows is considered much more volatile. The cost of capital applied to these cash flows is 10%.

Based on the information given above, estimate the value of the copyright.

Answer 23. (a)

There are four methodologies for valuation of intangibles –Discounted cash flow, Relief from royalty, Comparable (Guideline) transactions, and Avoided cost. The first two are income approach and rest two are market and asset-replacement approach respectively.

- **Discounted cash flow method :** Under this methodology , the value of an asset reflects the present value of projected earnings that will be generated by the asset after taking into account the revenues and expenses of the asset, the relative risk of the asset, the contribution of other assets ,and a discount rate that reflects the time value of invested capital.
- **Relief-from-royalty :** Under this method the value of an asset is equal to all future royalties that would have to be paid for the right to use the asset if it were not acquired. A royalty rate is selected based on the importance of the asset, effectiveness of constraints imposed by competing assets , ability of competitors to produce similar assets, and market licensing rates for similar assets. The royalty rate is applied to expected revenues generated or associated with the asset. The hypothetical royalties are then discounted to their present value.
- **Comparable (Guideline) Transactions :** A comparable transaction approach is typically employed to value market related intangible assets. The value of an asset is based on actual prices paid for assets with functional or technical attributes similar to the subject asset. Using this data , relevant market multiples or ratios of the total purchase price paid are developed and applied to the subject asset.
- **Avoided cost :** Under this method, the value of an asset is based on calculating the cost avoided by the acquiring company when obtaining pre-existing, fully functional asset rather than incurring costs to build or assemble the asset. The savings realized may include actual and opportunity costs associated with avoided productivity losses.

Answer 23. (b)

The value of the copyright can be estimated as follows :

Year	Stable cash flows ₹	PV @ 7% ₹	Volatile cash flows ₹	PV @ 10% ₹
1	60,000	56,075	90,000	81,818
2	60,000	52,406	90,000	74,380
3	60,000	48,978	90,000	67,619
4	40,000	30,516	60,000	40,981
5	40,000	28,519	60,000	37,255
		2,16,494		3,02,053

The value of the copyright is

₹ 2,16,494 + ₹ 3,02,053 = ₹ 5,18,547

Q. 24. (a) Is hostile takeover legally allowed in India? If yes, what are bases of arriving at the public offer price?

(b) Why do investors prefer enterprise value to EBITDA multiple to other earnings multiple?

Answer 24. (a)

Hostile takeover is legalized with promulgation of SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 1994 as amended from time to time. According to regulation 20(1) as amended by SEBI

(Substantial Acquisition of Shares and Takeovers) Regulations, 2002, the offer price shall be the highest of –

(i) The negotiated price;

(ii) Highest price paid by the acquirer and personating in concert with him for actuation including by way of allotment in a public or rights issue during the twenty six weeks period prior to the public announcement;

(iii) The average of weekly high and low of the closing prices of the shares of the target company as quoted on the stock exchange where the shares of the company are most frequently traded during the twenty six weeks preceding the date of public announcement.

Answer 24. (b)

The enterprise value to EBITDA multiple relates to the total market value of the firm, net of cash to the earnings before interest, taxes, depreciation and amortization of the firm :

EV/ EBITDA = (MV of Equity – MV of debt – cash)/ EBITDA .

Unlike the earnings multiples, the enterprise value to EBITDA multiple is a firm value multiple. This multiple has acquired a number of adherents among analysts for a number of reasons :

(i) There are fewer firms with negative EBITDA than firms with negative earnings per share , thus fewer firms are lost from the analysis.

(ii) Differences in depreciation methods across different companies- some might use straight line, while others use diminishing balance and still others use accelerated depreciation – can cause differences in operating income or net income but will not affect EBITDA.

(iii) EBITDA multiple can be compared far more easily than other earnings multiples across firms with different financial leverage(the numerator is firm value and the denominator is pre- debt earnings).

For all these reasons, this multiple is particularly useful for firms in sectors like cable firms and cellular firms with cross holdings.

Q. 25. (a) From the following information taken from the books of GLtd. relating to staff and community benefits, prepare a statement showing value of benefits to staff and community at large, as required under Corporate Social Reporting.

