

**FINAL EXAMINATION**  
**GROUP IV**  
(SYLLABUS 2008)

**SUGGESTED ANSWERS TO QUESTIONS**  
**JUNE 2012**

**Paper- 18 : BUSINESS VALUATION MANAGEMENT**

**Time Allowed :** 3 Hours

**Full Marks :** 100

*The figures in the margin on the right side indicate full marks.*

*Answer Question No. 1 which is compulsory carrying 25 marks and any five from the rest.*

- Q. 1. (a)** State whether the following statements are True or False : [1×5=5]
- (i) Divestitures represent the sale of a part of a total undertaking.
  - (ii) In a reverse merger a smaller company acquires a larger company.
  - (iii) Stock Dividends and Stock Splits may increase the stock price but not the value of the business.
  - (iv) Under discounted cash flow model of asset valuation, estimated cash flows during life of the asset are not required.
  - (v) Buying the units of mutual funds is an indirect investment.
- (b)** Fill in the blanks by using words/phrases given in the brackets : [1×10=10]
- (i) In case of Deep Discount Bond, the issue price is always \_\_\_\_\_ the face value. (less than/more than)
  - (ii) While valuing the leasehold land of a company, one \_\_\_\_\_ subject it to amortization. (should/should not)
  - (iii) Market value per share is expected to be \_\_\_\_\_ than the book value per share in case of profitable and growing firms. (higher/lower)
  - (iv) The risk in holding a government bond is \_\_\_\_\_ the risk associated with a debenture issued by a company. (more than/less than)
  - (v) The risk that the cash flows will not be delivered is called \_\_\_\_\_ (liquidity risk/default risk)
  - (vi) A ratio between the market value of a company to the replacement value of its assets is known as \_\_\_\_\_ Ratio (Market value to Book value/Market value to Replacement value/Tobin's Q/Price to Book value).

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- (vii) The cost of a patent should be amortised over the legal life or the useful life, whichever is \_\_\_\_\_ (shorter/longer)
- (viii) In a debt for equity swap, a firm replacing equity with debt \_\_\_\_\_ its leverage ratio. (increases/decreases)
- (ix) Specific risk of a firm is also called as \_\_\_\_\_ risk. (systematic/non-systematic)
- (x) Revaluation of assets is undertaken to attract investors by indicating to them \_\_\_\_\_ value of the asset. (current/future)
- (c)** In each of the questions given below one out of the four options is correct. Indicate the correct answer : [2×5=10]
- (i) Estimated fair value of an asset is based on the ..... value of operating cash flows.
- (a) current
  - (b) discounted
  - (c) future
  - (d) none of these
- (ii) A theory that explains why the total value from the combination resulted from a merger is greater than the sum of the value of the component companies operating independently is known as ..... theory.
- (a) hubris
  - (b) agency
  - (c) operating
  - (d) synergy
- (iii) A firm's current assets and current liabilities are 1600 and 1000 respectively. How much can it borrow on a short-term basis without reducing the current ratio below 1.25?
- (a) ₹ 1,000
  - (b) ₹ 1,200
  - (c) ₹ 1,400
  - (d) ₹ 1,600
- (iv) Identify which of the following is not a financial liability
- (a) X Ltd. has 1 lakh ₹ 10 ordinary shares issued
  - (b) X Ltd. has 1 lakh 8% ₹ 10 redeemable preference shares issued
  - (c) X Ltd. has ₹ 2,00,000 of 6% bonds issued
  - (d) Both (a) and (b)
- (v) RICO LTD has PAT of ₹ 40.20 lakh with extra ordinary income of ₹ 7.00 lakh. If the cost of capital is 20% and the applicable tax rate is 40% the value of Rico Ltd will be:
- (a) ₹ 250 lakh
  - (b) ₹ 180 lakh
  - (c) ₹ 150 lakh
  - (d) Insufficient information

**Answer 1. (a)**

(i) **True.**

Divestiture is the partial or full disposal of an investment or asset through sale, exchange, closure or bankruptcy. Divestiture can be done slowly and systematically over a long period of time, or in large lots over a short time period. For a business, divestiture is the removal of assets from the books.

(ii) **True.**

Reverse Merger is the acquisition of a public company by private company.

