

BUSINESS FINANCE ASSIGNMENT

1. ~~B. IRR~~
D. IRR is the most reliable means of choosing between mutually exclusive projects.
2. A. Market price share / Earnings per share.
3. D. All of the above.
4. ~~A. 9,00,000~~ C. 9,00,000

5. (i) Sales - cost = EBIT

5. Sales = 2500

Costs = 1500

$t = 40\%$

discount rate = 20%

(i) $EBIT = \text{Sales} - \text{Cost}$

$$= 2500 - 1500 = 1000$$

$$\text{Tax} = 40\% \text{ of } 1000 = 400$$

$$\therefore \text{operating profits after tax} = \underline{\underline{600}}$$

(ii) ~~NPV = 600 / 20%~~

~~NPV = 600 (1.2) = 720~~

$$NPV = \frac{600}{(1 + t)} = \frac{600}{(1 + 20\%)}^{-1}$$

$$= \underline{\underline{500}}$$

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6. (iii) ~~NPV = 600(1.2)~~ NPV will increase due to ~~116.87~~ delay in outflow.

6. The following ratios are used to measure business efficiency.

6. Efficiency ratios determine how productively a company manages its assets and liabilities to ~~maximize~~ maximize their profits. Some of the most commonly used efficiency ratios are —

- (i) Working capital ratio
- (ii) Inventory turnover ratio
- (iii) Days sale in inventory.
- (iv) Asset turnover ratio
- (v) Accounts receivable turnover ratio.
- (vi) Cash conversion cycle (CCC).

7. Ratio Analysis is a very useful technique for the interpretation of financial statements. It does, however, have the following limitations —

- (i) It diverts attention from the figures and statement themselves.
- (ii) Appropriate Comparisons
Comparisons can be affected by different accounting policies or by external factors.
- (iii) Different industries
There could be peculiarities of the trade which

makes it difficult to interpret certain roles.

(ii) Creative Accounting

The statements could have been deliberately distorted by so-called creative accounting.

8(i) Beta is the measurement of risk and volatility of a stock's price in the market. Not all stocks have the same risk associated with them and hence all stocks trade at different betas. However, stocks can be grouped on basis of their beta.

(i) Beta < 1 .

A beta of less than 1 signifies the stock is ~~very~~ less volatile and has an inelastic demand. Stocks of Pharma companies usually have a beta which is less than 1.

(ii) Beta = 0.

This signifies that a stock is risk-free and ~~never~~ has provided more stable return than the market as a whole.

(iii) Beta > 1 .

A beta greater than 1 indicates that a stock is more volatile than the general market and ^{it} amplifies the returns.

~~Some~~ stocks of automobile companies have a beta greater than 1.

8. (ii) $B_{\text{geared}} = 1.1$
 $D : E = 1 : 2$
 $t = 30\%$

$$B_G = B_{UG} \left[1 + \frac{1}{2} (1 - t) \right]$$

$$1.1 = B_{UG} [1 + 0.5 (0.7)]$$

$$\therefore B_{UG} = \frac{1.1}{1.35}$$

$$\underline{\underline{B_{UG} = 0.815}}$$

if $D : E = 2 : 2$

$$B_G = B_{UG} \left[1 + \frac{D}{E} (1 - t) \right]$$

$$= 0.815 \left[1 + \frac{2}{2} (1 - 30\%) \right]$$

$$\therefore \underline{\underline{B_G = 1.385}}$$

9. D. In general, the market value of investment trust, is not correlated to the net present value.

10. (i)

10 (i) In market based financial system, there are large equity and bond markets. Shareholders are owners of the company and the company's objective is to maximise shareholder wealth within external constraint. This, however, has limitations on how well the discipline of the capital markets on a company's managers works in practice.

some of the limitations are -

(i) Different shareholders are likely to have different objectives.

~~(ii) Not all management decisions are~~

(ii) There is often divergence between shareholder wealth maximization goals and actual goals pursued by management.

10 (ii) $CMP = ₹70$

$Dividend = ₹10$

$g = 8\%$

$R_f = 6\%$

$MRP = 5\%$

$$Dividend\ yield = \frac{Dividend}{CMP} \times 100 = \frac{10}{70} \times 100$$

$$= 14.28\%$$

$$Cost\ of\ equity = Dividend\ yield + growth$$

$$= 14.28\% + 8\%$$

$$= 22.28\%$$

but,

$$C_E = R_F + \beta(ERP)$$
$$22.28 = 6\% + \beta(5\%)$$
$$\therefore \underline{\underline{\beta = 3.256}}$$

$\therefore \beta$ is a measure of systematic risk.
if β increases by 80%
if systematic risk increases by 80%
beta will also increase by 80%.
 $\therefore \text{new } \beta = 3.256 (1.8) = \underline{\underline{5.86}}$

$$C_E = 6\% + 5.86(5\%)$$

$$\therefore \underline{\underline{C_E = 35.3\%}}$$

for new market price per share,

$$C_E = \text{Dividend yield} + \text{growth}$$

$$35.3 = \frac{10(100)}{n} + 8\%$$

$$\therefore \underline{\underline{n = 36.63}}$$

$\therefore$ The ~~new~~ current market price becomes
₹ 36.63, when systematic risk increases by
80%.

