## MOCK TEST PAPER 2

## FINAL (OLD) COURSE: GROUP - I

## PAPER - 2: STRATEGIC FINANCIAL MANAGEMENT (OLD COURSE) SUGGESTED ANSWERS/HINTS

1. (a) Instead of selling the stock of Reliance Ltd., Ram must cover his Risk by buying or long position in Put Option with appropriate strike price. Since Ram's risk appetite is $5 \%$, the most suitable strike price in Put Option shall be ₹ 950 ( $₹ 1000-5 \%$ of ₹ 1000).

If Ram does so, assuming that the spot price after 1 month is ₹ $942^{*}$ then overall position will be as follows:

| Spot Price after <br> 1 month | Stock <br> Value | Put Payoff | Initial Cash <br> Flow | Total |
| :---: | :---: | :---: | :---: | :---: |
| $\mathrm{S}<950$ | S | $950-\mathrm{S}$ | -8 | $942-\mathrm{S}$ |
| $\mathrm{S}>950$ | S | - | -8 | $\mathrm{~S}-8$ |

Thus, from the above, it can be seen that the value of holding of Ram shall never be less than ₹ 942 as Put Option will compensate for loss below spot price of ₹ 950 . However, this strategy will involve a cost of ₹ 8 .
*Students can assume any price other than ₹ 942 and could answer accordingly. Total Marks = 5
(b) (i) As borrower does not want to pay more than $8.5 \%$ p.a., on this loan where the rate of interest is likely to rise beyond this, hence, he has hedge the risk by entering into an agreement to buy interest rate caps with the following parameters:

- National Principal: ₹ $4,00,00,000 /-$
- Strike rate: $8.5 \%$ p.a.
- Reference rate: the rate of interest applicable to this loan
- Calculation and settlement date: $31^{\text {st }}$ March every year
- Duration of the caps: till 31st March 2022
- Premium for caps: negotiable between both the parties

To purchase the caps this borrower is required to pay the premium upfront at the time of buying caps. The payment of such premium will entitle him with right to receive the compensation from the seller of the caps as soon as the rate of interest on this loan rises above $8.5 \%$.
(ii) The premium to be paid on $1^{\text {st }}$ October 2018 is ₹ $3,00,000 /-(₹ 4,00,00,000 \times 0.75 / 100)$. The payment of this premium will entitle the buyer of the caps to receive the compensation from the seller of the caps whereas the buyer will not have obligation. The compensation received by the buyer of caps will be as follows:

| Date | Actual Rate <br> of Interest | Strike <br> Rate | Compensation <br> in \% | Compensation <br> in ₹ |
| :--- | ---: | ---: | ---: | ---: |
| On 31st March, 2019 | $10.20 \%$ | $8.50 \%$ | $1.70 \%$ | $₹ 6,80,000 /-(4,00,00,000 \times 1.70 / 100)$ |
| On 31 ${ }^{\text {st }}$ March, 2020 | $11.50 \%$ | $8.50 \%$ | $3.00 \%$ | $₹ 12,00,000 /-(4,00,00,000 \times 3.00 / 100)$ |
| On 31 $1^{\text {st }}$ March, 2021 | $9.25 \%$ | $8.50 \%$ | $0.75 \%$ | $₹ 3,00,000(4,00,00,000 \times 0.75 / 100)$ |
| On 31 ${ }^{\text {st }}$ March, 2022 | $8.25 \%$ | $8.50 \%$ | Nil $^{*}$ | $\mathrm{Nil}{ }^{*}$ |

* The buyer of the caps will not receive the compensation as the actual rate of interest is $8.25 \%$ whereas strike rate of caps is $8.5 \%$. Hence, his interest liability shall not exceed 8.50\%.

Thus, by paying the premium upfront buyer of the caps gets the compensation on the respective interest due dates without any obligations.