(iii) **True.**

A stock split increases the number of shares in a public company. The price is adjusted such that before and after, market capitalisation of company remains same. Stock dividend is payment of dividend in form of shares without increasing the market capitalisation of company.

(iv) **False.**

Under DCF model, present value of asset is arrived at determining the present values of all expected future cash flows from the use of the asset.

(v) **True.**

A mutual fund is simply a collection of stocks, bonds, another securities owned by a group of investors and managed by professional investment company.

**Answer 1. (b)**

(i) less than

Deep Discount Bond is a bond that sells at a significant discount from par value. Typically, a deep-discount bond will have a market price of 20% or more below its face value. These bonds are perceived to be riskier than similar bonds and are thus priced accordingly.

(ii) should

Leasehold is a form of land tenure or property tenure where one party buys the right to occupy land or a building for *a given length of time*. The tenancy will come to an end automatically when the fixed term runs out, or, in the case of a tenancy that ends on the happening of an event, when the event occurs. The value of lease gradually decreases and should be amortised.

(iii) higher

In the context of securities, market value is often different from book value because the market takes into account future growth potential. So market value is higher incase of growing firms.

(iv) less than

Lending to a national government in the country's own sovereign currency, government bonds, are free of credit risk, because the government can raise taxes or simply print more money to redeem the bond at maturity.

(v) default risk

To mitigate the impact of default risk, lenders often charge rates of return that correspond the debtor's level of default risk. The higher the risk, the higher the required return, and vice versa.

(vi) Tobin's Q

**Tobin's Q** is devised by James Tobin of Yale University, Nobel laureate in economics.

The Q ratio is calculated as the Market value of a company divided by the replacement value of the firms assets.

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(vii) Shorter

There is tremendous uncertainty associated with assessing the value of patents. So it is amortized over the shorter of the two.

(viii) Increases

The financial leverage ratio is the debt-to-equity ratio. Increase in debt will increase leverage.

(ix) non-systematic

Specific risk, as its name would imply, relates to risks that are very specific to a company or small group of companies. An example of specific risk would be news that is specific to either one stock or a small number of stocks, such as a sudden strike by the employees of a company, or a new governmental regulation affecting a particular group of companies.

(x) current

The purpose of a revaluation is to bring into the books the fair market value of fixed assets. This may be helpful in order to decide whether to invest in another business. If a company wants to sell one of its assets, it is revalued in preparation for sales negotiations.

**Answer 1. (c)**

(i) **(b)** discounted

In Discounted Cash Flow (DCF) valuation, the value of an asset is the present value of the expected cash flows on the asset.

(ii) **(d)** synergy

The idea that the value and performance of two companies combined will be greater than the sum of the separate individual parts is called Synergy. This term is used mostly in the context of mergers and acquisitions. For example, if Company A has an excellent product but lousy distribution whereas Company B has a great distribution system but poor products, the companies could create synergy with a merger.

(iii) **(b)** ₹ 1400

Amount of borrowing be x. (Current Asset will increase because borrowing will increase the cash amount)

$$\therefore \frac{1600+x}{1000+x} = 1.25$$

$$\text{or, } x = 1400.$$

(iv) **(a)** X Ltd. has 1 lakh ₹ 10 ordinary shares issued

A share is an indivisible unit of capital, expressing the proprietary relationship between the company and the shareholder.

(v) **(b)** ₹ 180 Lakh

PAT — ₹ 40.20 Lakh

Extraordinary income = ₹ 7 lac

Tax @ 40% = 2.8

PAT of Extraordinary income = 4.2 lac

PAT excluding extra ordinary income = ₹ 40.2 lac – ₹ 4.2 lac  
= ₹ 36 lac

Cost of capital = 20%

Value of firm =  $\frac{36}{0.20}$  lac = 180 lac.

- Q. 2. (a)** Why do many mergers fail? [5]  
**(b)** Why do Companies want to measure intellectual capital? [5]  
**(c)** Discuss Synergy with reference to merger. [5]

**Answer 2. (a)**

Major reasons of failure of Mergers are as follows :

- Flawed corporate strategy for either or both companies.
- One company sugarcoats the truth, the other buys a Power Point pitch.
- Sub-optimum integration strategy for the situation.
- Cultural misfit, loss of key employees after retention agreements are up.
- Acquiring company's management team inexperienced at M&A.
- Flawed assumptions in synergies calculation.
- Ineffective corporate governance, plain and simple.
- Two desperate companies merge to form one big desperate company.
- An impulse buy or panic sell gets shoved down the board's throat.