	₹
Environmental Improvements	**20,10,000**
Medical facilities	**45,00,000**
Training Programmes	**10,25,000**
Generation of Job Opportunities	**60,75,000**
Municipal Taxes	**10,70,000**
Increase in cost of living in the vicinitydue to a thermalpower station	**16,55,000**
Concessional transport, water supply	**11,25,000**
Extra work put in by staffand officers for drought relief	**18,50,000**
Leave encashment and leave travel benefits	**52,00,000**
Educational facilities for children of staff members	**21,60,000**
Subsidised canteen facilities	**14,40,000**
Generation of business	**25,00,000**

(b) Ms.B has just completed her traineeship in a reputed law firm.. She wants to buy the running practice of Mr. X, a renowned practicing but aged Lawyer located at Dunlop in Kolkata. The revenues and the costs of this practice in 2011-12 were as under :

	₹
Revenue	**10,00,000**
Employee expenses	**3,00,000**
Annual rent forfacilities	**1,00,000**
Rental for various furniture & equipments	**80,000**
Insurance	**90,000**
The tax rate on income including local taxes and subscription	**35%**
The cost of capital for this practice	**10%**

The above and all the associated expenses are estimated to grow at 4% p.a. for the next 10 years if Mr. X, continues to run practice. B anticipates that upon the changeover there will be drop in revenue by 25% in the first year of her practice. The growth rate in revenue and expenses will remain at 4% p.a. thereafter, i.e for year 2 onwards. B wants your advice for the price she should offer to Mr. X to purchase the latter's practice at Dunlop, Kolkata. 10

Answer 25. (a)

G Ltd.

Statement relating to staff and community benefits

		₹
I. Social Benefits and Cost to Staff		
A. Social Benefits to Staff		
1. Medical facilities		45,00,000
2. Training programmes		10,25,000
3. Concessional transport, water supply		11,25,000
4. Leave encashment and leave travel benefits		52,00,000
5. Educational facilities for children of staff members		21,60,000
6. Subsidised canteen facilities		14,40,000
	Total	1,54,50,000
B. Social Costs to Staff		
Extra work put in by staff and officers for drought relief		18,50,000
Net Social Benefits to Staff (A – B)		1,36,00,000
II. Social Benefits and Cost to Community		
A. Social Benefits to Community		
1. Environmental improvements		20,10,000
2. Generation of job opportunities		60,75,000
3. Municipal taxes		10,70,000
4. Generation of business		25,00,000
	Total	1,16,55,000
B. Social Costs to Community		
Increase in cost of living in the vicinity due to a thermal power station		16,55,000
Net Social Benefits to Community (A – B)		1,00,00,000

Answer 25. (b)

We make two evaluations of the practice —

(1) run by Mr. X as if he is continuing as before, and

(2) run by Ms. B assuming that she has bought the practice from Mr. X

(1) Cash flow in year 1 = (Revenue – Operating Expenses) (1-Tax rate)
= [10,00,000(1.04) – (3,00,000 + 1,00,000 + 80,000 + 90,000) (1.04)] (1-0.35).
= [1040000 – 592800] × (0.65)
= ₹ 290680.

With the growth rate of 4% p.a and using the cost of capital as discount rate and assuming that the practice will have no terminal value after 10 years, the value of practice :

Value of practice = $CF [1 – (1+g)^n / (1+r)^n] / (r – g)$
= ₹ 290680 $[1– \{(1.04)^{10} / (1.10)^{10}\}] (0.10 – 0.04)$
= ₹ 290680$[\{(1.10)^{10} – (1.04)^{10}\}/(1.10)^{10}] (0.06)$
= ₹ 290680 [(2.5937-1.4802)/2.5937](0.06)
= ₹ 290680 [1.1135/ 2.5937]/(0.06)
= ₹ 290680 (0.4293/0.06)
= ₹ 290680 × 7.155
= ₹ 2079815.4

(2) Similarly cash flow in year 1 under Ms. B,
= ₹ [750000 × (1.04)- 592800] × 0.65
= ₹ 187200 × 0.65
= ₹ 121680

Value of practice of Ms. B = ₹ 121680 × 7.155
= ₹ 870620.4

The difference of ₹ 1209195 is attributable as the value of Mr. X the key person.

