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Business Finance - II Assignment - 1

1) D

2) A

3) A

4) C

9) D

5) Given, At time 1,

Sales = 2500

Costs = (1500)

Tax Rate = 40%

Discount Rate = 20%

(i) Cash Inflow = 2500,

Cost Outflow = 1500.

$$\begin{aligned}\text{Net Cash Flow} &= \text{Total Cash Inflow} - \text{Total Cash Outflow} \\ &= 2500 - 1500 = 1000\end{aligned}$$

(ii) NPV is the net Discounted value of all the future cashflows.

Here,

$$\begin{aligned}\text{NPV of the project} &= \left[2500 \times (1 + 20\%)^{-1} \right] + \left[-1500 \times (1 + 20\%)^{-1} \right] \\ &= 2083.34 - 1250 = 833.34\end{aligned}$$

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(iii) If suppliers gave an extension of one year, the costs will be paid at year 2 instead of year 1.

Therefore,

$$\text{NPV of the project} = [2500 \times (1+20\%)^{-1}] + [-1500(1+20\%)^{-2}]$$

$$= 2083.34 - 1041.667$$

$$= 1041.667$$

Here, the NPV has increased.

6) The following ratios will be used to measure business efficiency.

1) Inventory Turnover Period

2) Trade Receivable Turnover Period

3) Trade Payable Turnover Period

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7)

a) Historical cost accounting :-

(i) Time lag between purchase and sales underestimate their cost of sales

(ii) Overstatement of profits due to calculation of depreciation in historical costs

b) Subjectivity :-

(i) Inventories can be valued in a number of ways

(ii) There are wide choice of methods of calculating depreciation

c) Appropriateness of the figures :-

(i) Some values of items are estimated

(ii) Sometimes average values are preferred instead of year end figures.

d) Comparison between firms :-

(i) Creating Creative Accounting may be a problem with some firms

(ii) Different companies show different level of detail

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8)

(i) The possible reasons are as follows:-

a) Different stocks are exposed to systematic risks at different levels.

b) Nature of business i.e. volatility of stocks depend on their underlying nature of business.

(ii) Given,

$$\text{Gearing Beta} = \beta_G = 1.1,$$

$$\text{Debt to Equity} = 1.2 = \frac{D}{E}$$

$$\text{Tax Rate} = 30\% = t$$

Let Ungearing Beta = β_U . Then,

$$\beta_G = \beta_U \times \left(1 + \frac{D}{E}(1-t)\right)$$

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

$$\Rightarrow \beta_U = 0.8148$$

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New Debt to Equity = $2:2 = 1:1$. Jkn,

$$\beta_L = \beta_U \left(1 + \frac{D}{E} (1-t) \right)$$

$$= 0.8148 (1 + 1(1-0.3))$$

$$\Rightarrow \beta_L = 1.3851$$

ii) i) In the process of wealth maximisation of shareholders' wealth, companies tend to make decisions that are harmful to other stakeholders. For example:-

a)

ii) Assuming that the XYZ is non-leveraged firm,

Market Price of Stock = ₹70.

Dividend Per Share = ₹10

Dividend yield = $\frac{10}{70} = 14.29\%$

As XYZ is non-leveraged, Cost of equity = $14.29\% + 8\% = 22.3\%$

Now, 22.3% ~~14.29%~~ = risk free return + β (market risk premium)

0.223

$$\Rightarrow 0.1429 = 6\% + \beta(5\%)$$

$$\Rightarrow \beta = 1.658 \quad 3.26$$

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Now, if systematic risk is increased by 80%,
 market risk premium = $5\% \times 1.8 = 9\%$

Now, if systematic risk is increased by 80%,
 new beta = $3.26 \times 1.8 = 5.87$

Since, beta has increased, cost of equity increases which leads to reduction in stock price.

ii)

i) Beta is a measure of systematic risk of a stock.

For company X,

$$\beta_x = \frac{\sigma_{xm}}{\sigma_m^2} \text{ where,}$$

σ_m^2 = variance of the market index and,

σ_{xm} = covariance between X's stock return and that of the market

ii)

It depends on the mindset of the investor and willingness to take risk. Beta is just a quantified form of volatility. If I'm a risk averse active investor, I would prefer stocks having beta close to zero.

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(iii) ~~usually~~ Treasury bills
Usually ~~cash~~ is likely to have beta 0.

(2) Given,
Debt to Equity = 1:1,

Risk free rate of return = $r_f = 7\%$,
Market equity risk premium = $5\% = (r_m - r_f)$

Gross cost of debt = 9% ,

Beta = $\beta = 1.5$,

Tax Rate = $25\% = t$

Net cost of Debt = Gross cost of Debt $\times (1 - t)$

$$= 9\% (0.75)$$

$$= 6.75\%$$

(i) WACC :-

Cost of equity = $r_f + \beta(r_m - r_f) = 7\% + (1.5 \times 5\%)$

$$= 14.5\%$$

Net cost of Debt = 6.75%

Therefore, $WACC = \frac{14.5\% \times 1}{2} + \frac{6.75\% \times 1}{2} = 10.625\%$

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- (ii) If ABC has repaid all its debt, we take ungeared beta to calculate cost of equity.

$$\beta_L = \beta_U \left(1 + \frac{D}{E} (1 + t) \right)$$

$$\rightarrow 1.5 = \beta_U \left(1 + \frac{1}{1} (0.75) \right)$$

$$\Rightarrow \beta_U = 0.85714$$

Then,

$$\text{Cost of Equity} = 7\% + (0.85714 \times 5\%)$$

$$= 11.28\%$$

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(i)

a)

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

It is used to assess the capacity of the firm to meet its short term liabilities.