**Answer 2. (b)**

There a number of reasons why firms want to measure IC and the predominant reason has been for strategic or internal management purposes. Specifically, the reasons include :

- (i) Alignment of IC resources with strategic vision. To support the implementation of a specific strategy via a general upgrading of the work with the companies' human resources (support and maintain a strategy concerning the composition of staff as regards seniority, professional qualifications and age. Through the description of the staff profile, measuring, discussion and adjustment become possible).
- (ii) To support or maintain various parties' awareness of the company.
- (iii) To help bridge the present and the past (stimulates the decentralized development of the need for constant development and attention towards change).
- (iv) To influence stock prices, by making several competencies visible to current and potential customers.
- (v) To make the company appear to the employees as a name providing an identity for the employees and visualizing the company in the public. Knowledge of employees and customers will stimulate the development of a set of policies to increase customer satisfaction and customer loyalty.
- (vi) Assessing effectiveness of a firm's IC utilization - Allocate resources between various business units. Extract full value from acquisition and joint ventures.
- (vii) Determine the most effective management incentive structures.

**Answer 2. (c)****Synergy :**

Synergy results from complementary activities. For example, one firm may have a substantial amount of financial resources while the other has profitable investment opportunities. Likewise, one firm may have a strong research and development team whereas the other may have a very efficiently organized production department. Similarly, one firm may have well established brands of its products but lacks marketing organization and another firm may have a very strong marketing organization. The merged business unit in all these cases will be more efficient than the individual firms. And, hence, the combined value of the merged firms is likely to be greater than the sum of the individual entities (units). Symbolically;

Combined value = Stand alone value of acquiring firm,  $V_a$  + Stand alone value of acquired target firm,  $V_t$  + Value of synergy,  $\Delta V_{at}$

Normally, the value of synergy is positive and this constitutes the rationale for the merger. In valuing synergy, costs attached with acquisitions should also be taken into account. These costs primarily consist of costs of integration and payment made for the acquisition of the target firm, in excess of its value,  $V_t$ . Therefore, the net gain from the merger is equal to the difference between the value of synergy and costs.

Net gain = Value of synergy,  $\Delta V_{at}$  – costs.

**Q. 3. (a)** ABC LTD's Shares are currently selling at ₹ 13 per share. There are 10,00,000 Shares outstanding. The firm is planning to raise ₹ 20 lakhs to finance a new project to be started soon at Bangalore.

You are required to calculate the ex-right price of shares and the value of a right, if : [9]

- (i) The firm offers one right share for every two shares held
- (ii) The firm offers one right share for every four shares held
- (iii) How does the shareholder's wealth change from (i) to (ii) above? How does right issue increase shareholder's wealth?

**(b)** The following data are available for a bond : [6]

Face Value	₹ 1,000
Coupon rate	16%
Years to Maturity	6
Redemption Value	₹ 1,000
Yield to Maturity	17%

Calculate the current market price of the bond.

PV Factor @ 17% yearwise (1st year 0.855, 2nd year 0.730, 3rd year 0.624, 4th year 0.534, 5th year 0.456, 6th year 0.390)

**Answer 3. (a)**

- (i) No. of shares to be issued: 5,00,000

$$\begin{aligned} \text{Pre-right} &= \frac{\text{₹ } 1,30,00,000 + 20,00,000}{15,00,000} \\ &= 10 \end{aligned}$$

$$\text{Subscription price} = \frac{\text{₹ } 20,00,000}{5,00,000} = \text{₹ } 4$$

$$\text{Value of right} = \frac{10-4}{2} = 3$$

$$(ii) \text{ Pre-right} = \frac{1,30,00,000 + 20,00,000}{12,50,000} = 12$$

$$\text{Subscription price} = \frac{20,00,000}{2,50,000} = 8$$

$$\text{Value of right} = \frac{12-8}{4} = 1$$

(iii) Since right issue is constructed in such a way so that shareholder's Proportionate share will remain unchanged, shareholder's wealth does not change from (i) to (ii).

Right issue increases shareholder's wealth because the cost of issuing right shares is much lower than the cost of a public issue.

**Answer 3. (b)**

Calculation of MKT price —

$$\text{YTM} = \frac{\text{Coupon interest} + \frac{\text{Discount or premium}}{\text{Years left}}}{\frac{\text{Face Value} + \text{MKT Value}}{2}}$$

Let X be the market price

$$0.17 = \frac{160 + \frac{(1000-X)}{6}}{\frac{1000+X}{2}}$$

$$X = 960.26$$

Alternatively, the candidate may attempt by, 160 (PV @ 17% yearly cumulative 1 to 6 years) + 1000 (PV @ 17% in 6th year)

$$= 160 (3.589) + 1000 (0.390)$$

$$= 574.24 + 390$$

$$= 964.24.$$

**Q.4.** X Ltd. is investigating the acquisition of Y Ltd. Y Ltd.'s balance sheet is given below : [15]

Y Ltd : Balance Sheet (₹ in crore)

10% Cumulative preference shares		100
Ordinary share capital (30 crore shares @ ₹ 10 per share)		300
Reserves & Surplus		150
14% Debentures		80
Current Liabilities		100
<b>Total</b>		<b>730</b>
Net fixed assets		275
Investments		50
<i>Current assets</i>		
Stock	190	
Book debts	150	
Cash & Bank	65	405
<b>Total</b>		<b>730</b>

X Ltd. proposed to offer the following to Y Ltd.

- 10% cumulative preference shares of ₹ 100 crore in X Ltd. for paying 10% cumulative preference capital of Y Ltd.
- 12% convertible debentures of ₹ 84 crore in X Ltd. to redeem 14% debentures of Y Ltd.
- One ordinary share of X Ltd. for every three shares held by Y Ltd.'s shareholders, the market price being ₹ 42 for X Ltd.'s shares and ₹ 20 for Y Ltd.'s shares.

After acquisition, X Ltd. is expected to dispose of Y Ltd.'s stock for ₹ 150 crore, book debts for ₹ 102 crore and investments for ₹ 55 crore. It would pay entire current liabilities. What is the cost of acquisition to X Ltd.? If X Ltd.'s required rate of return is 20% how much should be the annual after-tax cash flows from Y Ltd.'s acquisition assuming a time horizon of 8 years and a zero salvage value? Would your answer change if there is a salvage value of ₹ 30 crore after 8 years?

Given, Present Value of ₹ 1 discounted @ 20% cumulative for 1 to 8 years = 3.837 and Present Value of ₹ 1 in 8th year discounted @ 20% = 0.233.

**Answer 4.**

## Cost of Acquisition

		₹ Crore
10% Cumulative Preference share		100
12% Convertible debentures		84
Ordinary share capital ₹ (30/3×42)		420
Payment of current liabilities		100
Gross payment (A)		<u>704</u>
Less realization from		
Investment	55	
Stock	150	
Book debts	102	
Cash & Bank	65 (B)	<u>372</u>
Net Cost (A-B)		<u>332</u>

Computation of annual after-tax cash flows.

$$332 = A \times PVAF (0.20,8)$$

$$332 = A \times 3.837 \text{ or } A = ₹ 86.53 \text{ crore (Annual Cash Flows)}$$

Computation of annual after-tax cash flows with salvage value.

$$332 = A \times PVAF (0.20,8) + 30 \times PVF (0.20,8)$$

$$332 = 3.837A + 0.233 \times 30$$

$$332 = 3.837A + 6.99$$

$$A = ₹ 84.70 \text{ Crores (Annual cash flows with salvage value of ₹ 30 crore after 8 years.)}$$

**Q. 5. (a)** Print plus Publishers Ltd. has been approached by another publisher Welldone Ltd. which is interested in buying the copyright of the book 'Portfolio Management'. [7]

To estimate the value of the copyright, the following assumptions are made :

- (i) The book is to generate ₹ 1,50,000 in after-tax cash flows each year for the next three years and ₹ 1,00,000 a year for the subsequent two years. These are the flows after payment of author royalties, promotional expenses and production costs.
- (ii) About 40% of these cash flows are from large organisations that place 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 to the 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.

**(b)** What are the different methods of valuing self-generated brands?

[8]

**Answer 5. (a)**

The Value of the copyright can be estimated as follows :

Year	Stable cash flows ₹	PVF @ 7% approx ₹	PV @ 7% ₹	Volatile cash flows ₹	PVF @ 10% approx	PV @ 10%
1	60,000	0.9345	56,075	90,000	0.9091	81,818
2	60,000	0.8734	52,406	90,000	0.8264	74,380
3	60,000	0.8163	48,978	90,000	0.7513	67,619
4	40,000	0.7629	30,516	60,000	0.6830	40,981
5	40,000	0.7130	28,519	60,000	0.6209	37,255
			<u>2,16,494</u>			<u>3,02,053</u>

The Value of the copyright is

$$₹ 2,16,494 + 3,02,053 = ₹ 5,18,547$$

**Answer 5. (b)**

**Important methods in valuation of self generated brands are discussed below :**

- (i) **Historical cost method** : Here Brand value is the sum total of Brand Development cost + Brand Marketing and Distribution cost + Brand Promotion cost including advertising and other cost.
- (ii) **Replacement Price Model** : It is the opportunity cost of investment made for replacement of brand.  
Brand Value = Replacement Brand Cost
- (iii) **Market Price Model** : Here Brand value is net realizable value on sale in the market..
- (iv) **Current Cost Model** : According to this approach, the current corporate brands are valued at the current value to the group which is reviewed annually and not subject to amortization.
- (v) **Potential Earning Model** : The potential Earning model is based on the estimated potential earning that would be generated by a brand and their capitalization by using appropriate discount rate. The volume of revenues raised by a brand in the market, determines its value.

Total market value of brand = Net brand revenue/capitalization rate.

Net Brand revenues = (Brand units × Unit brand price) – (Brand units × Unit brand cost) (Marketing cost + R & D cost + tax costs)

**Q. 6. (a)** From the following information taken from the books of Progressive Ltd. 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. [6]

	₹
Environmental Improvements	20,10,000
Medical Facilities to staff and family	45,00,000
Training Programmes conducted in-house	10,25,000
Generation of Job Opportunities in the locality	60,75,000
Municipal Taxes paid	10,70,000
Increase in cost of living in the vicinity due to a thermal power station	16,55,000
Concessional transport, water supply to staff	11,25,000
Extra work put in by company staff and 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 on premises	14,40,000
Generation of business in the district	25,00,000

(b) You have been provided the following financial data pertaining to RITZ LTD, an Engineering company. [9]

Year ended March 31	2012	2011	2010
Profit before Interest and Tax (₹ million)	3396	2310	1785
Non-branded Income (₹ million)	335	125	112
Inflation factor	1.000	1.064	1.132
Weightage factor	3	2	1
Average Capital Employed (ACE) (₹ million)	6550		
Remuneration to Capital (8% of Avg. Capital employed)	8%		
Corporate Tax rate	35%		
Brand Multiple Applied	23.20		

You are required to calculate the BRAND VALUATION of RITZ LTD.

**Answer 6. (a)**

**Progressive 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 facility for children of staff members	21,60,000
6. Subsidised canteen facilities	14,40,000
<b>Total</b>	<b>1,54,50,000</b>

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B. Social Cost to Staff		
Extra work put in by staff and officers for drought relief		18,50,000
Net Social Benefits to Staff (A–B)		<u>1,36,00,000</u>
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		<u>25,00,000</u>
	Total	<u>1,16,55,000</u>
B. Social Costs to Community		
Increases in cost of living in the vicinity due to a thermal power station		<u>16,55,000</u>
Net Social Benefits to Community (A – B)		<u>1,00,00,000</u>

**Answer 6. (b)**

**RITZ LTD.**

**Calculation of Brand Value (Amount in ₹ Million)**

Year ended March 31	2012	2011	2010
Profit Before Interest and Tax	3396	2310	1785
Less : Non-Branded Income	335	125	112
Adjusted Profit before Tax	3061	2185	1673
Inflation factor	1.000	1.064	1.132
Present Value of Profits	3061	2325	1894
Weightage factor	3	2	1
Weighted Average Profit	2621	–	–
Remuneration to Capital (8% of Average Capital employed)	524		
Brand – Related Profits	2097		
Corporate Tax @ 35%	734		
Brand Earnings	1363		
Brand Multiple Applied	23.20		
Brand Value : (₹ in million)	31622		
(1363 × 23.20)			

**Workings :** Weighted Average Profit =  $\frac{(3061 \times 3) + (2325 \times 2) + (1894 \times 1)}{3 + 2 + 1} = 2621.$

**Q. 7. (a)** Discuss the major aspects and decision Rules of the Discounted Cash Flow (DCF) Model. [5]

**(b)** The following is provided in relation to VASUDA LTD and MASHIT LTD.

	VASUDA LTD	MASHIT LTD
Market Price per Share	₹ 60	₹ 20
No. of Shares	600000	200000
Market Value of the Firm	₹ 360 lakhs	₹ 40 lakhs

Firm Vasuda Ltd. intends to acquire firm Mashit Ltd. The market price per share of Mashit Ltd. has increased by ₹ 4 because of rumours that Mashit Ltd. might get a favourable merger offer. Vasuda Ltd. assumes that by combining the two firms it will save in costs by ₹ 20 lakh. Vasuda Ltd. has two options :

- (i) Pay ₹ 70 lakhs cash for Mashit Ltd.
- (ii) Offer 125000 shares of Vasuda Ltd. instead of ₹ 70 lakh to the shareholders of Mashit Ltd.

You are required to calculate :

- (a) The cost of the cash offer if Mashit Ltd.'s market price reflects, only its value as a separate entity. [2]
- (b) Cost of cash offer if Mashit Ltd.'s market price reflects the value of the merger announcement. [2]
- (c) Apparent cost of the stock offer. [3]
- (d) True cost of the stock offer. [3]

#### Answer 7. (a)

The discounted cash flow (DCF) analysis represents the net present value (NPV) of projected cash flows available to all providers of capital, net of the cash needed. The Present Value of an asset is arrived at by determining the present values of all expected future cash flows from the use of the asset. Mathematically,

The discounted cash flow formula is derived from the future value formula for calculating the time value of money and compounding returns.

$$DPV = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$$

$$FV = DPV \cdot (1+i)^n$$

where

- *DPV* is the discounted present value of the future cash flow (*FV*), or *FV* adjusted for the delay in receipt;
- *FV* is the nominal value of a cash flow amount in a future period;
- *i* is the interest rate, which reflects the cost of tying up capital and may also allow for the risk that the payment may not be received in full;
- *d* is the discount rate, which is  $i/(1+i)$ , i.e. the interest rate expressed as a deduction at the beginning of the year instead of an addition at the end of the year;
- *n* is the time in years before the future cash flow occurs.

Major aspects of DCF (Discounted Cash Flow) Model are :

- (i) It weights the time value of money explicitly while evaluating the Costs and benefits of a Project.
- (ii) Focus is on relevant Cash inflows and outflows during the entire life of the project as against income as computed in the accrual accounting sense.
- (iii) Two main variations of DCF
  - (a) NPV - Net present value is the total of the present value of Cash Flows (DCF) discounted at a given rate (generally the Costs of Capital/ desired rate of return).
  - (b) IRR - The IRR (Internal Rate of Return) has been defined as “ the maximum rate of interest that could be paid for the Capital employed over the life of an investment without loss on the Project.” It is the yield on investment.

**Decision Rules of DCF Models :**

- (i) If NPV is greater than “O,” accept the project.  
If NPV is < O, reject. If NPV = O, the project may be accepted specially when non-financial Considerations are strong enough.
- (ii) Rank the Projects according to their NPV’s (Net present value) and select required project as per ranking.
- (iii) In case of IRR all projects where IRR > Cost of capital/required rate of return can be selected.

**Answer 7. (b)**

- (a) Cost of the Cash offer if Mashit Ltd’s Market price reflects only its value as a Separate entity :

$$\begin{aligned} \text{Cost} &: = \text{Cash Paid} - PV_M \\ &= 70,00,000 - 40,00,000 = ₹ 30,00,000. \end{aligned}$$

- (b) Mashit Ltd’s Share price risen by ₹ 4 because of rumours that Mashit might get a favorable merger offer, means that the market price is over stated by  $4 \times 2,00,000 = ₹ 8,00,000$ . Hence the true value of Mashit Ltd in  $PV_M$  is only :

$$(40,00,000 - 8,00,000) = ₹ 32,00,000$$

$$\begin{aligned} \text{In this Case, Cost} &= \text{Cash Paid} - PV_M \\ &= (70,00,000 - 32,00,000) = ₹ 38,00,000 \end{aligned}$$

