

**MOCK TEST PAPER – 2**  
**FINAL (OLD) COURSE: GROUP – I**  
**PAPER – 2: STRATEGIC FINANCIAL MANAGEMENT**  
**SUGGESTED ANSWERS/HINTS**

1. (a) Future's Price = Spot + cost of carry – Dividend

$$F = 220 + 220 \times 0.15 \times 0.25 - 0.25^{**} \times 10 = 225.75$$

\*\* Entire 25% dividend is payable before expiry, which is Rs.2.50.

Thus we see that futures price by calculation is Rs. 225.75 which is quoted at Rs. 230 in the exchange.

**Analysis:**

Fair value of Futures less than Actual futures Price:

Futures Overvalued Hence it is advised to sell. Also do Arbitraging by buying stock in the cash market.

**Step I**

He will buy PQR Stock at Rs.220 by borrowing at 15% for 3 months. Therefore, his outflows are:

|   |               |
|---|---------------|
| Cost of Stock   | 220.00        |
| Add: Interest @ 15 % for 3 months i.e. 0.25 years (220 × 0.15 × 0.25) | <u>8.25</u>   |
| Total Outflows (A)  | <u>228.25</u> |

**Step II**

He will sell March 2000 futures at Rs.230. Meanwhile he would receive dividend for his stock.

|                                     |               |
|-------------------------------------|---------------|
| Hence his inflows are               | 230.00        |
| Sale proceeds of March 2000 futures | <u>2.50</u>   |
| Total inflows (B)                   | <u>232.50</u> |

$$\begin{aligned} \text{Inflow} - \text{Outflow} &= \text{Profit earned by Arbitrageur} \\ = 232.50 - 228.25 &= 4.25 \end{aligned}$$

(b) No. of Shares =  $\frac{\text{₹ } 1,300 \text{ crores}}{\text{₹ } 40} = 32.5 \text{ Crores}$

$$\text{EPS} = \frac{\text{PAT}}{\text{No. of shares}}$$

$$\text{EPS} = \frac{\text{₹ } 290 \text{ crores}}{32.5 \text{ crores}} = \text{Rs. } 8.923$$

$$\text{FCFE} = \text{Net income} - [(1-b) (\text{capex} - \text{dep}) + (1-b) (\Delta \text{WC})]$$

$$\begin{aligned} \text{FCFE} &= 8.923 - [(1-0.27) (47-39) + (1-0.27) (3.45)] \\ &= 8.923 - [5.84 + 2.5185] = 0.5645 \end{aligned}$$

$$\begin{aligned} \text{Cost of Equity} &= R_f + \beta (R_m - R_f) \\ &= 8.7 + 0.1 (10.3 - 8.7) = 8.86\% \end{aligned}$$

$$P_0 = \frac{FCFE(1+g)}{K_e - g} = \frac{0.5645(1.08)}{0.0886 - .08} = \frac{0.60966}{0.0086} = \text{Rs. } 70.8$$

- (c) (i) The GOI Security has semi-annual coupon of 30 April hence the accrual period is 1 May 2015 to 30 June 2015 i.e. 61 days. Therefore,

$$\text{Accrued Interest on Security} = 10000 \times \frac{10}{100} \times \frac{61}{365} = \text{Rs. } 167.12$$

$$\text{Dirty Price} = \text{Rs. } 9,872 + \text{Rs. } 167.12 = \text{Rs. } 10,039.12$$

$$\text{Dirty Price Adjusted for 3\% haircut} = \frac{10039.12}{1.03} = \text{Rs. } 9,746.72$$

$$\text{Nominal Amount of Securities Required} = 400 \times \frac{10000}{9746.72} = \text{Rs. } 410.39447 \text{ crore}$$

$$\text{No. of securities required} = \frac{410.39447}{9746.72} = 4,21,059 \text{ (Approx.)}$$

- (ii) The original cash amount to be repaid at the end

$$\text{Rs. } 400 \text{ crore} \times \left( 1 + 0.1165 \times \frac{14}{365} \right) = \text{Rs. } 401.7874 \text{ crore}$$

- (d) (i) According to Dividend Discount Model approach the firm's expected or required return on equity is computed as follows:

$$= \frac{D_1}{P_0} + g$$

Where,

$K_e$  = Cost of equity share capital

$D_1$  = Expected dividend at the end of year 1

$P_0$  = Current market price of the share.

$g$  = Expected growth rate of dividend.

$$\text{Therefore, } K_e = \frac{3.36}{146} + 7.5\%$$

$$= 0.0230 + 0.075 = 0.098$$

$$\text{Or, } K_e = 9.80\%$$

- (ii) With rate of return on retained earnings (r) 10% and retention ratio (b) 60%, new growth rate will be as follows:

$$g = br \text{ i.e.}$$

$$= 0.10 \times 0.60 = 0.06$$

Accordingly dividend will also get changed and to calculate this, first we shall calculate previous retention ratio ( $b_1$ ) and then EPS assuming that rate of return on retained earnings (r) is same.