Ms. B should offer ₹ 870620 to Mr. X for practice. Should Mr. X agree to stay with practice for the transition period after transfer of business, a higher price may be paid.

Ms. B should ensure by the agreement of transfer of practice that Mr. X cannot start a competing practice and extract business from Ms. B for the foreseeable future.

Q. 26. (a) Banana Leaf is a popular restaurant in South India, owned and run by R, a star chef specializing in South Indian cuisine. Q is interested in buying the restaurant and have been provided the following data :

The restaurant can seat 100 diners. It has two seatings for lunch and one sitting for dinner. It fills 80% of its seats at lunch and 70% of its seats at dinner. The restaurant remains open for 340 days a year for the public. The average price of a lunch is ₹ 40 and average price of dinner is ₹ 50. The

cost of food is approximately 30% of the price of the meal. There are 25 employees on the staff of the restaurant and payroll amounts to ₹ 10 lacs a year. The annual rent for the space used by Banana Leaf is ₹ 240000.

The restaurant is expected at present to grow 6% a year for 3 years and 3% a year after that. Estimate the unlevered beta of publicly by traded restaurants to be 0.70. The average debt to capital ratio for these firms is 10%. The risk free rate is 8% and the market risk premium is 5.5%.

You are required to estimate the value of Banana Leaf(assume tax rate 40% and cost of borrowing 9%).

(b) S. K Lab, a pharmaceutical company in Western India was expected to have revenues of ₹ 50 lacs in 2011 and report net income of ₹ 9 lacs in the year. The firm had a book value of assets of ₹ 110 lacs and a book value of equity of ₹ 58 lacs at the end of 2010. Its market value then was ₹ 85 per share.

The firm was expected to maintain sales in its niche product, multivitamin tablet, and grow at 5% a year in the long term, primarily by expanding into the generic drug market. The beta of S.K Lab traded in Mumbai Stock Exchange was 1.25.The return on 10 year GOI bond in India in 2010 was 7% and risk premium for stocks over bond is assumed to be 3.5%.

Answer 26. (a)

Revenue:	**Base Year (₹)**
Lunch 80% occupancy : ₹ 40 per person	21,76,000
Dinner 70% occupancy : ₹ 50 per person	11,90,000
Total (A)	33,66,000
Expenses :	
Food 30% of revenue	1009800
Staff expenses	1000000
Rent	240000
Total (B)	2249800
EBIT(A-B)	1116200
Taxes 40%	446480
EAT	669720

These cash flows are expected to grow at 6% a year for three years and 3% a year after that. The following table summarizes the expected cash flows over the next three years.

Base year	1	2	3
EAT	709903	752497	797647

Cost of equity = 8% + 0.7(5.5%) = 11.85%

Cost of capital can be calculated as follows = 11.85% (0.90) + 9% (1 – 0.40)(0.10) = 11.20%

Value at the end of the high-growth period = ₹ 797647 × 1.03/(0.112 – 0.03) = ₹ 10019225.

Present value of Banana Leaf $=709903/(1.112) + 752497/(1.112)^2 + (752497 + 10019225)/ (1.112)^3$

= ₹ 9078015.

Answer 26. (b)

Expected net income = ₹ 9 lacs

Return on equity = 9/58 = 15.52%

Cost of equity = 7% + 1.25(3.5%) = 11.375%

Price- book value ratio = (0.1552 – 0.005)/(0.11375 – 0.05) = 1.65

Estimated Market Value of equity = BV of equity × Price/ BV ratio = 58 × 1.65 = ₹ 95.70 lacs

Hence the market price of the shares of S. K Lab is under valued.

Q. 27. (a) Distinguish between intrinsic value and timevalue of an option.

(b) From the following data for certain stock, find the value of a call option:

Price of stock now	**= ₹ 80**
Exercise price	**= ₹ 75**
Standard deviation of continuously compoundedannual return	**= 0.40**
Maturity period	**= 6 months**
Annual interest rate	**= 12%**

Given —

Number of S.D. from Mean, (z)	Area of the left or right (one tail)
0.25	0.4013
0.30	0.3821
0.55	0.2912
0.60	0.2578

$e^{0.12\times0.05}$ = 1.0060

In 1.0667 = 0.0645

Answer 27. (a)

Intrinsic value of an option and the time value of an option are primary determinants of an option's price. By being familiar with these terms and knowing how to use them, one will find himself in a much better position to choose the option contract that best suits the particular investment requirements.