- (c) Cost of Stock Offer:  $N \times PV_M - PV_M$

Vasuda offers 1,25,000 Shares instead of ₹ 70 Lakh in Cash. Vasuda Ltd’s Share price before the deal is announced was ₹ 60. If Mashit Ltd is worth ₹ 40 Lakh stand alone (disregarding rumours) the Cost of the Merger will be :

$$\begin{aligned} \text{Apparent Cost} &= (1,25,000 \times 60 - 40,00,000) \\ &= 75,00,000 - 40,00,000 = ₹ 35,00,000. \end{aligned}$$

- (d) The new firm will have  $6,00,000 + 1,25,000$   
 $= 7,25,000$  Shares.

$$\begin{aligned} PV_M &= \text{Gain} + (PV_V + PV_M) \\ &= 20,00,000 + (3,60,00,000 + 40,00,000) \\ &= ₹ 4,20,00,000. \end{aligned}$$

$$\text{New Share Price} = (4,20,00,000) \div 7,25,000 = ₹ 57.93$$

$$\begin{aligned} \text{True Cost} &= (1,25,000 \times 57.93 - 40,00,000) \\ &= (72,41,250 - 40,00,000) = ₹ 32,41,250 \end{aligned}$$

- Q. 8.** The following information is provided in relation to the acquiring Company MARKET LTD. and the Target Company TRITON LTD.

	MARKET LTD	TRITON LTD
Earning after Tax (₹)	2000 lakh	400 lakh
Number of shares outstanding	200 lakh	100 lakh
P/E Ratio	10	5

Required :

- (a) What is the Swap Ratio in terms of current market prices? [4]  
 (b) What is the EPS of Market Ltd. after acquisition? [3]  
 (c) What is the expected Market Price per Share of Market Ltd. after acquisition assuming that P/E ratio of Market Ltd. remain unchanged? [2]  
 (d) Determine the Market value of the Merged Company. [2]  
 (e) Calculate Gain/Loss for shareholders of the two erstwhile independent companies after acquisition. [4]

**Answer 8.**

(a)

	MARKET LTD	TRITON LTD
Earning After Tax (₹)	2000 Lakh	400 Lakh
Number of Shares (Outstanding)	200 Lakh	100 Lakh
P/E Ratio	10	5
EPS	10 (2000/200)	4 (400/100)
Market Price = P/E × EPS	₹ 100	₹ 20

Therefore, swap ratio in terms of Market prices  
 MPS of target Company / MPS of acquiring company.

$$(20 \div 100) = 0.20$$

i.e. 1 Share of Market Ltd for every 5 shares of Triton Ltd.

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(b) We have a general formula given by :

$$EPS_{MT} = \frac{(E_M + E_T)}{(S_M + S_T(ER_M))}$$

Therefore, EPS of MARKET LTD after acquisition

$$= \frac{2000 + 400}{200 + 100 \times 0.20} = \frac{2400}{220} = ₹ 10.91$$

(c) Expected Market Price per Share of Market Ltd with the same P/E of 10 will be

$$= EPS \times P/E = ₹ 10.91 \times 10 = ₹ 109.10$$

(d) Market value of the Merged company :

= Total number of outstanding shares x market price

$$= (200 + 20) \text{ Lakh} \times ₹ 109.10 = ₹ 24002 \text{ Lakh}$$

(e) CALCULATION OF GAIN/ LOSS ACCRUING TO THE SHARE HOLDERS OF BOTH COMPANIES

	<b>Total</b>	<b>Market Ltd</b>	<b>TRITON LTD</b>
Number of shares after acquisition	220 Lakh	200 Lakh	20 Lakh
Market Price after acquisition	₹ 109.10	₹ 109.10	₹ 109.10
Total Market Value after acquisition	₹ 24002 Lakh	₹ 21820 Lakh	₹ 2182 Lakh
Existing Market Value	₹ 22000 Lakh	₹ 20000 Lakh	₹ 2000 Lakh
Gain to Shareholders:	₹ 2002 Lakh	₹ 1820 Lakh	₹ 182 Lakh