With previous Growth Rate of 7.5% and  $r = 10\%$  the retention ratio comes out to be:

$$0.075 = b_1 \times 0.10$$

$$b_1 = 0.75 \text{ and payout ratio} = 0.25$$

With 0.25 payout ratio the EPS will be as follows:

$$\frac{3.36}{0.25} = 13.44$$

With new 0.40 (1 – 0.60) payout ratio the new dividend will be

$$D_1 = 13.44 \times 0.40 = 5.376$$

Accordingly new  $K_e$  will be

$$K_e = \frac{5.376}{146} + 6.0\%$$

or,  $K_e = 9.68\%$

Alternatively

EPS with 6% growth rate instead of 7.5%.

$$13.44 \times \frac{1.06}{1.075} = 13.25$$

With new 0.40 (1 – 0.60) payout ratio the new dividend will be

$$D_1 = 13.25 \times 0.40 = 5.30$$

Accordingly new  $K_e$  will be

$$K_e = \frac{5.30}{146} + 6.0\%$$

or,  $K_e = 9.63\%$

2. (a)

| (A)  | Cash Outflow  | Rs.              |
|------|---|------------------|
| (i)  | In case machine is upgraded:<br>Upgradation Cost      | <u>10,00,000</u> |
| (ii) | In case new machine installed:<br>Cost                | 20,00,000        |
|      | Add: Installation cost                                | <u>50,000</u>    |
|      | Total Cost  | 20,50,000        |
|      | Less: Disposal of old machine<br>Rs. 50,000 – 40% tax | <u>30,000</u>    |
|      | Total Cash Outflow                                    | <u>20,20,000</u> |

**Working Note:**

- (i) Depreciation – in case machine is upgraded  
Rs. 10,00,000 ÷ 5 = Rs. 2,00,000
- (ii) Depreciation – in case new machine is installed  
Rs. 20,50,000 ÷ 5 = Rs. 4,10,000
- (iii) Old existing machine – Book Value is zero. So no depreciation.

**(B) Cash Inflows after Taxes (CFAT)**

| Year | Old Existing Machine   | Upgraded Machine   |                     |                     |                                       |
|------|------------------------|--------------------|---------------------|---------------------|---------------------------------------|
|      | (i)<br>EAT/CFAT<br>Rs. | (ii)<br>EAT<br>Rs. | (iii)<br>DEP<br>Rs. | (iv)<br>CFAT<br>Rs. | = (iv)-(i)<br>Incremental<br>CFAT Rs. |
| 1    | 5,00,000               | 5,50,000           | 2,00,000            | 7,50,000            | 2,50,000                              |
| 2    | 5,40,000               | 5,90,000           | 2,00,000            | 7,90,000            | 2,50,000                              |
| 3    | 5,80,000               | 6,10,000           | 2,00,000            | 8,10,000            | 2,30,000                              |
| 4    | 6,20,000               | 6,50,000           | 2,00,000            | 8,50,000            | 2,30,000                              |
| 5    | 6,60,000               | 7,00,000           | 2,00,000            | 9,00,000            | 2,40,000                              |

**Cash Inflow after Taxes (CFAT)**

| Year | New Machine        |                     |                       |  |
|------|--------------------|---------------------|-----------------------|--|
|      | (vi)<br>EAT<br>Rs. | (vii)<br>DEP<br>Rs. | (viii)<br>CFAT<br>Rs. | (ix) = (viii) – (i)<br>Incremental CFAT<br>(Rs.) |
| 1    | 6,00,000           | 4,10,000            | 10,10,000             | 5,10,000   |
| 2    | 6,40,000           | 4,10,000            | 10,50,000             | 5,10,000   |
| 3    | 6,90,000           | 4,10,000            | 11,00,000             | 5,20,000   |
| 4    | 7,40,000           | 4,10,000            | 11,50,000             | 5,30,000   |
| 5    | 8,00,000           | 4,10,000            | 12,10,000             | 5,50,000   |

**P.V. AT 15% - 5 Years – on Incremental CFAT**

| Year                | Upgraded Machine           |       |                      | New Machine         |       |                    |
|---------------------|----------------------------|-------|----------------------|---------------------|-------|--------------------|
|                     | Incremental<br>CFAT<br>Rs. | PVF   | Total<br>P.V.<br>Rs. | Incremental<br>CFAT | PVF   | Total<br>PV<br>Rs. |
| 1                   | 2,50,000                   | 0.870 | 2,17,500             | 5,10,000            | 0.870 | 4,43,700           |
| 2                   | 2,50,000                   | 0.756 | 1,89,000             | 5,10,000            | 0.756 | 3,85,560           |
| 3                   | 2,30,000                   | 0.658 | 1,51,340             | 5,20,000            | 0.658 | 3,42,160           |
| 4                   | 2,30,000                   | 0.572 | 1,31,560             | 5,30,000            | 0.572 | 3,03,160           |
| 5                   | 2,40,000                   | 0.497 | 1,19,280             | 5,50,000            | 0.497 | 2,73,350           |
| Total P.V. of CFAT  |                            |       | 8,08,680             |                     |       | 17,47,930          |
| Less: Cash Outflows |                            |       | 10,00,000            |                     |       | 20,20,000*         |
| N.P.V. =            |                            |       | -1,91,320            |                     |       | - 2,72,070         |

\*Acquisition Cost (including installation cost)

Rs. 20,50,000

Less: Salvage Value of existing machine net of Tax

Rs. 30,000

Rs. 20,20,000

As the NPV in both the new (alternative) proposals is negative, the company should continue with the existing old Machine.

