

$$\therefore \text{Preference Shares Dividend} = \frac{60000}{1 - 83.33\%} = [114] \checkmark$$

(Pre-tax converted)

$$\text{Income Creating} = \frac{\text{Int} + \frac{\text{Pref Div}}{1-t}}{\text{EBIT}}$$

Assignment-1

01)

02) A)

03) D)

04) D)

05) $\begin{array}{c} | \text{---} | \\ 0 \quad \quad 1 \end{array} (2500) + 1500.$

Let $d = 20\%$,

i) Net Cash Flow at date 1 = $1500 - 2500$
 $= -1000$
 $= (1000)$

ii) $NPV = \sum_{i=1}^n \frac{C_i}{V^i}$

$$= (1000)V$$

$$= \frac{-1000}{1 + 20\%} = [-833.333]$$

iii) Now, since the costs has shifted to date (2).

{ Here we ignore the depreciation of material }

Then Cash flow Model would look like:

$\begin{array}{c} | \text{---} | \text{---} | \\ 0 \quad \quad 1 \quad \quad 2 \end{array} \begin{array}{c} \\ 2500- \\ (1500) \end{array}$

From the model, we may infer that the ~~cash flows~~ (-ve) cashflows are diluted in comparison to

(i). Thus, the NPV of the project would substantially increase. Also, the project will comparatively get attractive as through extension in credit, a short term finance technique which ~~would~~ may help company to reinvest and grow.

Q6] Efficiency of a Business is a dynamic portfolio with many small yet complex elements. It may not be determined by one ~~factor~~ factor/correspondent, but may get estimated through a range of ratios (factors) in a particular environment. Efficiency in a business may get divided into its financial efficiency, or may be the result of asset utilisation and ~~debt capacity~~ debt utility respectively. The below may be some of the primarily used efficiency ratios ~~are~~:-

1) Asset Turnover Ratio :- Less the ratio depicts to be, more will be either ~~debt~~ heavily debt company, or low asset ~~library~~ library. ~~This ratio is~~ denoted as:-

$$\text{Asset Turnover Ratio} = \frac{\text{Asset Value} - \text{CL} - \text{Intangibles}}{\text{Borrowed Funds}}$$

2) Net Asset/Share :- It is one of main indicators of long term efficiency of the business. The theoretical definition of the ratio is:

$$\frac{\text{Ordinary Shareholder's Equity}}{\text{No. of Shares}}$$

This ratio denotes business has prospered well, as

it tells us how each share of Ordinary shareholders would be worth.

3) ROCE (Return on Capital ~~Used~~ Employed) :-

ROCE is determined to be one of the pillars of efficient firm, as it is a function of utilisation and growth. ~~It is~~ It is defined as:-

⇒ $\frac{EBIT}{\text{Share Cap} + \text{Long Term Debt} + \text{Reserves}}$

Share Cap + Long Term Debt + Reserves.

4) This is an indirect claim of efficiency i.e. the closeness of ROCE and ROE gives us an idea of the ~~the~~ financial efficiency of the firm. Long term financial liability could come into picture by the comparison of these ratios.

06] Some limitations of Ratio Analysis:-

1) They are not affected by dynamics of cost i.e. they depend upon the historical cost.

2) They, sometimes may not take inflation, recession, operational changes, business conditions etc in account of their analysis.

3) Accounting Policy of the firm would lag in comparison to the current policies ~~of~~ stated by the ROP.

4) A Regulation change could lead to ~~a~~ a misleading change in the ratios.

5) Conclusions are often misleading and confusing, making hard to take business decisions based on numbers.

08] i) Beta of a particular stock evaluates the relative volatility of the stock to the market. Below ~~are~~ are some factors through which ~~it may~~ different

stocks have characteristic ~~Beta~~ Betas:-

- 1) Change in financial environment i.e recession, boom or optimism in market, ~~scams~~ etc.
- 2) Merger and Acquisitions of with a particular company may create a temporary or permanent ~~low~~ high Beta Company.
- 3) New Product Development or Management Techniques:-
By Agency theory, we may state that the above ~~terms~~ would affect the risk factor immediately in both ~~two~~ directions.
- 4) If the company prophesies of promising future cash flows, then the ~~valuated~~ risk and correspondingly, Beta would increase, as the ~~the~~ future risk of the company ~~could~~ be lower with coming of future cash flow.

Q9) C)

Q10) There are a lot of associated problems with the coexistence of shareholders and management, these are:-

- i) Accounting manipulations:- Just like the bootstrapping method in ~~the~~ 1950-60, there are multiple tries of the ~~company~~ companies over the decades to increase ~~the~~ the rate of wealth maximisation by ~~increasing/decreasing~~ ^{manipulating} accounting values.
- 2) Release of false beliefs ~~as well as news~~ in the market:- Beliefs such as short term earnings

~~fuel~~ fuel stock prices, even though short term utilisation is being done, but a problem occurs in the long run.

- 3) ~~Excessive~~ Excessive Debt taken to increase value of the company may cause a disturbance in the cycle of revenues and debt of the company, and may also lead to extreme cases such as winding up of a company.

Assets	Eq	Debt
100	70	30

$$R_{RF} = 6\% + 5\% \times \beta \quad \text{--- (1)}$$

$$(R_{RF})^* = 6\% + 5\% \times (1.8)\beta \quad \text{--- (2)}$$

Dividend $\rightarrow$ 10
share

Diffⁿ between these returns will give us capital appreciation

$$\begin{aligned} \text{Cap App} &= 5\% \times [1.8\beta - \beta] \\ &= 5\% \times 0.8\beta \\ &= 0.04\beta \Rightarrow 40\% \beta \end{aligned}$$

~~It would~~ ~~increase~~

It would increase by 40%.

- 011] i) ~~Beta~~ Beta (β) is an indicator of a ~~equity's~~ equity's risk with respect to the market. The numerical value of Beta determines the risk associated with the equity, and correspondingly the nature of it. If it is more than 1, it is volatile, while it is less than 1, it implies market movement doesn't affect much.

formula of a Beta stock: ~~--- $\beta = \frac{R_{RF} - R_{RF}}{R_{RF} - R_{RF}}$ ---~~

$$\beta = \beta_0 \left(1 + \frac{D}{E} (1 - t) \right)$$

- ii) Beta can be determined by 2 formulas numerically

a) Using covariance of market and stock and variance of ~~market~~ market; The formula is: ~~---~~

$$\beta = \frac{\text{Cov}(\text{market}, \text{stock})}{\text{Var}(\text{market})}$$

b) The following formula uses cost of equity

$$R_{Re} = R_F + MRP \times \beta$$

2) The below formula uses P/E ratio, which is -

$$\beta_H = \beta_0 \left[\frac{1 + \frac{D}{E}(1-t)}{\epsilon} \right]$$

iii) Investing in a ~~company~~ company does not only depend on its β , but it also depends on the risk appetite, growth, quality and stability of the company. Thus, profitability of a particular investment is not ~~led~~ led fully by β , but is determined ~~by~~ partially by the remaining key motives of a country.

iv) Treasury bills, or government bonds may have β Beta 0, as their risk free rate equals the risk premium in aforementioned formula. Also, they are not affected by the market fluctuation.

Q12) $1.5 = \beta_{HV} (1 + 25\%)$
 $\beta_{HV} = 1.2$

~~$$R_{Re} = \frac{1}{2} \beta^* \left[\frac{1 + \frac{D}{E}(1-t)}{\epsilon} \right]$$~~

By CAPM,

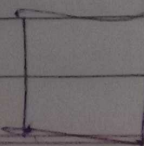
$$R_{Re} = R_F + MRP \times \beta$$

$$= 7\% + 5\% \times 1.2$$

$$R_{Re} = 13\%$$

$$WACC = r_e \times w_e + r_d \times w_d$$

$$= 13\% \times \frac{1}{2} + 9\% \times \frac{1}{2} =$$



- ii) since the weight of debt would be zero, post repayment, hence WACC will be R_{Re} (Return to equity) $\odot$

Q13) i) $NPV = 40000 (V + V^2 + V^3 + V^4)$
 ~~$= 40000 \times 0.4115$~~
 $= 40000 \left(\frac{1}{1.15} + \frac{1}{1.15^2} + \frac{1}{1.15^3} + \frac{1}{1.15^4} \right)$
 $= 40000 (0.86956 + 0.756142 + 0.657516 + 0.571753)$
 $= 40000 (2.854972)$
 $NPV = 114,198.88$

ii) ~~Cost of Capital~~

Q13) i) $P.I = \frac{NPV}{\text{Initial Investment}} = \frac{NPV}{40000}$

$1.064 \times 40000 = NPV$

$NPV = 42,560$

ii) Cost of Capital :-

$40000 (V + V^2 + V^3 + V^4) = 42,560$

~~40000×0.4115~~ $\Rightarrow i = 0.086160$

$N = 0.053717$

iii) Cost of Project :-

Acc Value = $4000 (1.15 + 1.3225 + 1.520875 + 1.74900)$
 $= 229,695.25$