

Q1) D

Q2) A

Q3) D

Q4) D

Q6) following are the ratios used to measure efficiency of business

- Inventory turnover period $\Rightarrow$ This ratio shows how long inventory is held for on average. A less inventory turnover period tells that the company is ~~more~~ efficient. i.e. they ~~are~~ stock is not piling up and fast sales.

- Trade Receivable Turnover Period - It is a measure of average time taken by for trade receivables to settle their balance. It is desirable for this period to as short as possible.

$$= \frac{\text{Trade Receivables} \times 365}{\text{Credit Sales}}$$

- Trade Payable Turnover Period - It is a measure average no. of days of credit that a company has from its supplier. It is desirable for the time to be as long as possible, as it will benefit the cashflow of the company.

$$= \frac{\text{Trade payables} \times 365}{\text{Credit Purchase}}$$

Q7) Following are the limitations of Ratio analysis:-

- Historical Basis

All the information used in Ratio analysis is derived from historical results. This does not mean that the same results will be carried forward into future.

- Company might change its operational structure to such a extent that ratio calculate few years ago and current when compared to today's ratio or will mislead to conclusion.

- Different companies might use different method recording a same transaction, this means the result for the ratios cannot be compared.

- Some ratios extract information on ~~based of~~ from balance sheet. ~~Balance sheet~~ contains the information. If there was some unusual transaction on the last day of reporting period, can impact ratio analysis.

Q8) i) Beta is a measure of the volatility or systematic risk of a stock when compared to market. The company which has high risk involved their betas will be also greater and that ($\beta > 1$), companies which are stable in market have of β below 1, and some some companies are negatively correlated with the market so they have $\beta < 0$.

ii) $\beta_g = 1.1$ debt/equity = $\frac{1}{2}$ $t = 30\%$

$$\beta_g = \beta_{ug} \left(1 + \frac{\text{debt}}{\text{equity}} (1 - t) \right)$$

$$1.1 = \beta_{ug} \left(1 + \frac{1}{2} (1 - 0.3) \right)$$

$$\beta_{ug} = 0.8148$$

Now debt/equity = $\frac{2}{2}$

$$\beta_g = 0.8148 \left(1 + \frac{2}{2} (1 - 0.3) \right)$$

$$1.385$$

Q9) D

10) i) The goal of management is to minimize the wealth of shareholder.

ii) However, sometimes management decisions are not consistent with the objective.

iii) Separation of management and ownership has permitted many managers to pursue goals which are more consistent with their own interests.

Date ___/___/___

$$ii) COE = DY + GK = \frac{10}{70} + 8\% = 22.28\%$$

$$22.28\% = 6\% + \beta(5\%) \quad \beta = 3.257$$

Systemic Risk Increased by 80%

$$\therefore \beta_N = 3.257 + (0.8)(3.257) = 5.8626$$

$$COE = 6\% + 5.8626(5\%) = 35.31\%$$

$$35.31 = \frac{10}{x} + 8\% \quad [x = 36.6]$$

Q11) i) β is a measure of volatility or systemic risk of a stock when compared to the whole market

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

σ_{im} = covariance b/w

stock and market

σ_m^2 = variance of market index

OR

$$\beta_i = \rho_{im} \frac{\sigma_i}{\sigma_m}$$

ρ_{im} = coefficient of correlation b/w company and market

σ_i and σ_m are the standard deviations of stock and market index respectively

$$ii) \beta_g = \beta_{un} \left(1 + \frac{\text{Debt}}{\text{Equ}} (1 - \tau_c) \right)$$

iii) As an active stock market trader, I would invest in a stock with a β of 1 because stock with β of -1 would move forward when market falls and the business which perform well with falling market can't be trusted.

iv) Treasury Bonds or Govt. Bonds are likely to have β of 0.

Q12) debt:equity = 1:1 $r_f = 7\%$ $r_p = 5\%$
 $D_e = 9\%$ $\beta = 1.5$ $t = 25\%$

i) Net cost of debt = $D_e (1 - t)$
 $= 0.09 (1 - 0.25) = 0.0675$
 $= 6.75\%$

Net cost of equity = $r_f + \beta(r_p - r_f)$
 $= 0.07 + 1.5(0.05) = 14.5\%$

WACC = $\frac{\text{Net cost of debt} \times \text{MV of debt} + \text{Net cost of equity} \times \text{MV of equity}}{\text{MV of debt} + \text{equity}}$
 $= (0.0675) + (0.145) = 10.64\%$

ii) $\beta_g = \beta_{\text{avg}} \left(1 + \frac{D}{E} (1 - t) \right)$

$1.5 = \beta_{\text{avg}} \left(1 + \frac{1}{1} (1 - 0.25) \right)$
 $\beta_{\text{avg}} = 0.857$

Net cost of eq = $(0.07 + 0.857 (0.05)) = 11.285\%$

Q13) $IRR = 15\%$

$$NPV = \text{Initial Investment} + 40000 \left((1.15)^{-1} + (1.15)^{-2} + (1.15)^{-3} + (1.15)^{-4} \right)$$

$$0 = II + 40000 \times 2.855$$

$$II = -1142000 \text{ Rs}$$

$$PI = \frac{\text{Present Value of Cash inflows}}{\text{Initial Investment}} = \frac{x}{114200}$$

$$1.064 \times 114200 = x$$

$$x = 121508.8$$

$$NPV = \text{Inflow NPV of Inflow} - NPV \text{ of outflow}$$

$$= 121508.8 - 114200 = 7308.8$$

ii) Cost of capital = x

$$7308.8 = -114200 + 40000 \left((1+x)^{-1} + (1+x)^{-2} + (1+x)^{-3} + (1+x)^{-4} \right)$$

$$3.03722$$

$$x = 12.7\%$$

iii) Cost of project = 114200 Rs

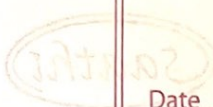
iv) Payback period = II

Amount of annuity every year

$$= \frac{114200}{40000} = 2.855 \text{ years}$$

Q14) a) Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

It is used to assess whether the company will be able to pay its bills over few months



Date ____ / ____ / ____



A low ratio indicate that a company may have problems paying its creditors.

b) Debtors Turnover Periods $\frac{\text{Average Account Rec.}}{\text{Net Credit Sale}}$

It refers to the ~~period~~ time period for trade receivable to settle their balances

ii) X410 should use quick ratio to ascertain whether the company would be able to meet its short term liabilities.

$$QR = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

It focuses on readily ~~settle~~ realizable cash. If QR is low it means that the company may struggle to pay its due balances.

Q15) i) An investor might buy shares of this company because it provides high dividend yield of 4%.

$$\text{Net cost of debt} = 8\%$$

$$\text{Net cost of equity} = d + y = 4\%$$

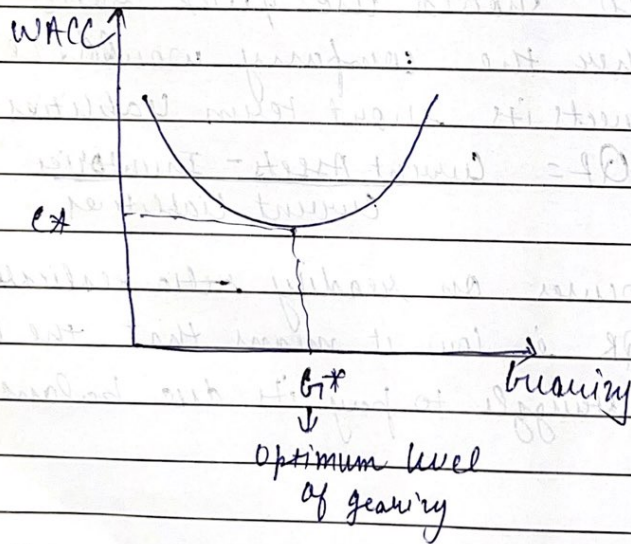
$$WACC = \frac{4\% + 8\%}{2} = 6\%$$

ii) Traditional View

The traditional ~~view~~ school focused on optimum level of gearing.

They believed that increasing in level of gearing will decrease the cost of capital and further increasing it will eventually increase the cost of capital.

The ~~COC~~ increase in COC is ~~due to~~ because of increase in financial risk for the company hence result in increasing of cost of equity too.



iii)

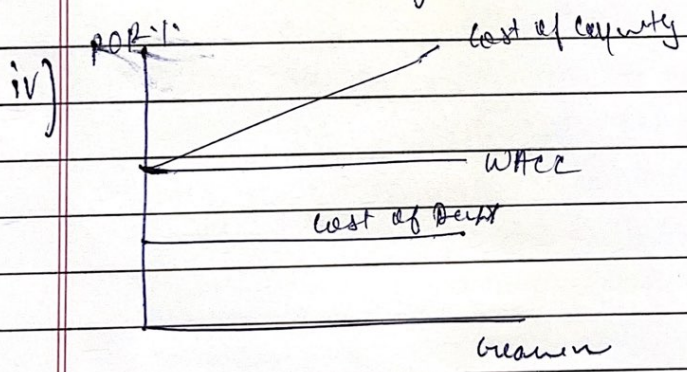
First irrelevance proposition of Modigliani and Miller states that ^{market} value of ~~level~~ a firm ~~is not~~ does not depend on the structure of its finance.

Date ___ / ___ / ___

Assumptions -

- There are no taxes.
- Debt is risk free.
- There are no agency costs.
- There are no information asymmetries.
- Unlimited personal and company borrowing at same interest.

They believed that the value of the company depend on its ability to produce profits and not on capital structure.



v) $r_f = 6\%$ $R_p = 5\%$ $\beta_{eq} = 1.4$

$$COE = r_f + (\beta \times R_p)$$

$$= 6\% + (1.4) 5\% = 13\%$$

b) Total market capital = 100m
 Market value of Debt = 50%
 Debt/Equity = 50% / 50%

$t = 30\%$

$$\beta_u = 1.4 \left(1 + \frac{1}{1 - 0.3} \right) = 2.38$$

Saathi

Date ____ / ____ / ____

$$\begin{aligned} c) \text{ CoE} &= r_p + (\beta^* R_p) \\ &= 6\% + 2.38(5\%) = 17.9\% \end{aligned}$$