- (b) (a) By entering into an FRA, firm shall effectively lock in interest rate for a specified future in the given it is 6 months. Since, the period of 6 months is starting in 3 months, the firm shall opt for 3 × 9 FRA locking borrowing rate at 5.94%. In the given scenarios, the net outcome shall be as follows:

|  | If the rate turns out to be 4.50% | If the rate turns out to be 6.50% |
|--|-----------------------------------|-----------------------------------|
| FRA Rate   | 5.94%                             | 5.94%                             |
| Actual Interest Rate                                   | 4.50%                             | 6.50%                             |
| Loss/ (Gain)   | 1.44%                             | (0.56%)                           |
| FRA Payment / (Receipts)                               | €50 m × 1.44% × ½<br>= €360,000   | €50m × 0.56% × ½<br>= (€140,000)  |
| Interest after 6 months on €50 Million at actual rates | = €50m × 4.5% × ½<br>= €1,125,000 | = €50m × 6.5% × ½<br>= €1,625,000 |
| Net Out Flow   | € 1,485,000                       | €1,485,000                        |

Thus, by entering into FRA, the firm has committed itself to a rate of 5.94% as follows:

$$\frac{€ 1,485,000}{€ 50,000,000} \times 100 \times \frac{12}{6} = 5.94\%$$

- (b) Since firm is a borrower it will like to off-set interest cost by profit on Future Contract. Accordingly, if interest rate rises it will gain hence it should sell interest rate futures.

$$\begin{aligned} \text{No. of Contracts} &= \frac{\text{Amount of Borrowing}}{\text{Contract Size}} \times \frac{\text{Duration of Loan}}{3 \text{ months}} \\ &= \frac{€ 50,000,000}{€ 50,000} \times \frac{6}{3} = 2000 \text{ Contracts} \end{aligned}$$

The final outcome in the given two scenarios shall be as follows:

|  | If the interest rate turns out to be 4.5%   | If the interest rate turns out to be 6.5%     |
|--|---|---|
| <i>Future Course Action :</i>                        |   |   |
| Sell to open   | 94.15                                       | 94.15   |
| Buy to close   | 95.50 (100 - 4.5)                           | 93.50 (100 - 6.5)                             |
| Loss/ (Gain)   | 1.35%                                       | (0.65%)                                       |
| Cash Payment (Receipt) for Future Settlement         | €50,000 × 2000 × 1.35% × 3/12<br>= €337,500 | €50,000 × 2000 × 0.65% × 3/12<br>= (€162,500) |
| Interest for 6 months on €50 million at actual rates | €50 million × 4.5% × ½<br>= €11,25,000      | €50 million × 6.5% × ½<br>= €16,25,000        |
|  | €1,462,500                                  | €1,462,500                                    |

Thus, the firm locked itself in interest rate  $\frac{€ 1,462,500}{€ 50,000,000} \times 100 \times \frac{12}{6} = 5.85\%$

3. (a) **Alternative I:** Acquiring the asset by taking bank loan:

| Years |   | 1       | 2       | 3      | 4      | 5      |
|-------|---|---------|---------|--------|--------|--------|
| (a)   | Interest (@15% p.a. on opening balance) | 150,000 | 120,000 | 90,000 | 60,000 | 30,000 |

|     |                                  |                 |                 |                 |                 |                 |
|-----|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|     | Depreciation (@15%WDV)           | <u>150,000</u>  | <u>127,500</u>  | <u>108,375</u>  | <u>92,119</u>   | <u>78,301</u>   |
|     |                                  | 300,000         | 247,500         | 198,375         | 152,119         | 108,301         |
| (b) | Tax shield (@35%)                | <u>105,000</u>  | <u>86,625</u>   | <u>69,431</u>   | <u>53,242</u>   | <u>37,905</u>   |
|     | Interest less Tax shield (a)-(b) | 45,000          | 33,375          | 20,569          | 6,758           | (-)7,905        |
|     | Principal Repayment              | <u>2,00,000</u> | <u>2,00,000</u> | <u>2,00,000</u> | <u>2,00,000</u> | <u>2,00,000</u> |
|     | Total cash outflow               | 2,45,000        | 2,33,375        | 2,20,569        | 2,06,758        | 1,92,095        |
|     | Discounting Factor @ 16%         | <u>0.862</u>    | <u>0.743</u>    | <u>0.641</u>    | <u>0.552</u>    | <u>0.476</u>    |
|     | Present Value                    | 2,11,190        | 1,73,398        | 1,41,385        | 1,14,130        | 91,437          |

Total P.V of cash outflow = Rs.731,540

**Alternative II: Acquire the asset on lease basis**

| Year                                 | Lease Rentals<br>Rs. | Tax Shield<br>@35% | Net Cash Outflow | Discount Factor | Present Value |
|--------------------------------------|----------------------|--------------------|------------------|-----------------|---------------|
| 1                                    | 3,34,000             | 1,16,900           | 2,17,100         | 0.862           | 1,87,140      |
| 2                                    | 3,34,000             | 1,16,900           | 2,17,100         | 0.743           | 1,61,305      |
| 3                                    | 3,34,000             | 1,16,900           | 2,17,100         | 0.641           | 1,39,161      |
| 4                                    | 3,34,000             | 1,16,900           | 2,17,100         | 0.552           | 1,19,839      |
| 5                                    | 3,34,000             | 1,16,900           | 2,17,100         | 0.476           | 1,03,340      |
| Present value of Total Cash out flow |                      |                    |                  |                 | 7,10,785      |

Advice -By making Analysis of both the alternatives, it is observed that the present value of the cash outflow is lower in alternative II by Rs.20,755 (i.e.Rs.731,540 – Rs.7,10,785) Hence, it is suggested to acquire the asset on lease basis.

(b) (i) **Working for calculation of WACC**

|                       | Orange | Grape  | Apple  |
|-----------------------|--------|--------|--------|
| Total debt            | 80,000 | 50,000 | 20,000 |
| Post tax Cost of debt | 10.4%  | 8.45%  | 9.75%  |
| Equity Fund           | 20,000 | 50,000 | 80,000 |

**WACC**

Orange:  $(10.4 \times 0.8) + (26 \times 0.2) = 13.52\%$

Grape:  $(8.45 \times 0.5) + (22 \times 0.5) = 15.225\%$

Apple:  $(9.75 \times 0.2) + (20 \times 0.8) = 17.95\%$

(ii)

|  | Orange | Grape  | Apple  |
|--|--------|--------|--------|
| WACC   | 13.52  | 15.225 | 17.95  |
| EVA [EBIT (1-T) - (WACC x Invested Capital)] | 2,730  | 1,025  | -1,700 |

Alternatively, it can also be computed as follows:

|                          | Orange | Grape  | Apple  |
|--------------------------|--------|--------|--------|
| Net Income (Rs.)         | 8,970  | 12,350 | 14,950 |
| Pre Tax Income (Rs.) (A) | 13,800 | 19,000 | 23,000 |
| Debt Amount (Rs.)        | 80,000 | 50,000 | 20,000 |

|                               |        |        |        |
|-------------------------------|--------|--------|--------|
| Interest (Rs.) (B)            | 12,800 | 6,500  | 3,000  |
| EBIT (Rs.)                    | 26,600 | 25,500 | 26,000 |
| Tax 35% (Rs.)                 | 9,310  | 8,925  | 9,100  |
| EAT                           | 17,290 | 16,575 | 16,900 |
| Less: WACC X Invested Capital | 13,520 | 15,220 | 17,950 |
| EVA (Rs.)                     | 3,770  | 1,355  | -1,050 |

(iii) Orange would be considered as the best investment since the EVA of the company is highest and its weighted average cost of capital is the lowest

(iv) Estimated Price of each company shares

|                                    | Orange | Grape    | Apple  |
|------------------------------------|--------|----------|--------|
| EBIT (Rs.)                         | 25,000 | 25,000   | 25,000 |
| Interest (Rs.)                     | 12,800 | 6,500    | 3,000  |
| Taxable Income (Rs.)               | 12,200 | 18,500   | 22,000 |
| Tax 35% (Rs.)                      | 4,270  | 6,475    | 7,700  |
| Net Income (Rs.)                   | 7,930  | 12,025   | 14,300 |
| Shares                             | 6,100  | 8,300    | 10,000 |
| EPS (Rs.)                          | 1.3    | 1.448795 | 1.43   |
| Stock Price (EPS x PE Ratio) (Rs.) | 14.30  | 15.94    | 15.73  |

Since the three entities have different capital structures they would be exposed to different degrees of financial risk. The PE ratio should therefore be adjusted for the risk factor.

**Alternative Answer**

|                                    | Orange | Grape  | Apple  |
|------------------------------------|--------|--------|--------|
| Net Income (Given) (Rs.)           | 8,970  | 12,350 | 14,950 |
| Shares                             | 6,100  | 8,300  | 10,000 |
| EPS (Rs.)                          | 1.4705 | 1.488  | 1.495  |
| Stock Price (EPS x PE Ratio) (Rs.) | 16.18  | 16.37  | 16.45  |

(v) **Market Capitalisation**

|                             |        |          |          |
|-----------------------------|--------|----------|----------|
| Estimated Stock Price (Rs.) | 14.30  | 15.94    | 15.73    |
| No. of shares               | 6,100  | 8,300    | 10,000   |
| Estimated Market Cap (Rs.)  | 87,230 | 1,32,302 | 1,57,300 |

**Alternative Answer**

|                             |        |          |          |
|-----------------------------|--------|----------|----------|
| Estimated Stock Price (Rs.) | 16.18  | 16.37    | 16.45    |
| No. of shares               | 6,100  | 8,300    | 10,000   |
| Estimated Market Cap (Rs.)  | 98,698 | 1,35,871 | 1,64,500 |

4. (a)

| Calculation of return on portfolio for 2009-10 | (Calculation in Rs. / share) |     |
|--|------------------------------|-----|
|  | M                            | N   |
| Dividend received during the year              | 10                           | 3   |
| Capital gain/loss by 31.03.10                  |                              |     |
| Market value by 31.03.10                       | 220                          | 290 |

|   |        |          |        |
|---|--------|----------|--------|
| Cost of investment  | 200    | 300      |        |
| Gain/loss   | 20     | (-)10    |        |
| Yield   | 30     | (-)7     |        |
| Cost  | 200    | 300      |        |
| % return  | 15%    | (-)2.33% |        |
| Weight in the portfolio   | 57     | 43       |        |
| Weighted average return   |        |          | 7.55%  |
| Calculation of estimated return for 2010-11   |        |          |        |
| Expected dividend   | 20     | 3.5      |        |
| Capital gain by 31.03.11  |        |          |        |
| (220x0.2)+ (250x0.5)+(280x0.3) – 220=(253-220)                                      | 33     | -        |        |
| (290x0.2)+(310x0.5)+(330x0.3) – 290= (312 – 290)                                    | -      | 22       |        |
| Yield   | 53     | 25.5     |        |
| *Market Value 01.04.10  | 220    | 290      |        |
| % return  | 24.09% | 8.79%    |        |
| *Weight in portfolio (1,000x220): (500x290)   | 60.3   | 39.7     |        |
| Weighted average (Expected) return  |        |          | 18.02% |
| (*The market value on 31.03.10 is used as the base for calculating yield for 10-11) |        |          |        |

### Calculation of Standard Deviation

#### M Ltd.

| Exp. market value | Exp. gain | Exp. div. | Exp Yield (1) | Prob. Factor (2) | (1) X (2) | Dev. ( $P_M - \bar{P}_M$ ) | Square of dev. (3) | (2) X (3)             |
|-------------------|-----------|-----------|---------------|------------------|-----------|----------------------------|--------------------|-----------------------|
| 220               | 0         | 20        | 20            | 0.2              | 4         | -33                        | 1089               | 217.80                |
| 250               | 30        | 20        | 50            | 0.5              | 25        | -3                         | 9                  | 4.50                  |
| 280               | 60        | 20        | 80            | 0.3              | 24        | 27                         | 729                | 218.70                |
|                   |           |           |               |                  | 53        |                            |                    | $\sigma^2_M = 441.00$ |

Standard Deviation ( $\sigma_M$ )

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#### N Ltd.

| Exp. market value | Exp. gain | Exp. div. | Exp Yield (1) | Prob. Factor (2) | (1) X (2) | Dev. ( $P_N - \bar{P}_N$ ) | Square of dev. (3) | (2) X (3)             |
|-------------------|-----------|-----------|---------------|------------------|-----------|----------------------------|--------------------|-----------------------|
| 290               | 0         | 3.5       | 3.5           | 0.2              | 0.7       | -22                        | 484                | 96.80                 |
| 310               | 20        | 3.5       | 23.5          | 0.5              | 11.75     | -2                         | 4                  | 2.00                  |
| 330               | 40        | 3.5       | 43.5          | 0.3              | 13.05     | 18                         | 324                | 97.20                 |
|                   |           |           |               |                  | 25.5      |                            |                    | $\sigma^2_N = 196.00$ |

Standard Deviation ( $\sigma_N$ )

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Share of company M Ltd. is more risky as the S.D. is more than company N Ltd.



(b)

| Particulars   | Rs.       |
|---|-----------|
| Estimated Receivables   | 46,00,000 |
| Estimated Receivables under Factor $\left( 3,74,00,000 \times \frac{30}{365} \right)$ | 30,73,973 |
| Reduction in Receivables (Rs. 46,00,000 – Rs. 30,73,973)                              | 15,26,027 |

**Total Savings (A)**

|                                |                    |                 |
|--------------------------------|--------------------|-----------------|
| Reduction in finance costs     | Rs. 15,26,027 @ 5% | 76,301          |
| Saving of Administration costs |                    | 1,00,000        |
| Saving of Bad debts            |                    | 3,50,000        |
| <b>Total</b>                   |                    | <b>5,26,301</b> |

**Total Cost of Factoring (B)**

|  |               |                         |
|--|---------------|-------------------------|
| Interest on advances by Factor                   |               |                         |
| Advances 30,73,973 @ 80%                         | Rs. 24,59,178 |                         |
| Interest on Rs. 24,59,178 @ 7%                   |               | Rs. 1,72,142            |
| Overdraft Interest rate 5%                       |               | <u>(Rs. 1,22,959)</u>   |
| Charges payable to Factor (Rs. 3,74,00,000 @ 3%) |               | <u>11,22,000</u>        |
| <b>Total</b>                                     |               | <b><u>11,71,183</u></b> |

