

# ***EQUITY VALUATION***

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## ***IMPORTANT QUESTIONS***

## CLASS WORK QUESTIONS

### Question 3:

A company has an EPS of Rs. 2.5 for the last year and the DPS of Rs. 1. The earnings is expected to grow at 2% a year in long run. Currently it is trading at 7 times its earnings. If the required rate of return is 14%, compute the following:

- An estimate of the P/E ratio using Gordon growth model.
- The Long-term growth rate implied by the current P/E ratio.

(Source: ICAI)

### Question 21:

Firm reported a BVPS of ₹ 80 & ROE of 17%, and it had a payout ratio = 80%. If equity capitalization rate ( $R_e$ ) is 15% p.a. Calculate value of share as per Gordon Model.

(Source: ICAI)

### Question 26:

The Digital Electronics System Corporation (DESC) pays no cash dividends currently and is not expected to for the next five years. Its latest (current) EPS was €10, all of which was reinvested in the company. The firm's expected ROE for the next five years is expected to be 20% per year and during this time it is also expected to continue to reinvest all of its earnings. It is expected that starting six years from now the DESC's ROE on new investments is expected to fall to 15% and it is expected that the corporation shall start paying out 40% of its earnings in form of cash dividends, which it will continue to do forever after. DESC's market capitalization rate is 15% per year.

- Using DDM model, what is the value of DESC's share today?
- Now suppose that the current market price of share is equal to as computed in (a) above, then what do you expect to happen to its price over the next year? The year after?
- If you are expecting that DESC to payout only 20% of earning then what is the price per share at the end of year 5.

(Source: ICAI)

### Question 29:

BRS Inc deals in computer and IT hardwares and peripherals. The expected revenue for the next 8 years is as follows:

Years	Sales Revenue (\$ Million)
1	8
2	10
3	15
4	22

5	30
6	26
7	23
8	20

Summarized financial position as on 31 March 2012 was as follows:

			\$ Million
Liabilities	Amount	Assets	Amount
Equity Stocks	12	Fixed Assets (Net)	17
12% Bonds	8	Current Assets	3
	20		20

Additional Information:

- i. Its variable expenses is 40% of sales revenue and fixed operating expenses (cash) are estimated to be as follows:

Period	Amount (\$ Million)
1- 4 years	1.6
5-8 years	2

- ii. An additional advertisement and sales promotion campaign shall be launched requiring expenditure as per following details:

Period	Amount (\$ Million)
1 year	0.50
2-3 years	1.50
4-6 years	3.00
7-8 years	1.00

- iii. Fixed assets are subject to depreciation at 15% as per WDV method.  
iv. The company has planned additional capital expenditures (in the beginning of each year) for the coming 8 years as follows:

Period	Amount (\$ Million)
1	0.50
2	0.80
3	2.00
4	2.50
5	3.50
6	2.50
7	1.50
8	1.00

- v. Working Capital is estimated to be 20% of Revenue.

- vi. Applicable tax rate for the company is 30%.
- vii. Cost of Equity is estimated to be 16%.
- viii. The Free Cash Flow of the firm is expected to grow at 5% per annum after 8 years.

Calculate:

- i. Value of Firm
- ii. Value of Equity

*(Source: ICAI)*

**Question 31:**

Calculate the value of share from the following Information:

Profit of the company (After tax)	₹ 560 crores
Equity share capital of the Company	₹ 1900 crores
Par value of share	₹ 50 each
Debt ratio (Debt/Debt + Equity)	43%
Long run growth rate of the company	7%
Beta 0.1 (Risk free Interest rate)	9.5%
Market return	12.6%
Capital expenditure per share	₹ 53
Depreciation per share	₹ 45
Increase in working capital	₹ 4.62 per share

*(Source: ICAI)*

**Question 35:**

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

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

Share Price	₹ 66 per share
Outstanding debt	1934 lakh
Number of outstanding shares	75 lakh
Net income (PAT)	17.2 lakh
EBIT	245 lakh
Interest expenses	218.125 lakh
Capital expenditure	234.4 lakh

Depreciation	234.4 lakh
Working capital	44 lakh

Growth rate 8% (from 2010 to 2014)

Growth rate 6% (beyond 2015)

Free cash flow 240.336 lakh (year 2015 onwards)

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

Required:

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

**(Source: ICAI)**

**Question 36:**

XYZ Ltd. is considering a new sales strategy that will be valid for the next 4 years. Following information relating to the year which has just ended, is available:

Income Statement	₹
Sales	40,000
Gross margin (20%)	8,000
Administration, Selling & distribution expense (10%)	4,000
PBT	4,000
Tax (30%)	1,200
PAT	2,800
Balance Sheet Information	
Fixed Assets	16,000
Current Assets	8,000
Equity	24,000

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

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

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

Evaluate the adoption of the strategy.