11. (i) Beta is the measure of risk and volatility of a stock's price. Beta is most commonly used in the Capital Asset Pricing model (CAPM).
Beta coefficient (β) = $\frac{\text{Cov}(R_c, R_m)}{\text{Var}(R_m)}$

$$\text{Beta coefficient } (\beta) = \frac{\text{Cov}(R_c, R_m)}{\text{Var}(R_m)}$$

where, R_c = ^{return} ~~Risk~~ of a company
 R_m = ^{return} ~~Risk~~ of the market.

(ii) Beta can be determined by dividing the correlation of a ~~c~~ ~~between~~ coefficient between a company and a market, multiplied by the standard deviation of the company's ~~company's~~ ~~risk~~ returns, by the standard deviation of the returns of the market.

(iii) As an active investor, I would most likely invest in a stock with beta of 1, as the risk and volatility of such stocks is less than the risk and volatility of stocks with negative beta.

(iv) Gold.

12. $D:E = 1:1$

$R_F = 7\%$

$ERP = 5\%$

gross cost of debt = 9%

$\beta = 1.5$

$t = 25\%$

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

~~cost~~ $CE = R_F + \beta(ERP)$
 $= 7\% + 1.5(5\%)$
 $= \underline{\underline{14.5\%}}$

WACC = net cost of debt $\times \frac{\text{MV of debt}}{\text{MV of debt} + \text{MV of equity}}$ +
 cost of equity $\times \frac{\text{MV of equity}}{\text{MV of debt} + \text{MV of equity}}$
 $= 6.75\% \times \frac{1}{2} + 14.5\% \times \frac{1}{2}$
 $= \underline{\underline{10.625\%}}$

(ii) $\beta_A = \beta_{UA} \left(1 + \frac{D}{E} (1 - t) \right)$

$1.5 = \beta_{UA} (1 + 0.75)$

$\therefore \beta_{UA} = \underline{\underline{0.85714}}$

$CE = R_F + \beta(ERP) = 7\% + 0.857(5\%)$
 $\therefore CE = \underline{\underline{11.285\%}}$

$$13. (i) NPV @ IRR = 15\%$$

$$\text{Annuity factor} = \frac{1 - \left(\frac{1}{1.15}\right)^4}{0.15} = 2.855$$

$$NPV = 40,000 \times 2.855$$

$$= 1,14,200 - [\text{PV of outflows at } t_0]$$

$$PI = \frac{NPV}{\text{outflows}} + 1$$

$$1.064 = \frac{NPV}{114,200} + 1$$

$$\therefore NPV = \underline{\underline{77,308.8}}$$

(ii) Cost of capital $\Rightarrow$

$$7308.8 = 40000 \left(\frac{1 - (1+i)^{-4}}{i} \right) - 114200$$

$$121508.8i = 40000 - 40000(1+i)^{-4}$$

$$\therefore \underline{\underline{i = 12\%}}$$

(iii) Cost of project = ₹114,200

(iv) Payback = $\frac{\text{Outflow at } t_0}{\text{Annual Cost Saving}}$

$$= \frac{114200}{40000}$$

$$= \underline{\underline{10.42 \text{ days}}} \text{ or } \underline{\underline{2.86 \text{ years}}}$$

14. (i) (a) Current Ratio.

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 an amount of money due to be received in a short-term with an amount of money to be paid.

$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

(b) Debtor's Turnover period.

Also known as Trade Receivables Turnover period.

$$\text{Receivables Turnover Period} = \frac{\text{trade receivable} \times 365}{\text{credit sales}}$$

This ratio is a measure of the average length of time taken for trade receivables to settle their balance.

It is desirable for this period to be as short as possible.

14. (ii) The manager should track the quick ratio, ~~or the~~ also known as liquidity ratio.
quick ratio = $\frac{\text{current assets} - \text{inventories}}{\text{current liabilities}}$.

15. (i) With a dividend yield of 4%, an investor is likely to invest in the shares of this company even though they are riskier and more volatile in nature when compared to government bonds. To compensate for a greater level of risk, stocks provide higher returns.