Net Saving (A) – (B) (6,44,882)

Since Net Saving is negative the proposal is not viable and cannot be accepted

5. (a) (i) **Number of Units in each Scheme**

|        |  |             |
|--------|--|-------------|
| MF 'X' | $\frac{\text{Rs. } 2,00,000}{\text{Rs. } 10.30}$ | = 19,417.48 |
| MF 'Y' | $\frac{\text{Rs. } 4,00,000}{\text{Rs. } 10.10}$ | = 39,603.96 |
| MF 'Z' | $\frac{\text{Rs. } 2,00,000}{\text{Rs. } 10.00}$ | = 20,000.00 |

(ii) **Total NAV on 31.03.2018**

|              |                         |                        |
|--------------|-------------------------|------------------------|
| MF 'X'       | = 19,417.48 x Rs. 10.25 | Rs. 1,99,029.17        |
| MF 'Y'       | = 39,603.96 x Rs. 10.00 | Rs. 3,96,039.60        |
| MF 'Z'       | = 20,000.00 x Rs. 10.20 | Rs. 2,04,000.00        |
| <b>Total</b> |                         | <b>Rs. 7,99,068.77</b> |

(iii) **Total Yield**

|        | Capital Yield                                      | Dividend Yield | Total          |
|--------|--|----------------|----------------|
| MF 'X' | Rs. 1,99,029.17 - Rs. 2,00,000<br>= - Rs. 970.83   | Rs. 6,000      | Rs. 5,029.17   |
| MF 'Y' | Rs. 3,96,039.60 - Rs. 4,00,000<br>= - Rs. 3,960.40 | Nil            | - Rs. 3,960.40 |

|        |  |           |               |
|--------|--|-----------|---------------|
| MF 'Z' | Rs. 2,04,000 - Rs. 2,00,000<br>= Rs. 4,000 | Rs. 5,000 | Rs. 9,000.00  |
| Total  |  |           | Rs. 10,068.77 |

$$\text{Total Yield} = \frac{\text{Rs. } 10,068.77}{\text{Rs. } 8,00,000} \times 100 = 1.2586\%$$

**(iv) No. of Days Investment Held**

|                          | MF 'X'  | MF 'Y'   | MF 'Z'                                      |
|--------------------------|---|--|---|
| Let No. of days be       | X   | Y  | Z   |
| Initial Investment (Rs.) | 2,00,000                                      | 4,00,000   | 2,00,000                                    |
| Yield (Rs.)              | 5,029.17                                      | -3,960.40  | 9,000.00                                    |
| Yield (%)                | 2.5146  | -0.9901  | 4.5   |
| Period of Holding (Days) | $\frac{2.5146}{9.66} \times 365$<br>= 95 Days | $\frac{-0.9901}{-11.66} \times 365$<br>= 31 Days | $\frac{4.5}{24.15} \times 365$<br>= 68 Days |

Date of Original Investment                  26.12.17                  28.02.18                  22.01.18

**(b)** Conversion Price = Rs. 50 x 17 = Rs. 850

Intrinsic Value = Rs. 850

Accordingly the yield (r) on the bond shall be :

$$\text{Rs. } 850 = \text{Rs. } 100 \text{ PVAF } (r, 10) + \text{Rs. } 1000 \text{ PVF } (r, 10)$$

Let us discount the cash flows by 11%

$$850 = 100 \text{ PVAF } (11\%, 10) + 1000 \text{ PVF } (11\%, 10)$$

$$850 = 100 \times 5.890 + 1000 \times 0.352$$

$$= 91$$

Now let us discount the cash flows by 13%

$$850 = 100 \text{ PVAF } (13\%, 10) + 1000 \text{ PVF } (13\%, 10)$$

$$850 = 100 \times 5.426 + 1000 \times 0.295$$

$$= -12.40$$

Accordingly, IRR

$$11\% + \frac{90.90}{90.90 - (-12.40)} \times (13\% - 11\%)$$

$$11\% + \frac{90.90}{103.30} \times (13\% - 11\%)$$

$$= 12.76\%$$

The spread from comparable bond = 12.76% - 11.80% = 0.96%

**6. (a) (i)** Return of a US Investor

$$= \frac{\text{Ending Price} - \text{Initial Price}}{\text{Initial Price}} \times 100$$

$$= \frac{1919 - 2028}{2028} \times 100 = -5.37\%$$

(ii) Return of Mr. X

|  |                  |
|--|------------------|
| Initial Investment (Rs.)   | 1.58 Crore       |
| Applicable Exchange Rate on 1.1.20x1                                 | Rs. 62.25        |
| Equivalent US\$  | US\$ 2,53,815.26 |
| Purchase Price of Standard & Poor Index                              | 2028             |
| No. of Standard & Poor Indices Purchased                             | 125.16           |
| Ending Price of Standard & Poor Index                                | 1919             |
| Proceeds realised in US\$ on sale of Standard & Poor Index           | US\$ 2,40,182.04 |
| Applicable Exchange Rate on 1.1.20x2                                 | Rs. 67.25        |
| Proceeds realised in INR on sale of Standard & Poor Index            | Rs. 1,61,52,242  |
| Rate of Return ( $\frac{16152242 - 15800000}{15800000} \times 100$ ) | 2.23%            |