**Note:** Round-off calculations upto two decimal points.

**(Source: ICAI)**

**Question 39:**

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

- i. Market to book value
- ii. Market to replacement cost
- iii. Market to sales
- iv. Market to Net Income

The following data are available for your analysis:

	(Amount in ₹)		
	SK Ltd.	AS Ltd.	XY Ltd.
Market Value	450	400	
Book Value	400	300	250
Replacement Cost	600	550	500
Sales	550	450	500
Net Income	18	16	14

(Source: ICAI)

**Question 47:**

Consider the following operating information gathered from 3 companies that are identical except for their capital structures:

	P Ltd.	Q Ltd.	R Ltd.
Total invested capital	€100,000	€100,000	€100,000
Debt/assets ratio	0.80	0.50	0.20
Shares outstanding	6,100	8,300	10,000
Before-tax cost of debt	14%	12%	10%
Cost of equity	26%	22%	20%
Operating income, (EBIT)	€25,000	€25,000	€25,000
Net Income	€8,970	€12,350	€14,950
Tax rate	35%	35%	35%

- i. Compute the weighted average cost of capital, WACC, for each firm.
- ii. Compute the Economic Value Added, EVA, for each firm.
- iii. Based on the results of your computations in part b, which firm would be considered the best investment? Why?
- iv. Assume the industry P/E ratio generally is 15 ×. Using the industry norm, estimate the price for each share.
- v. What factors would cause you to adjust the P/E ratio value used in part d so that it is more appropriate?

(Source: ICAI)

**Question 48:**

From the following data compute the value of business using EVA method

	Current Period	Projected Periods	
	2010	2011	2012
Total Invested Capital	₹ 90,00,000	₹ 1,00,00,000	₹ 1,10,00,000
Adjusted NOPAT	₹ 12,60,000	₹ 14,00,000	₹ 16,00,000
WACC	8.42%		

Capital Growth (g) is projected = 6.5% per year after 2012.

(Source: ICAI)

**Question 52:**

Capital structure of Sun Ltd., as at 31.3.2003 was as under:

	(₹ in lakhs)
Equity share capital	80
8% Preference share capital	40
12% Debentures	64
Reserves	32

Sun Ltd., earns a profit of ₹ 32 lakhs annually on an average before deduction of income tax, Which works out to 35%, And interest on debentures.

Normal return on equity shares of companies similarly placed is 9.6% provided:

- a. Profit after tax covers fixed interest and fixed dividends at least 3 times.
- b. Capital gearing ratio is 0.75.
- c. Yield on share is calculated at 50% of profits distributed and at 5% on undistributed profits.

Sun Ltd., has been regularly paying equity dividend of 8%.

Compute the value per equity share of the company assuming:

- i. 1% for every one time of difference for Interest and Fixed Dividend Coverage.
- ii. 2% for every one time of difference for Capital Gearing Ratio.

(Source: ICAI)

**Question 53:**

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

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

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

- Profit for the current year ₹ 64 lakhs includes ₹ 4 lakhs extraordinary income and ₹ 1 lakh income from investments of surplus funds; such surplus funds are unlikely to recur.
- In subsequent years, additional advertisement expenses of ₹ 5 lakhs are expected to be incurred each year.
- Market value of Land and Building and Plant and Machinery have been ascertained at ₹ 96 lakhs and ₹ 100 lakhs respectively. This will entail additional depreciation of ₹ 6 lakhs each year.
- Effective Income-tax rate is 30%.

The capitalization rate applicable to similar businesses is 15%.

*(Source: ICAI)*

**Question 54:**

Following Financial data are available for PQR Ltd. for the year 2008:

	(₹ in lakh)
8% debentures	125
10% bonds (2007)	50
Equity shares (₹ 10 each)	100
Reserves and Surplus	300
Total Assets	600
Assets Turnovers ratio	1.1
Effective interest rate	8%
Effective tax rate	40%
Operating margin	10%
Dividend payout ratio	16.67%
Current market Price of Share	₹14
Required rate of return of investors	15%

You are required to:

- Draw income statement for the year
- Calculate its sustainable growth rate of earnings
- Calculate the fair price of the Company's share using dividend discount model, and
- What is your opinion on investment in the company's share at current price?

*(Source: ICAI)*

**Question 56:**

Monopolo Ltd. has a paid-up ordinary share capital of Rs. 2,00,00,000 represented by 4,00,000 shares of Rs. 50 each. Earnings after tax in the most recent year were Rs. 75,00,000 of which Rs. 25,00,000 was distributed as dividend. The current price/earnings ratio of these shares, as normally reported in the financial press, is 8.

The company is planning a major investment that will cost Rs. 2,02,50,000 and is expected to produce additional after tax earnings over the foreseeable future at the rate of 15% on the amount invested.

It was proposed by CFO of company to raise necessary finance by a rights issue to the existing shareholders at a price 25% below the current market price of the company's shares.

- a. You have been appointed as financial consultant of the company and are required to calculate:
  - i. The current market price of the shares already in issue;
  - ii. The price at which the rights issue will be made;
  - iii. The number of new shares that will be issued;
  - iv. The price at which the shares of the entity should theoretically be quoted on completion of the rights issue (i.e. the 'ex-rights price'), assuming no incidental costs and that the market accepts the entity's forecast of incremental earnings.
- b. It has been said that, provided the required amount of money is raised and that the market is made aware of the earning power of the new investment, the financial position of existing shareholders should be the same whether or not they decide to subscribe for the rights they are offered.

You are required to illustrate that there will be no change in the existing shareholder's wealth.

*(Source: ICAI)*

**Question 59:**

Telbel Ltd. is considering undertaking a major expansion an immediate cash outlay of ₹ 150 crore. The Board of Director of company are expecting to generate an additional profit of ₹ 15.30 crore after a period of one year. Further, it is expected that this additional profit shall grow at the rate of 4% for indefinite period in future.

Presently, Telbel Ltd. is completely equity financed and has 50 crore shares of ₹10 each. The current market price of each share is ₹ 22.60 (cum dividend). The company has paid a dividend of ₹ 1.40 per share in last year. For the last few years dividend is increasing at a compound rate of 6% p.a. and it is expected to be continued in future also. This growth rate shall not be affected by expansion project in any way.

Board of Directors are considering following ways of financing the possible expansion:

- a. A right issue on ratio of 1:5 at price of ₹15 per share.
- b. A public issue of shares.

In both cases the dividend shall become payable after one year.

You as a Financial Consultant required to:

- i. Determine whether it is worthwhile to undertake the project or not.
- ii. Calculate ex-dividend market price of share if complete expansion is financed from the right issue.
- iii. Calculate the number of new equity shares to be issued and at what price assuming that new shareholders do not suffer any loss after subscribing new shares.
- iv. Calculate the total benefit from expansion to existing shareholders under each of two financing option.

*(Source: ICAI)*

**Question 62:**

Following information is available of M/s. TS Ltd.

PBIT	5.00
Less : Interest on Debt (10%)	1.00
PBT	4.00
Less: Tax @ 25%	1.00
PAT	3.00
No. of outstanding shares of ₹ 10 each	40 lakh
EPS (₹)	7.5
Market price of share (₹)	75
P/E ratio	10 Times

TS Ltd. has an undistributed reserves of ₹ 8 crores. The company requires ₹ 3 crores for the purpose of expansion which is expected to earn the same rate of return on capital employed as present. However, if the debt to capital employed ratio is higher than 50%, then P/E ratio is expected to decline to 8 Times and rise in the cost of additional debt to 14%. Given this data which of the following options the company would prefer, and why?

Option (i) : If the required amount is raised through debt, and

Option (ii) : If the required amount is raised through equity and the new shares will be issued at a price of ₹ 25 each.

**(Source: ICAI)**

**Question 64:**

Mr. X wants to buy shares of A Ltd. (having a Beta of 2) at current market price of ₹ 500 each having face value of ₹ 100. He is expecting a bonus at the ratio of 1: 4 during the fifth year. Annual expected dividend is 20% and the same rate is expected to be maintained throughout the holding period. He intends to sell the shares at the end of 7th year and expect that the market price shall be doubled during this holding period. Incidental expenses for purchase of shares are estimated to be 5% of the market price. The risk-free rate of return and market rate of return are 5% and 7.50% respectively.

Advise Mr. X should buy this share or not. If so, then recommend the maximum price should he pay for each share.

Note: Assume no tax on dividend income and capital gain.

**(Source: ICAI)**

**Question 65:**

Rohan Ltd. has surplus cash of ₹ 150 lakhs and wants to distribute 35% of it to the shareholders. The company decides to buy back shares. The Finance Manager of the company estimates that its share price after re-purchase is likely to be 15% above the buyback price-if the buyback route is taken. The number of shares outstanding at present is 10 lakhs and the current EPS is ₹ 3.

Determine:

- i. The price at which the shares can be re-purchased, if the market capitalization of the company should be ₹ 320 lakhs after buyback,
- ii. The number of shares that can be re-purchased, and
- iii. The impact of share re-purchase on the EPS, assuming that net income is the same.

**(Source: ICAI)**

**Question 66:**

Eager Ltd. has a market capitalization of Rs. 1,500 crores and the current market price of its share is Rs. 1,500. It made a PAT of Rs. 200 crores and the Board is considering a proposal to buy back 20% of the shares at a premium of 10% to the current market price. It plans to fund this through a 16% bank loan. The company's corporate tax rate is 30%. Calculate the post buy back Earnings Per Share (EPS).

**(Source: ICAI)**

**Question 69:**

ABC Limited'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.

Required:

What are the ex-right price of shares and the value of a right, if

- 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 shareholders' wealth (holding 100 shares) change from (i) to (ii)? How does right issue increases shareholders' wealth?

**(Source: ICAI)**

**Question 70:**

SAM Ltd. has just paid a dividend of ₹ 2 per share and it is expected to grow @ 6% p.a. After paying dividend, the Board declared to take up a project by retaining the next three annual dividends. It is expected that this project is of same risk as the existing projects. The results of this project will start coming from the 4th year onward from now. The dividends will then be ₹ 2.50 per share and will grow @ 7% p.a.

An investor has 1,000 shares in SAM Ltd. and wants a receipt of at least ₹ 2,000 p.a. from this investment.

Demonstrate how the market value of the share is affected by the decision of the Board. Also demonstrate as to how the investor can maintain his target receipt from the investment for first 3 years and improved income thereafter, given that the cost of capital of the firm is 8%.

*(Source: ICAI)*

**Question 73:**

AB Industries has Equity Capital of ₹ 12 Lakhs, total Debt of ₹ 8 Lakhs, and annual sales of ₹ 30 Lakhs. Two mutually exclusive proposals are under consideration for the next year. The details of the proposals are as under:

Particulars	Proposal no. 1	Proposal no. 2
Target Assets to Sales Ratio	0.65	0.62
Target Net Profit Margin (%)	4	5
Target Debt Equity Ratio (DER)	2:3	4:1
Target Retention Ratio (of Earnings) (%)	75	-
Annual Dividend (₹ In Lakhs)	-	0.30
New Equity Raised (₹ in Lakhs)	-	1

You are required to calculate sustainable growth rate for both the proposals.

*(Source: ICAI)*

**Question 74**

Mr. A is contemplating purchase of 1,000 equity shares of a Company. His expectation of return is 10% before tax by way of dividend with an annual growth of 5%. The Company's last dividend was ₹ 2 per share. Even as he is contemplating, Mr. A suddenly finds, due to a Budget announcement Dividends have been exempted from Tax in the hands of the recipients. But the imposition of Dividend Distribution Tax on the Company is likely to lead to a fall in dividend of 20 paise per share. A's marginal tax rate is 30%.

Required:

Calculate what should be Mr. A's estimates of the price per share before and after the Budget announcement?

*(Source: ICAI)*

**Question 81:**

Intel Ltd., promoted by a Trans National Company, is listed on the stock exchange holding 80%.

The value of the floating stock is ₹ 45 crores. The Market Price per Share (MPS) is ₹ 150.

The capitalisation rate is 20%.

The promoters holding is to be restricted to 75% as per the norms of listing requirement. The Board of Directors have decided to fall in line to restrict the Promoters' holding to 75% by issuing Bonus Shares to minority shareholders while maintaining the same Price Earnings Ratio (P/E).

You are required to calculate:

- i. Bonus Ratio;
- ii. MPS after issue of Bonus Shares; and
- iii. Free float Market capitalisation after issue of Bonus Shares.

**(Source: ICAI)**