Assumption: There is no corporation tax and growth is zero.

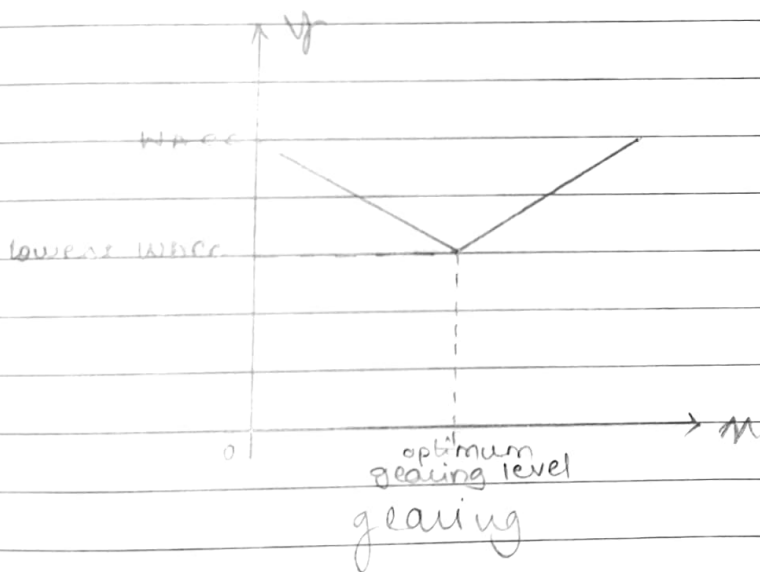
$$\begin{aligned}\therefore C_e &= \text{dividend yield} + \text{growth} \\ &= 4\% + 0 \\ \therefore C_e &= 4\% \\ &= \end{aligned}$$

$$\begin{aligned}\text{Net cost of debt} &= GRY (1 - t) \\ &= 8\% \\ &= \end{aligned}$$

$$\begin{aligned}\text{Cost of capital} &= 8\% \times \frac{1}{2} + 4\% \times \frac{1}{2} \\ &= 6\% \\ &= \end{aligned}$$

(ii) Normally, net cost of debt is lower than ^{and/or cheaper than} cost of equity. Therefore, CFO's prefer including ~~in~~ a higher weightage of debt in the capital structure to lower the WACC. But, we know that when debt increases, so does the risk to investors and their required return.

A fall in gearing would mean an increase in cost of equity as well as WACC. Thus, it is necessary to determine an optimum gearing level. Beyond the optimum gearing level, WACC starts to increase.



(iii) MM proposed that higher debt / gearing levels do not affect the WACC of a company.

They made the following assumptions -

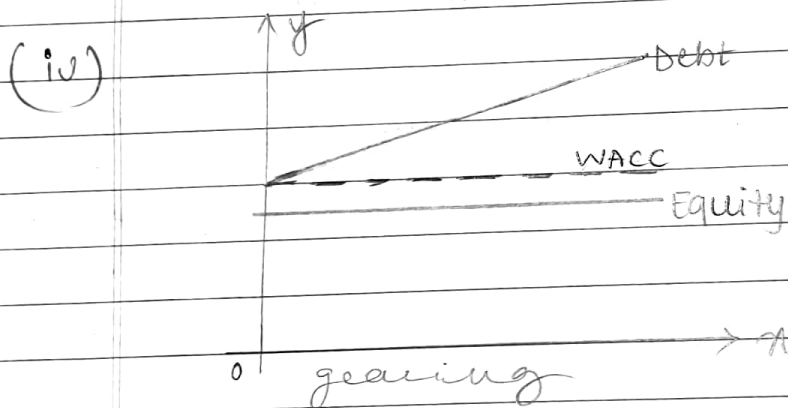
(i) No corporation tax

(ii) Perfect information available to all parties involved.

(iii) No agency costs.

(iv) Loan available to all corporations and small investors at the same rate.

(v) Debt is risk-free.



~~11/11~~

(v) (a) $R_f = 6\%$

$ERP = 5\%$

$\beta_{DCA} = 1.4$

$C_E = R_f + \beta \times ERP$

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

$= 13\%$

13%

$$(b) \quad t = 30\%$$

$$D:E = 1:1$$

$$B_G = B_{UG} \times \left[1 + \frac{D}{E} (1 - t) \right]$$

$$= 1.4 \times \left[1 + \frac{1}{1} (1 - 30\%) \right]$$

$$\therefore B_G = 2.38$$

2.38

$$(c) \quad C_E = 6\% + (2.38)(5\%)$$

$$= 17.9\%$$

17.9%