(iii) Rate of Return had the amount been invested in India

|  |  |
|--|--|
| Initial Investment (Rs.)                                   | 1.58 Crore   |
| Purchase Price of Indian Index                             | 7395   |
| No. of Standard & Poor Indices Purchased                   | 2136.58  |
| Let Ending Price of Indian Index                           | X  |
| Then to be indifferent with return in International Market | $\frac{2136.58 \times X - 1.58}{1.58} \times 100 = 2.23$ |
| Price of Indian Index to be indifferent                    | 7559.90 say 7560   |

(b) Firstly, the interest is calculated at 3% p.a. for 6 months. That is:

$$\text{USD } 20,00,000 \times 3/100 \times 6/12 = \text{USD } 30,000$$

From the forward points quoted, it is seen that the second figure is less than the first, this means that the currency is quoted at a discount.

(i) The value of the total commitment in Indian rupees is calculated as below:

|                           |                      |
|---------------------------|----------------------|
| Principal Amount of loan  | USD 20,00,000        |
| Add: Interest             | <u>USD 30,000</u>    |
| Amount due                | <u>USD 20,30,000</u> |
| Spot rate                 | Rs. 48.5275          |
| Forward Points (6 months) | (-) 0.0700           |
| Forward Rate              | Rs. 48.4575          |
| Value of Commitment       | Rs. 9,83,68,725      |

(ii) It is seen from the forward rates that the market expectation is that the dollar will depreciate. If the firm's own expectation is that the dollar will depreciate more than what the bank has quoted, it may be worthwhile not to cover forward and keep the exposure open.

If the firm has no specific view regarding future dollar price movements, it would be better to cover the exposure. This would freeze the total commitment and insulate the firm from

undue market fluctuations. In other words, it will be advisable to cut the losses at this point of time.

Given the interest rate differentials and inflation rates between India and USA, it would be unwise to expect continuous depreciation of the dollar. The US Dollar is a stronger currency than the Indian Rupee based on past trends and it would be advisable to cover the exposure.

7. (a) A 'Reverse Stock Split' is a process whereby a company decreases the number of shares outstanding by combining current shares into fewer or lesser number of shares. For example, in a 5 : 1 reverse split, a company would take back 5 shares and will replace them with one share.

Although, reverse stock split does not result in change in Market value or Market Capitalization of the company, but it results in increase in price per share.

Considering above mentioned ratio, if company has 100 million shares outstanding having Market Capitalisation of Rs. 500 crore before split up, the number of shares would be equal to 20 million after the reverse split up and market price of one share shall increase from Rs. 50 to Rs. 250.

#### **Reasons for Reverse Split Up**

Although Reverse Split up is not so popular especially in India but company carries out reverse split up due to following reasons:

- (i) Avoiding delisting from stock exchange: Sometimes as per the stock exchange regulations if the price of shares of a company goes below a certain limit it can be delisted. To avoid such delisting company may resort to reverse stock split up.
  - (ii) Avoiding removal from constituents of Index: If company's share is one of the constituents of the market index then to avoid their removal of scrip from this list due to persistent fall in the prices of share, the company may take reverse split up route.
  - (iii) To avoid the tag of "Penny Stock": If the price of shares of a company goes below a limit it may be called "Penny Stock". In order to improve the image of the company and avoiding this stage, the company may go for Reverse Stock Split.
  - (iv) To attract Institutional Investors and Mutual Funds: It might be possible that institutional investors may be shying away from acquiring low value shares and hence to attract these investors the company may adopt the route of Reverse Stock Split up to increase the price per share.
- (b) The interface of strategic management and financial policy will be clearly understood if we appreciate the fact that the starting point of an organization is money and the end point of that organization is also money. No organization can run an existing business and promote a new expansion project without a suitable internally mobilized financial base or both internally and externally mobilized financial base.

Sources of finance and capital structure are the most important dimensions of a strategic plan. The generation of funds may arise out of ownership capital and or borrowed capital. A company may issue equity shares and / or preference shares for mobilizing ownership capital.

Along with the mobilization of funds, policy makers should decide on the capital structure to indicate the desired mix of equity capital and debt capital. There are some norms for debt equity ratio. However this ratio in its ideal form varies from industry to industry. It also depends on the planning mode of the organization under study.

Another important dimension of strategic management and financial policy interface is the investment and fund allocation decisions. A planner has to frame policies for regulating investments in fixed assets and for restraining of current assets. Investment proposals mooted by different business units may be addition of a new product, increasing the level of operation of an

existing product and cost reduction and efficient utilization of resources through a new approach and or closer monitoring of the different critical activities.

Now, given these three types of proposals a planner should evaluate each one of them by making within group comparison in the light of capital budgeting exercise.

Dividend policy is yet another area for making financial policy decisions affecting the strategic performance of the company. A close interface is needed to frame the policy to be beneficial for all. Dividend policy decision deals with the extent of earnings to be distributed as dividend and the extent of earnings to be retained for future expansion scheme of the firm.

It may be noted from the above discussions that financial policy of a company cannot be worked out in isolation of other functional policies. It has a wider appeal and closer link with the overall organizational performance and direction of growth. These policies being related to external awareness about the firm, specially the awareness of the investors about the firm, in respect of its internal performance. There is always a process of evaluation active in the minds of the current and future stake holders of the company. As a result preference and patronage for the company depends significantly on the financial policy framework. And hence attention of the corporate planners must be drawn while framing the financial policies not at a later stage but during the stage of corporate planning itself.

**(c) Marking to market**

It implies the process of recording the investments in traded securities (shares, debt-instruments, etc.) at a value, which reflects the market value of securities on the reporting date. In the context of derivatives trading, the futures contracts are marked to market on periodic (or daily) basis. Marking to market essentially means that at the end of a trading session, all outstanding contracts are repriced at the settlement price of that session. Unlike the forward contracts, the future contracts are repriced every day. Any loss or profit resulting from repricing would be debited or credited to the margin account of the broker. It, therefore, provides an opportunity to calculate the extent of liability on the basis of repricing. Thus, the futures contracts provide better risk management measure as compared to forward contracts.

Suppose on 1<sup>st</sup> day we take a long position, say at a price of Rs. 100 to be matured on 7<sup>th</sup> day. Now on 2<sup>nd</sup> day if the price goes up to Rs. 105, the contract will be repriced at Rs. 105 at the end of the trading session and profit of Rs. 5 will be credited to the account of the buyer. This profit of Rs. 5 may be drawn and thus cash flow also increases. This marking to market will result in three things – one, you will get a cash profit of Rs. 5; second, the existing contract at a price of Rs. 100 would stand cancelled; and third you will receive a new futures contract at Rs. 105. In essence, the marking to market feature implies that the value of the futures contract is set to zero at the end of each trading day.

**(d) Debt route for foreign exchange funds:**

The following are some of the instruments used for borrowing of funds from the international market:

- (i) *Syndicated bank loans*: The borrower should obtain a good credit rating from the rating agencies. Large loans can be obtained in a reasonably short period with few formalities. Duration of the loan is generally 5 to 10 years. Interest rate is based on LIBOR plus spread depending upon the rating. Some covenants are laid down by the lending institutions like maintenance of key financial ratios.
- (ii) *Euro bonds*: These are basically debt instruments denominated in a currency issued outside the country of the currency. For example, Yen bond floated in France. Primary attraction of these bonds is the shelter from tax and regulations which provide Scope for arbitraging yields. These are usually bearer bonds and can take the form of (i) traditional fixed rate bonds (ii) floating rate notes (FRN's) (iii) Convertible bonds.

- (iii) *Foreign bonds*: Foreign bonds are foreign currency bonds and sold at the country of that currency and are subject to the restrictions as placed by that country on the foreigners' funds.
  - (iv) *Euro Commercial Papers*: These are short term money market securities usually issued at a discount, for maturity in less than one year.
  - (v) *External Commercial Borrowings (ECB's)*: These include commercial bank loans, buyer's credit and supplier's credit, securitised instruments such as floating rate notes and fixed rate bonds, credit from official export credit agencies and commercial borrowings from multi-lateral financial institutions like IFCI, ADB etc. External Commercial borrowings have been a popular source of financing for most of capital goods imports. They are gaining importance due to liberalization of restrictions. ECB's are subject to overall ceilings with sub-ceilings fixed by the government from time to time.
  - (vi) All other loans are approved by the government.
- (e) REITs resembles a mutual fund (MF), wherein several investors pool in funds with real estate as the underlying asset class. Also, similar to MFs, REITs will be available in demat form and will be regulated by SEBI. That is where the similarities end. This is because the structure and the working of a REIT is completely different from a mutual fund scheme.

Reit is an investment vehicle which enables individual investors to earn income through the underlying commercial real estate, without directly owning it. The market experts speculate that Reit would act as a game changer since it can bring the much-required liquidity in the market with investment from retail and institutional investors.

It is difficult for a retail investor to get exposure to commercial real estate directly as the investment required is very high. For grade-A commercial property, it could be Rs. 5 crore and above. Exiting such large investments can also be time-consuming. Many of these challenges of investing in commercial real estate get taken care of when an investor takes the Reit route. Investors can enter Reits with just Rs 2 lakh investment. Exiting these investments should also be less difficult as units of Reits are listed on the stock exchanges.

Reit is an investment vehicle which allows an investor to hold a share in the underlying real estate property. It is similar to the concept of a mutual fund, where a fund pools small sums from individuals and institution and invests in stocks. In Reit, the trust puts money in property. The investments can be made through a trust directly or via Special Purpose Vehicles (SPV). An SPV is a company or a limited liability partnership (LLP) in which a Reit holds or proposes to hold an equity stake or interest of at least 50 per cent. An SPV is not allowed to engage in any activity other than holding and developing a property and any incidental activity.