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b) Debtors turnover period =
$$\frac{\text{Trade Payables} \times 365}{\text{Credit Purchases}}$$

It is used to ~~cal~~ calculate the average number of days to repay the ~~sup~~ suppliers.

(ii) Since Xylo ~~deals~~ deals with goods having high inventory turnover period, a simple current ratio cannot be used to ascertain the liquidity position of Xylo. Instead Quick ratio is advisable to use in these situations as it only considers what would happen if all creditors and debtor accounts were settled immediately.

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

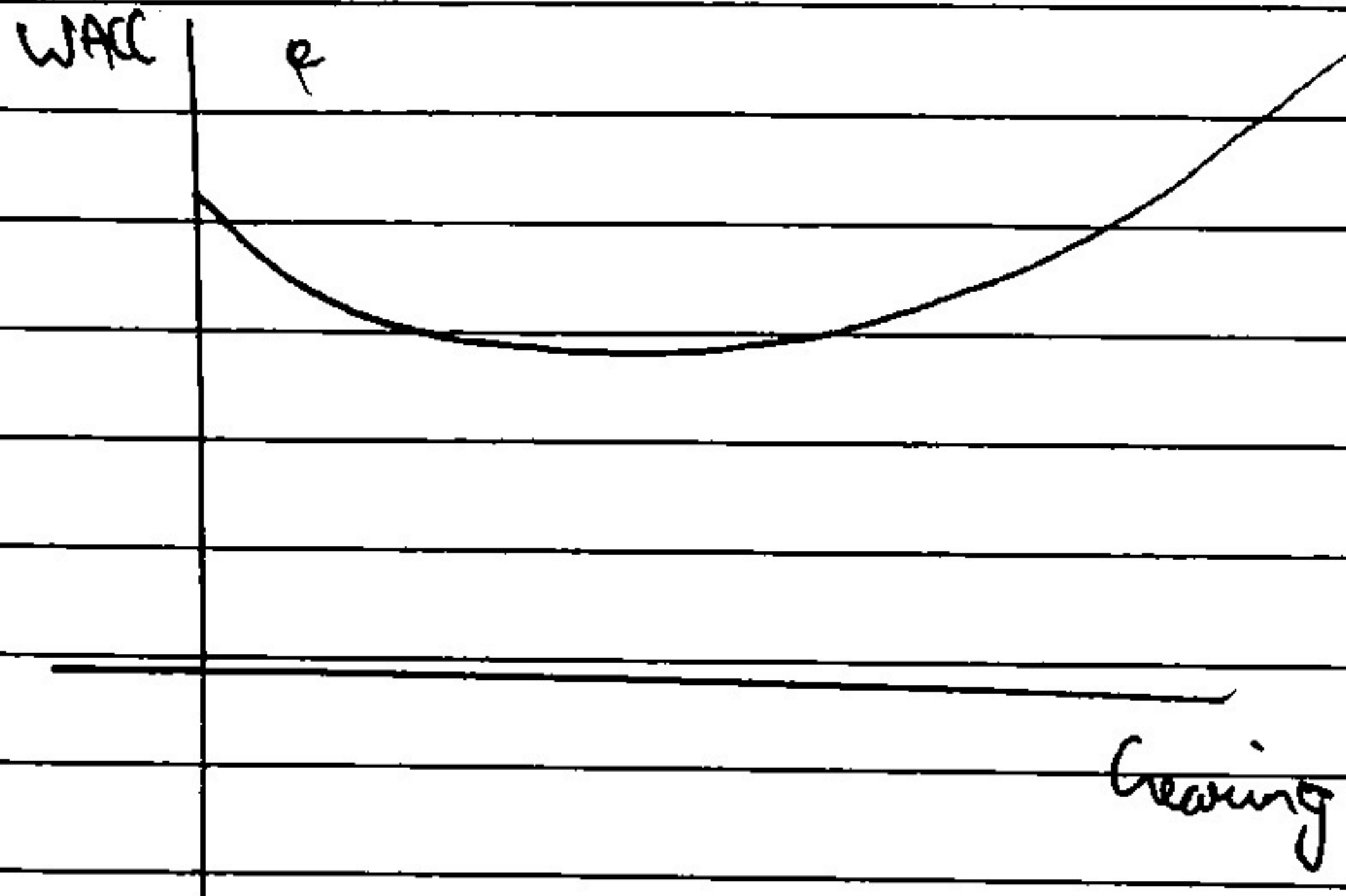
15)

(i) Since, the risk taken by equity shareholder is higher, the cost of equity should at least be higher than 8%.

It is given that dividend yield is 4%. As cost of equity is the product of dividend yield and capital growth, it is advisable for the investors to invest if the capital growth is greater than 2%.

(10)

(ii)



(iii)

The first ~~volume~~ proposition is as follows:-

- 1) The market value of any firm is independent of its capital structure.

Assumptions:-

- 1) There are no taxes
- 2) Debt is risk free
- 3) No agency costs
- 4) No information asymmetries

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(iv)

Rate of Return

Cost of Equity

WACC

Cost of Debt

Gearing

(v)

a)

$$\text{Cost of Equity} = r_f + \beta (\text{equity risk premium})$$

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

$$= 13\%$$

b)

$$\beta_L = \beta_U \left(1 + \frac{D}{E} (1-t) \right)$$

$$= 1.4 \left(1 + \frac{40m}{60m} (0.7) \right)$$

$$= 2.0533$$

c)

$$\text{Cost of Equity} = 6\% + (2.0533 \times 5\%)$$

$$= 16.267\%$$