Total Marks = 5
(c) The range of values using P/E Ratio and EPS either historic or projected are as follows.

| EPS | Value (₹) | P/E Ratio | Value | Value of Shares |
| :--- | :---: | :---: | :---: | :---: |
| Historic | 3.40 | Lowest | 4 | 13.60 |
| Historic | 3.40 | Current | 5 | 17.00 |
| Historic | 3.40 | Highest | 7 | 23.80 |
| Expected | 4.00 | Lowest | 4 | 16.00 |
| Expected | 4.00 | Current | 5 | 20.00 |
| Expected | 4.00 | Highest | 7 | 28.00 |

(d) The company had issued commercial paper worth ₹ 10 crores

No. of days Involves = 91 days
Interest rate applicable $=12.04 \%$ p.a.

$$
\begin{aligned}
\text { Interest for } 91 \text { days } & =12.04 \% \times \frac{91 \text { Days }}{365 \text { Days }}=3.002 \% \\
& =\text { or ₹ } 10 \text { crores } \times \frac{3.002}{100+3.002}=₹ 29,14,507 \\
& =\text { or } ₹ 29.14507 \text { Lakhs }
\end{aligned}
$$

$\therefore$ Net amount received at the time of issue:- ₹ 10.00 Crores - ₹ 0.29151 Crores $=₹ 9.70849$ Crores
Alternatively, it can also be computed as follows:
Price $=\frac{\text { Rs. } 10 \text { Crores }}{\left(1+12.04 \% \times \frac{91 \text { Days }}{365 \text { Days }}\right)}=₹ 9.70855$ Crores
2. (a) Working Notes:
(i) Estimated Exchange Rates (Using PPP Theory)

| Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Exchange rate | 57 | 57.54 | 57.82 | 57.82 | 57.54 | 56.99 | 56.18 |

(ii) Share in sales

| Year | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Annual Units in crores | 24 | 24 | 24 | 24 | 24 |
| Price per bottle (₹) | 7.50 | 8.50 | 9.50 | 10.50 | 11.50 |
| Price fluctuating Inflation | $6.00 \%$ | $5.50 \%$ | $5.00 \%$ | $4.50 \%$ | $4.00 \%$ |


| Rate |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Inflated Price (₹) | 7.95 | 8.97 | 9.98 | 10.97 | 11.96 |
| Inflated Sales Revenue <br> (₹ Crore) |  |  |  |  |  |
| Sales share @55\% | 190.80 | 215.28 | 239.52 | 263.28 | 287.04 |

(iii) Royalty Payment

| Year | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Annual Units in crores | 24 | 24 | 24 | 24 | 24 |
| Royalty in \$ | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Total Royalty (\$ Crore) | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| Exchange Rate | 57.54 | 57.82 | 57.82 | 57.54 | 56.99 |
| Total Royalty (₹ Crore) | 13.81 | 13.88 | 13.88 | 13.81 | 13.68 |

(iv) Tax Liability
(₹ Crore)

| Year | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Sales Share | 104.94 | 118.40 | 131.74 | 144.80 | 157.87 |
| Total Royalty | 13.81 | 13.88 | 13.88 | 13.81 | 13.68 |
| Total Income | 118.75 | 132.28 | 145.61 | 158.61 | 171.55 |
| Less: Expenses |  |  |  |  |  |
| Production Cost (Sales share x 40\%) | 41.98 | 47.36 | 52.69 | 57.92 | 63.15 |
| Depreciation (195 x 20\%) | 39.00 | 39.00 | 39.00 | 39.00 | 39.00 |
| PBT | 37.77 | 45.92 | 53.92 | 61.69 | 69.40 |
|  | 11.33 | 13.78 | 16.18 | 18.51 | 20.82 |
| Tax on Profit @30\% | 26.44 | 32.14 | 37.74 | 43.18 | 48.58 |

(v) Free Cash Flow

|  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Year | $\mathbf{0}$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ |
| Sales Share | 0.00 | 104.94 | 118.40 | 131.74 | 144.80 | 157.87 | 0.00 |
| Total Royalty | 0.00 | 13.81 | 13.88 | 13.88 | 13.81 | 13.68 | 0.00 |
| Production Cost | 0.00 | -41.98 | -47.36 | -52.69 | -57.92 | -63.15 | 0.00 |
| Initial Outlay | -200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Working Capital | -50.00 | -5.00 | -5.00 | -5.00 | -5.00 | 70.00 | 0.00 |
| Scrap Value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 |
| Tax on Profit | 0.00 | 0.00 | -11.33 | -13.78 | -16.18 | -18.51 | -20.82 |
| Free Cash Flow | $\mathbf{- 2 5 0 . 0 0}$ | $\mathbf{7 1 . 7 7}$ | $\mathbf{6 8 . 5 9}$ | $\mathbf{7 4 . 1 5}$ | $\mathbf{7 9 . 5 1}$ | $\mathbf{1 6 4 . 8 9}$ | $\mathbf{- 2 0 . 8 2}$ |

