

m.cq's

- 1) D) IRR is the most reliable means of choosing between mutually exclusive projects
- 2) A) Market price of share / Earning per share
- 3) D) All of the above
- 4) D) 10,00,000
- 5) (i) There is a positive cash flow of 2500
 Negative cashflows = 1500 and

$$[(2500 - 1500) * 0.4] 400 \text{ on date 1}$$

$$\text{ii) } NPV = 600 * V_1 = 600 * (1 - 0.2) = 480$$

$$\text{iii) If the supplier allows to pay them at date 2 the}$$

$$\text{New NPV} = 2500 * V_1 - 1500 * V_2 - 400 * V$$

$$= 720$$

Hence, NPV will increase
- 6) Ratios which are being analysed are as follows:-
 - i) which relate to the business financial structure
 - ii) which measure liquidity.
 - iii) which measure profitability
 - iv) which measure business efficiency

→ To increase efficiency, we need inventory turnover period

$$\text{stock turnover period} = \frac{\text{inventories}}{\text{cost of sales}} \times 365$$

- 7) The limitations of ratio analysis are as follows:-
- There could be peculiarities of the trade which make it difficult to interpret certain ratios.
 - It diverts attention from the figures and statements themselves.
 - Comparisons can be affected by different accounting policies or by other external factors.

Q8) i) Reasons why stocks trade at different betas in the stock market are as follows:-

- The beta of stocks indicates how variable its price is in comparison to the overall stock market. This volatility relates to the existing activities of the company. It considers factors which are risk involved, the potential of growth of the company.

ii)
$$\text{geared beta} = \text{Ungeared beta} \times \left[1 + \frac{\text{debt}}{\text{equity}} \times (1 - \text{tax rate}) \right]$$

Current geared beta = 1:1

Current debt : current equity = 1:2

tax rate = 30%

$$1:1 = \text{Ungeared beta} \times \left[1 + \frac{1:2}{1} (1 - 30\%) \right]$$

$$\text{Ungeared beta} = \frac{1:1}{1 + \frac{1}{2}(1 - 0.3)}$$

$$= \frac{1:1}{1 + \frac{1}{2}(1 - 0.3)}$$

Ungeared beta = 0.815

New debt equity = 2:2

$$\text{New geared beta} = (0.815) \left[1 + \frac{2:2}{1} (1 - 30\%) \right]$$

$$= (0.815) (1 + 0.7)$$

$$= 1.3855$$

New geared debt = 1.4

Q9) D) In general the market value of investment asset is not correlated to the net present value.

11) i) Beta is a numeric value that measures the fluctuations of stock to changes in the overall stock market. In simple words, beta can be used to measure the volatility of a stock.

Formula = Covariance of the individual

- ii) Beta can be determined using the formula i.e. dividing the Covariance of the individual company's returns by Variance of market returns
- iii) A beta of 1 means that the stock is strongly correlated to the market and hence moves with the same pace of the market. I think that investing in a stock with either beta is equally risky. However, personally, I would invest in a stock with beta = 1
- iv) Treasury bills and Government issued bonds are some financial instruments that have zero beta value

12) i) $WACC = (\text{Cost of equity}) \times (\% \text{ equity}) + (\text{Cost of debt}) \times (\% \text{ debt})$

Cost of equity = $r_f + \text{Beta} \times (r_m - r_f)$ equity & debt

$$WACC = 0.145 \times 0.5 + 9\% \times 0.5 \times (1 - 25\%) = 0.145$$

$$= 10.625\%$$

ii) Ungeared beta needs to be computed

$$\beta_z = \beta_u \times \left(1 + \frac{D}{E}(1 - \tau)\right)$$

$$1.5 = \text{Ungeared beta} \times (1 + 1/2 \times (1 - 25\%))$$

$$1.5 = \text{Ungeared beta} \times 1.75$$

$$\text{Ungeared beta} = 1.5 / 1.75 = 0.857143$$

$$\begin{aligned} \text{New cost of equity} &= 7\% + 0.857143 \times 5\% \\ &= 11.29\% \end{aligned}$$

13) i) At IRR, present value of cash outflow = present value of cash inflow, hence cost of Project = $40,000 \times 2.855$
 $= \text{₹ } 1,14,200$

ii) Cost of capital = $(160000 / 121509)^{1/4} - 1$
 $= 7.129\%$

iii) Profitability Index = 1.064

$$1.064 = \text{P.V of cash inflow} / 114200$$

$$\text{Present value of cash inflow} = 121509$$

$$\begin{aligned} \text{Net present value at cost of project} &= 121509 \\ &\quad - 114200 \\ &= 7309 \end{aligned}$$

iv) Cost of capital payback period = $114200 / 49,000$
 $= 2.855$

Q14) i) a) Current Ratio - One of the liquidity ratios that can measure a company's ability to pay its short term loans. To achieve a high current ratio, Companies require high current assets and/or low current liabilities or short term loans.

b) The Debtors Turnover Ratio shows how quickly the credit sales are converted into the ~~cash~~ cash. This ratio measures the efficiency of a firm in managing and collecting

the credit issued to the customers

ii) A high turnover ratio indicates the company has a low amount of inventory for sale, which may cause it to lose potential sales. Since this is the case, I think we should judge the company's ability to pay its short term loans using quick ratio because it takes into account the inventory the company holds.

10) The shareholder's wealth can be maximised by improving the stock price. The problem with this is that the stock price depends on the beta of the company. The higher the beta the more the return it generates. So the companies could they to improve their beta by either increasing their ~~debt~~ ^{debt}. ~~To increase their equity~~ ratio or by their risk.

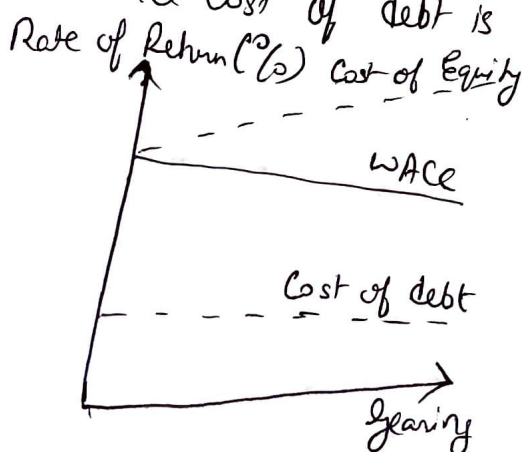
15) i) Investors may invest in the shares of the company.

- To diversify the portfolio
- To execute strategies like Strategic holding.
- To maximize return return

(8% The suitable cost of capital is anything higher than 6%)

$$(8\% \times 0.5 + 4\% \times 0.5)$$

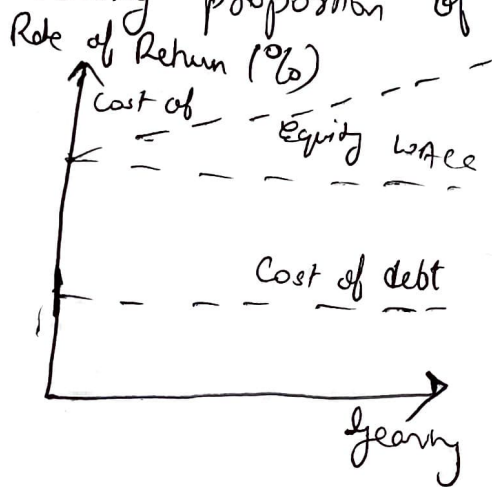
ii) On increase of the company gearing, WACC remains constant. Since cost of debt is cheaper than cost of equity



iii) First irrelevance proposition: -

- Debt is risk free
- No taxes
- No agency costs
- No information asymmetry

iv) WACC Remains constant as gearing increases. Upon increase of gearing, The cost of equity increases just enough to offset the increasing proportion of the cheaper debt.



v) a) Beta is a measure of volatility of a security

(i) $R_f = 6\%$

Equity Risk Premium = 5% Beta = 1.4

$$\text{Cost of Equity (K}_e\text{)} = R_f + B / (\text{Equity Risk Premium})$$
$$= 6\% + 1.4 / (5\%)$$

$$\text{Cost of Equity (K}_e\text{)} = 13\%$$

ii) Market cap = 100mn

$$\text{Debt/Equity Ratio} = 0.5 / 0.5 = 1$$

$$\text{Geared Beta} = \text{Ungeared Beta} \times \left(1 + \left(\frac{\text{Debt}}{\text{Equity Ratio}}\right) \times (1 - \text{Tax})\right)$$

$$= 1.4 \times [1 + 1 \times 0.7] = 2.38$$

iii) New $K_e = R_f + \text{Geared Beta} \times (\text{Equity Risk Premium})$

$$= 6\% + 2.38(5\%)$$
$$= 17.9\%$$