Intrinsic value is the value that any given option would have if it were exercised today. This is defined as the difference between the option's strike price (x) and the stock actual current price (c.p). In the case of a call option, one can calculate the intrinsic value by taking CP-X. If the result is greater than Zero (In other words, if the stock's current price is greater than the option's strike price), then the amount left over after subtracting CP-X is the option's intrinsic value. If the strike price is greater than the current stock price, then the intrinsic value of the option is zero – it would not be worth anything if it were to be exercised today. An option's intrinsic value can never be below zero. To determine the intrinsic value of a put option, simply reverse the calculation to X - CP.

Example :

Let us assume X Ltd. Stock is priced at ₹ 105/-. In this case, a X 100 call option would have an intrinsic value of (₹ 105 – ₹ 100 = ₹ 5). However, a X 100 put option would have an intrinsic value of zero (₹ 100 – ₹ 105 = – ₹ 5). Since this figure is less than zero, the intrinsic value is zero. Also, intrinsic value can never be negative. On the other hand, if we are to look at a X put option with a strike price of ₹ 120. Then this particular option would have an intrinsic value of ₹ 15 (₹ 120 – ₹ 105 = ₹ 15).

Time Value :

This is the second component of an option's price. It is defined as any value of an option other than the intrinsic value. From the above example, if X is trading at ₹ 105 and the X 100 call option is trading at ₹ 7, then we would conclude that this option has ₹ 2 of time value (₹ 7 option price – ₹ 5 intrinsic value = ₹ 2 time value). Options that have zero intrinsic value are comprised entirely of time value.

Time value is basically the risk premium that the seller requires to provide the option buyer with the right to buy/sell the stock upto the expiration date. This component may be regarded as the Insurance premium of the option. This is also known as "Extrinsic value." Time value decays over time. In other words, the time value of an option is directly related to how much time an option has until expiration. The more time an option has until expiration. The greater the chances of option ending up in the money.

Answer 27. (b)

Applying the Black Scholes Formula,

Value of the Call option now :

The Formula $C = SN(d_1) - K_e^{(-rt)} N(d_2)$

$d_1 = \text{In } (S/K) + \left(r + \sigma^2/2\right)t$

$d_2 = d_1 - \sigma\sqrt{t}$

Where,

C = Theoretical call premium

S = Current stock price

t = time until option expiration

K = option striking price

r = risk-free interest rate

N = Cumulative standard normal distribution

e = exponential term

σ = Standard deviation of continuously compounded annual return.

In = natural logarithim

d_1 =

$$\frac{\text{In}(1.0667) + (12\% + (0.08)^{0.5}}{.40\sqrt{0.5}}$$

$$= \frac{0.0645 + (0.2)^{0.5}}{0.40 \times 0.7071}$$

$$= \frac{0.1645}{0.2828}$$

= 0.5817

d_2 = 0.5817 – 0.2828

= 0.2989

Nd_1 = N (0.5817)

Nd_2 = N (0.2989)

$$\text{Price} = S_o N(d_1) - \frac{E}{e^{rt} \times N(d_2)}$$

$= (80 \times Nd_1) - 75/[1.0060 \times N[d_2]$

Value of option

$$= 80\, Nd_1 - \frac{75}{1.0060 \times Nd_2}$$

Nd_1 = N (0.5817)

= 0.7190 + 0.000578

= 0.7195

Nd_2 = N(0.2989)

= 0.6141 + 0.003382

= 0.6175

$$\text{Price} = 80 \times 0.7195 - \frac{75}{1.0060 \times 0.6175}$$

= 57.56 – 74.55 × 0.6175

= 57.56 – 46.04

= ₹ 11.52

Q. 28. (a) The 6-months forward price of a securit y is ₹ 208.18. The borrowing rate is 8% per annum payable with monthly rests. What should be the spot price?

(b) Given below is the Balance Sheet of WQ Ltd. as on 31.3.2012 :

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

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

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

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

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

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

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

Answer 28. (a)

Calculation of spot price

The formula for calculating forward price is :

A = P (1+r/n) raised to nt

Where A = Forward price
P = Spot Price
r = rate of interest
n = no. of compoundings
t = time

Using the above formula,

208.18 = P (1 + 0.08/12) raised to 6

Or 208.18 = P × 1.0409

P = 208.18/1.0409 = 200

Hence, the spot price should be ₹ 200.

Answer 28. (b)

	₹ lacs
Net Assets Method	
Assets: Land & Buildings	96
Plant & Machinery	100
Investments	10
Stocks	20
Debtors	15
Cash & Bank	5
Total Assets	246
Less: Creditors	30
Net Assets	216

Value per share

(a) Number of shares $\frac{1,00,00,000}{10} = 10,00,000$

(b) Net Assets ₹ 2,16,00,000

$\frac{₹\ 2,16,00,000}{10,00,000} = ₹\ 21.6$

Profit-earning Capacity Method

Profit before tax			64.00
Less: Extraordinary income		4.00	
Investment income (not likely to recur)		1.00	5.00
			59.00
Less: Additional expenses in forthcoming years			
Advertisement		5.00	
Depreciation		6.00	11.00
Expected earnings before taxes			48.00
Less: Income-tax @ 30%			14.40
Future maintainable profits (after taxes)			33.60

Value of business

Capitalisation factor	$\frac{33.60}{0.15}=$	224
Less: External Liabilities (creditors)		30
		194

Value per share

Less: External Liabilities (creditors)

$= \frac{1,94,00,000}{10,00,000} = ₹ 19.4$

Fair Price of share	₹
Value as per Net Assets Method	21.6
Value as per Profit earning capacity (Capitalisation) method	19.4

Fair Price $= \frac{21{\cdot}6+19{\cdot}4}{2} = \frac{41}{2} = ₹ 20{\cdot}5$

Q. 29. (a) Why do Companies want to measure Intellectual Capital. List the popular approaches to IC measurement.

(b) A Pharma Company spent ₹ 33 lakhs during the accounting year ended 31st March, 2011on a research project to develop a life saving drug. Experts are of the view that it may take four years to establish whether the drug will be effective or not and even if found effective it may take two to three more years to produce the medicine, which can be marketed. The company wants to treat the expenditure as deferred revenue expenditure.

Answer 29. (a)

Companies want to measure Intellectual Capital due to the following reasons:

(i) Alignment of IC resources with strategic vision.

(ii) To support and maintain various parties' awareness of the company.

(iii) To help bridge the present and the past development processes.

(iv) To influence stock prices , by making several competencies visible to current and potential customers.

(v) To provide identity to the employees by company name thus boosting the employee's morale. Knowledge of employees and customers will stimulate the development of a set of policies to increase customer satisfaction and customer loyalty.

(vi) To assess the effectiveness of a company's IC utilisation- To allocate resources between various business units in such a way that full value is realized from acquisition and joint ventures.

(vii) To determine the most effective management incentive structures.

There are five popular approaches to intellectual capital management :

(i) EVA™ (Economic Value Added) as a measure was developed in 1980's by New York consultancy Stern Stewart & Co. In simple terms,

EVA= Net Operating Profit after Taxes- (Capital × Cost of Capital)

(ii) Human Resource Accounting is a set of accounting methods that seek to settle and describe the management of a company's staff. It focuses on employees education, competence and remuneration.

(iii) Intangible Asset Monitor –This has been developed by Karl-Erik Sveiky. The IAM is based on the fundamental premise of people being an organization's only profit generators. According to Sveiky, people are only true agents of any business, all other assets whether tangible products or intangible relations are result of human actions and depend ultimately on people for their continued existence.

(iv) The Skandia Navigator: The Skandia 'Navigator' is perhaps the best known business model developed to identify the intangible assets that are key to company's performance. The Navigator is designed to provide a balanced picture of financial and intellectual capital. The Navigator framework , as expected has its top end a series of measures relating to financial focus .But it also has 'below the line' measures of intellectual capital which involve four areas and two dimensions. These are customer focus, process focus, renewal and development focus and human focus acting as binding force of customer, process, renewal and development and finance.