(vi) Remittance of Cash Flows

| (₹ Crore) |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Year | $\mathbf{0}$ | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ |  |
| Free Cash Flow <br> 50\% of Current Year <br> Cash Flow | -250.00 | 71.77 | 68.59 | 74.15 | 79.51 | 164.89 | -20.82 |  |
| Previous year <br> remaining cash flow <br> Total Remittance | 0.00 | 35.89 | 34.29 | 37.07 | 39.76 | 82.45 | 0.00 |  |
|  | $\mathbf{- 2 5 0 . 0 0}$ | $\mathbf{3 5 . 8 8}$ | $\mathbf{7 0 . 1 7}$ | $\mathbf{7 1 . 3 7}$ | $\mathbf{7 6 . 8 4}$ | $\mathbf{1 2 2 . 2 0}$ | $\mathbf{6 1 . 6 2}$ |  |

NPV of Project under Appraisal


Decision: Since NPV of the project is negative, Perfect inc. should not invest in the project.
Total Marks = 8
(b) Forward Market Cover

Hedge the risk by buying Can $\$$ in 1 and 3 months time will be:
July -
$2020000 \times 0.9301=$ US $\$ 1878802$
Sept. -
$1410000 \times 0.9356=$ US \$ 1319196
Option Contracts
$\begin{array}{ll}\text { July Payment } & =2020000 / 50,000=40.40 \\ \text { September Payment } & =1410000 / 50,000=28.20\end{array}$
Company would like to take out 40 contracts for July and 28 contracts for September respectively. Therefore costs, if the options were exercised, will be:-

|  | July |  | Sept. |  |
| :--- | ---: | ---: | ---: | ---: |
|  | Can \$ | US \$ | Can \$ | US \$ |
| Covered by Contracts | 2000000 | 1880000 | 1400000 | 1330000 |
| Balance bought at spot rate | 20000 | 18602 | 10000 | 9356 |
| Option Costs: |  |  |  |  |
| Can \$ 50000 $\times 40 \times 0.0102$ |  | 20400 | --- |  |


| Can $\$ 50000 \times 28 \times 0.0164$ | --- |  |  | 22960 |
| :--- | ---: | ---: | ---: | ---: |
| Total cost in US \$ of using Option Contract |  | $19,19,002$ |  | 1362316 |

Decision: As the firm is stated as risk averse and the money due to be paid is certain, a fixed forward contract, being the cheapest alternative in the both the cases, would be recommended.

Total Marks $=8$
3. (a)

MSN Ltd.

| Particulars | ₹ |
| :---: | :---: |
| Average level of Receivables ₹ $4,50,00,000 \times 120 / 360$ | 1,50,00,000 |
| Factoring commission ₹ $1,50,00,000 \times 2 \%$ | 3,00,000 |
| Factoring Reserve ₹ $1,50,00,000 \times 10 \%$ | 15,00,000 |
| Amount available for advance ₹ 1,50,00,000-(3,00,000 + 15,00,000) | 1,32,00,000 |
| Factor will deduct interest @ 18\% |  |
| Interest ( $₹ 1,32,00,000 \times 18 \times 120) / 100 \times 360$ | 7,92,000 |
| Advance to be paid $=₹ 1,32,00,000-7,92,000$ | 1,24,08,000 |
| Annual cost of factoring to the firm: |  |
| Factoring commission (₹ $300000 \times 360 / 120$ ) | 9,00,000 |
| Interest Charges (₹ $792,000 \times 360 / 120)$ | 23,76,000 |
|  | 32,76,000 |
| Firms savings on taking factoring service: |  |
| Cost of credit administration saved | 6,00,000 |
| Cost of bad debts (₹ $4,50,00,000 \times 2 \%$ ) | 9,00,000 |
| Total savings | 15,00,000 |

Net cost to the firm = ