

- 1) D.
- 2) A.
- 3) D.
- 4) D.

5) Tax = 40%.

Discount Rate = 20%.

Cashflows at time $t=1$:

* Inflows = 2500 Rupees

* Outflows = 1500 Rupees

$$(i) \text{ Net cashflow at } t=1 = \text{Inflow} - \text{Outflow} \\ = 1000$$

$$\text{Net cashflow after tax at } t_1 = 1000(1 - \text{Tax}\%) = 600 \text{ Rupees.}$$

$$(ii) \text{ NPV} = 600 * (1.2)^{-1} = 500 \text{ Rupees.}$$

(iii) Cashflows at t_2

inflow = 2500

outflow = 0

Net cashflow = 2500

Net cashflow after tax = $2500(1 - \text{Tax}\%)$

= 1500

(iv) Cashflow at time 2:

inflow = 0

outflow = 1500

net cashfl. = -1500

$$\text{NPV} = 1500 * (1.2)^{-1} - 1500(1.2)^{-2}$$

= 208.34 Rupees.

6)

Efficiency ratios determine how productively a company manages its assets and liabilities to maximize the profit.

Shareholders look at efficiency ratios to assess how effectively their investments in the company are being used.

Some of the most commonly considered efficiency ratios include inventory turnover, accounts receivable turnover, accounts payable turnover and the cash conversion cycle (CCC).

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The most commonly efficiency ratios includes:

- a) Accounts receivable turnover.
- b) Working Capital ratio.
- c) Asset turnover ratio.
- d) Inventory turnover.
- e) Days sales in turnover.

Q7) Ratio analysis is a very useful technique for the interpretation of financial statements. It does, however, have its limitations. Some of these are outlined below:

1) Divert attention →

it diverts attention from the figures and statements themselves. It is important to look at aspects such as the sheer size of the company under consideration. It is also important to look at information in the notes which is not usually reflected in the ratios.

2) Appropriate comparison →

comparisons can be affected by different accounting policies or by other external factors. If, for example, two haulage companies use different methods for the calculation of depreciation of their any ratios based on their financial statements might not be comparable.

3) Different industries →

There could be peculiarities of the trade which make it difficult to interpret certain ratios. A property company, say, might appear to have a very low return on capital employed.

4) Creative Accounting →

The statement could have been deliberately distorted by so called creative accounting. This involves the deliberate abuse of the subjectivity inherent in accounting to select accounting policies or make assumptions which tend to bias the figures in the direction chosen by management.

8) (i)

- * Beta is a measurement of market risk or volatility.
- * It indicates how much the price of a stock tends to fluctuate up and down compared to other stocks.
- * A beta greater than 1 indicates a stock's price swings more wildly (i.e., more volatile) than the overall market.
- * A beta less than 1 indicates that a stock's price is less volatile than the overall market.
- * A beta equal to 1 indicates the stock moves identically to the overall market.
- * A stock's beta will change over time because it compares the stock's return with the returns of the overall market.

(ii) Gearing beta = 1.1

Tax = 30%

Debt: Equity = 1:2

$$\text{Gearing beta} = \text{ungearing beta} \times \frac{(1 + D:E) \times (1 - t)}{1}$$

$$\text{Gearing beta} = \text{ungearing beta} \left(1 + (D:E) \times (1 - t) \right)$$

$$1.1 = \text{ungearing beta} \left(1 + \frac{0.7}{2} \right)$$

$$\text{ungearing beta} = 0.81481$$

Now, Debt: Equity = 2:2 or 1:1

$$\text{Gearing beta} = 0.81481 \left(1 + 0.7 \right) = 1.38519$$

9) D.

- 10) # The goal of shareholder wealth maximization specifies how financial decisions should be made.
- (i) # In practice, however, not all management decisions are consistent with this ~~obj~~ objective.
- # There often may be a divergence between the shareholder wealth maximization goal and the actual goals pursued by management.
- # Separation of ownership and control has permitted managers to pursue goals more consistent with their own self interest as long as they satisfy shareholders sufficiently to maintain control of the corporate corporation.
- # Instead of seeking to maximize some objective, managers "satisfice", or seek acceptable levels of performance, while maximizing their own welfare.
- # Maximization of their own personal welfare may lead managers to be concerned with long run survival.
- # The concern for long term ~~at~~ survival may lead managers to minimise the amount of risk incurred by the firm.

(ii) DPS = 10 Rupees

MPS = 70 Rupees

Growth rate = ~~20%~~ 8%.

Risk free rate = 6%.

Equity risk premium = 5%.

$$\text{Dividend yield (d)} = \frac{\text{DPS}}{\text{MPS}} \times 100$$

$$= 14.28571\%$$

$$\text{Cost of equity} = d + g = 22.8 - 22.28571\%$$

$$\text{also cost of equity} = \text{Risk free rate} + \text{Beta} \times (\text{equity risk premium})$$

$$22.28571\% = 6\% + \text{Beta} (5\%)$$

$$\text{Beta} = 3.28714$$

Now, Beta is a measure of systematic risk of the company. If systematic risk of the company. If systematic risk increases by 80%, then beta also increases by 80%.

$$\text{New beta} = 5.86286$$

Now, cost of equity = Risk free rate + New Beta * equity risk premium
 $= 6\% + 8.86286 * 5\%$
 $= 35.31428\%$

cost of equity = $d + g$

Let MPS be m

$$35.31428\% = \frac{DPS}{m} * 100 + 8\%$$

$$m = 36.61089$$

Thus, the market price of the stock falls to 36.61089 rupees.

- ii) i) Beta is a measure of the volatility or systematic risk of a security or portfolio compared to the market as a whole. Beta is used in the CAPM, which describes the relationship between systematic risk and expected return for assets (usually stocks)

$$\beta = \frac{\text{Covariance}(R_m, R_i)}{\text{Variance}(R_m)}$$

iii) Beta could be calculated by first dividing the security's standard deviation of returns.

iii) As an active stock investor, I would invest my money in stock having a beta of ~~positive~~ greater than 1 positive because in long run markets will only go up so my stocks will also go up along with market but in a stock of negative beta if it behaves completely opposite.

iv) Gilts securities such as government bonds have beta very close to 0 or 0.

12) $D:E = 1:1$

Gearred beta = 1.5

Risk free rate = 7%

Equity risk premium = 5%

Gross cost of debt = 9%

Tax rate = 25%

(i) Net cost of debt = $(\text{gross cost of debt} \times (1 - t))$
 $= 9\% \times (1 - 25\%) = 6.75\%$

Cost of Equity = Risk free rate + beta $\times$ Equity risk premium
 $= 7\% + 1.5 (5\%)$
 $= 14.5\%$

WACC = $\frac{1 \times k_e + 1 \times k_d}{1 + 1}$ $\times$ (Cost of Equity + Cost of debt)
 $= 10.625\%$

(ii) Gearred beta = Ungeared beta $\times (1 + (D:E)(1 - \text{tax rate}))$
 $1.5 = \text{ungeared beta} \times (1.075)$

ungeared beta = 0.85714

Cost of Equity = Risk free rate + Beta (equity risk premium)
 $= 7\% + 0.85714 (5\%)$
 $= 11.2857\%$

Thus, ~~WACC~~ the required return to equity is 11.2857%.

13) (i) At IRR NPV is 0.
IRR = 15%.

$$NPV \text{ at IRR} = \text{initial investment} + 40000 \left(\frac{1}{1.15} + \frac{1}{1.15^2} + \frac{1}{1.15^3} + \frac{1}{1.15^4} \right)$$

$$0 = \text{initial investment} + 114200$$

initial investment = -1,14,200 Rupees -

~~prob~~ profitability index = $\frac{\text{PV of cash inflows}}{\text{initial investment}}$.

$$1.064 \times 1,14,200 = \text{PV of cash inflows} = 121508.8$$

$$NPV = 121508.8 - 114200 = 7308.8$$

$$(ii) \quad NPV = \text{initial} + 40000 \left(\frac{1}{(1+i)} + \frac{1}{(1+i)^2} + \frac{1}{(1+i)^3} + \frac{1}{(1+i)^4} \right)$$

$$7308.8 = -1,14,200 + 40000 \left(\frac{1}{(1+i)} + \frac{1}{(1+i)^2} + \frac{1}{(1+i)^3} + \frac{1}{(1+i)^4} \right)$$

$$i = 12\%$$

hence the cost of capital = 12%.

(iii) cost of project = 1,14,200

(iv) Payback period = $\frac{\text{Initial investment}}{\text{amount of annuity}}$
= 2.855 year.

Q.14) (i)

a) Current Ratio

$$\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

- * This ratio is used to assess whether the company will be able to pay its bills over the next few months.
- * It provides a comparison of an estimate of the amount of money due to be received in the short term with an estimate of the amount of money of the amount of money to be paid.
- * A low ratio might indicate that a company may have problems paying its creditors.
- * An excessively high ratio may indicate that the management has too much money tied up in unproductive short term assets.

b) Debtors turnover period

$$\text{Accounts receivable turnover} = \frac{\text{Average accounts receivable}}{\text{net credit sales}}$$

The term receivables turnover ratio or debtors turnover period refers to an accounting measure that quantifies a company's effectiveness in collecting its accounts receivable.

- * This ratio measures how well a company uses and manages its credit it extends to customers and how quickly that short term debt is collected or is paid.

(ii)

a) Xylo Ltd. should use the quick ratio to ascertain whether the company would be able to meet its short term liabilities

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b) Quick ratio = $\frac{\text{current assets} - \text{inventories}}{\text{current liabilities}}$

- c) This ratio is aimed at looking at short term liquidity.
d) The quick ratio contains what would happen if all creditor and debtor accounts were settled immediately.
e) The idea is that only cash and trade receivables (debtors) can be quickly turned into cash, but any of the current liability could become payable within a few months.

- 15) (i) An investor might buy shares in this company because it provides a high dividend yield of 4%. It is true that shares are potentially risky in that return from them may be very volatile. However, an investor would expect, on average, to gain a higher return from shares.

dividend yield (d) = 4%.

Gross cost of debt = 8%.

Net cost of debt = gross cost of debt $\times (1 - t) = 8\%$.

$$WACC = \frac{1 \times \text{net cost of debt} + 1 \times \text{cost of equity}}{2} = 6\%.$$

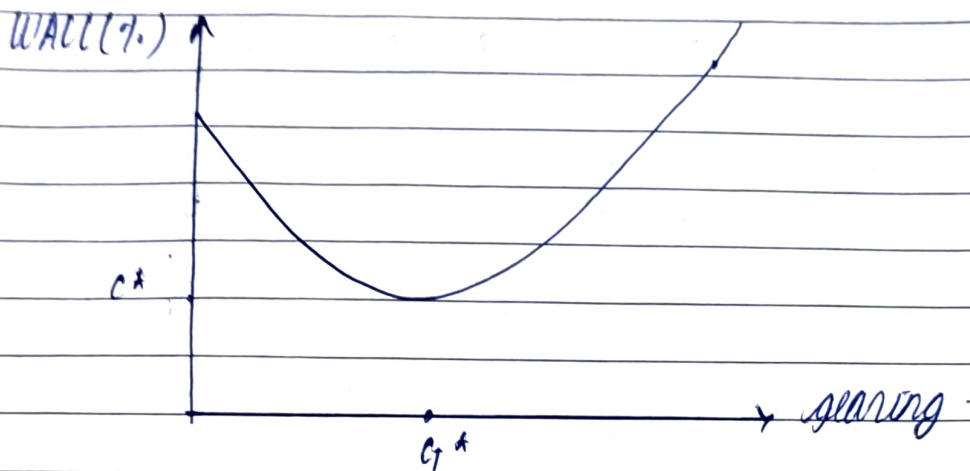
Thus the minimum cost of capital that the investor should use is 6%.

(ii) Traditional View

- In this the traditional school the emphasis was on determining the amount of debt a company could safely carry without risking bankruptcy in a severe recession.
- Debt is cheaper than equity finance, so as gearing increases, the WACC should fall.
- However, increasing the proportion of debt finance increases

the risk to shareholders so shareholders demand a greater return for this increased risk.

* Therefore beyond a certain level of gearing, the downward effect on the WACC of increasing the debt finance in the business will be more than the offset by the increase in the return required by shareholders.



WACC is lowest at C^* when gearing is at G^*

(iii) • The market value of any firm is independent of its capital structure.

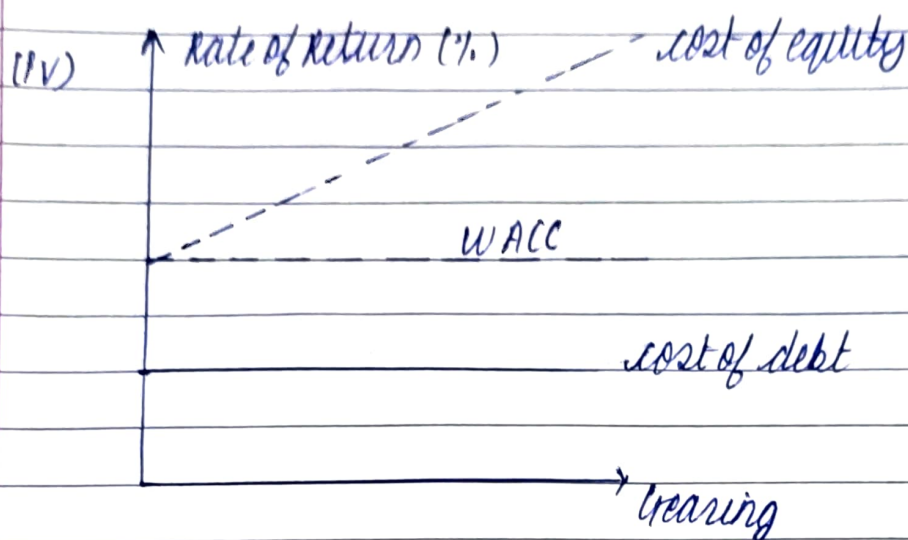
• The expected rate of return on the common stock of a ~~low~~ leveraged firm increases in proportion to the debt equity ratio, expressed in market values.

They began with a simple model with following assumption -

- there are no taxes
- unlimited personal and company borrowing is possible at the same rate of interest.
- debt is risk-free.
- there are no agency cost.
- there are no information ~~cost~~ asymmetries.

• MM argued that, under certain assumption, gearing has no effect on the value of the company. Their view was that the value of the company lies in its abilities.

to produce profits, not in the way that is financed.



- (v) a) Risk free rate = 6%.
Equity risk premium = 5%.
ungeared beta = 1.4

$$\begin{aligned}\text{cost of equity} &= \text{Risk free rate} + \text{ungeared beta} \times \text{Equity risk premium} \\ &= 6\% + (1.4 \times 5\%) \\ &= 13\%.\end{aligned}$$

- b) Total market capitalisation = 100m
Market value of debt = 50%.
Ratio of debt to equity = 1:1
Tax rate = 30%.

$$\begin{aligned}\text{Gearing beta} &= \text{ungeared beta} \times \left(1 + (\text{debt} : \text{equity}) (1 - \text{tax rate})\right) \\ &= 1.4 \times \left(1 + (1/1) (0.7)\right) = 2.38.\end{aligned}$$

- c) cost of equity = risk free rate + Beta * equity risk premium
= ~~1.4~~ 6% + 2.38 * 5%
= 17.9%.