(v) The Balanced Scorecard (BSC) developed by Prof. Robert Kaplan of Harvard Business School is an organizational framework for implementing and managing a strategy at all levels of an enterprise by linking objectives, initiatives, and measures to an organization's vision and strategy. The BSC translates business's vision and strategy into objectives and measures across four balanced perspectives – financial performance, customers, internal business processes, organizational growth, learning and innovation.

(vii) The performance prism is a second generation performance measurement and management approach developed by Cranfield School of Management in collaboration with consultancy Accenture. It recognizes the importance of companies taking a holistic approach to stakeholder management in today's culture of involvement.

Answer 29. (b)

As per para 41 of AS 26 'Intangible Assets', no intangible asset arising from research (or from the research phase of an internal project) should be recognized. Expenditure on research (or on the research phase of an internal project) should be recognized as an expense when it is incurred. Thus the company cannot treat the expenditure as deferred revenue expenditure. The entire amount of ₹ 33 lakhs spent on research project should be charged as an expense in the year ended 31st March, 2011.

Q. 30. (a) Halfway online, an internet service provider has 1 million existing subscribers. Each subscriber is expected to remain for 3 years. Halfway expects to generate ₹ 100 net after-tax cash flow (subscription revenue minus costs of providing service) per subscriber each year. Halfway has a

cost of capital of 15%. Assume that Halfway expects to add 100000 subscribers each year for the next 10 years and that the value added by each subscriber will grow from current level at the inflation rate of 3% every year. The cost of fadding new subscriber is ₹ 100 currently, assumed to be growing at the inflation rate. Based on the information given, find out the value of the firm and the value per existing subscriber. (₹ 1 million = ₹ 10,00,000)

(b) Why are sector specific multiples used by analysts?

Answer 30. (a)

Value per subscriber = $100 \times [\{1-(1.15)^{-3}\}/0.15]$

$=100 \times 2.2832 =$ ₹ 228.32 million.

Year	Value added per subscriber	Cost of acquiring subscriber	Number of subscribers added	PV at 15% (₹)
1	₹ 235.17	₹ 103.00	1,00,000	11,493,234
2	₹ 242.23	₹ 106.09	1,00,000	10,293,940
3	₹ 249.49	₹ 109.27	1,00,000	9,219,789
4	₹ 256.98	₹ 112.55	1,00,000	8,257,729
5	₹ 264.69	₹ 115.93	1,00,000	7,396,049
6	₹ 272.63	₹ 119.41	1,00,000	6,624287
7	₹ 280.81	₹ 122.99	1,00,000	5,933,057
8	₹ 289.23	₹ 126.68	1,00,000	5,313,956
9	₹ 297.91	₹ 130.48	1,00,000	4,759,456
10	₹ 306.85	₹ 134.39	1,00,000	4,262,817
				73,554,309

The cumulative value added by new subscribers is ₹ 73.55 million.

Value of firm= Value of existing subscribers base + Value added by new customers.

= ₹ (228.32 m + 73.55 m)= ₹ 301.87 million.

Value per existing subscriber = Value of firm/ number of subscribers.

= ₹ 301.87 million/1 million

= ₹ 301.87 per subscriber

Working Notes :

(1) Value added per subscriber at end of year 1

= ₹ 228.32 + 3% of ₹ 228.32 = ₹ 235.17 [and so on for later years]

(2) PV at 15% to be worked out from present value tables.

Answer 30. (b)

There are several reasons why analysts use sector specific multiples:

(1) Sector specific multiples link firm value to operating details and output. For analysts who begin with these forecasts,- eg, predicted number of subscribers for an internet service provider, are provided a much more intuitive way of estimating value.

(2) Sector specific multiples can often be computed with no reference to accounting statements or measures. Consequently, they can be estimated for firms where accounting statements are non-existent, unreliable or just not comparable.

(3) Though this is hardly admitted, sector specific multiples are sometimes employed in desperation because none of the other multiples can be estimated or used. For instance, an impetus for the use of sector specific multiples for new economy firms was that they often had negative earnings and little in terms of book value or revenues, in order work out any projections.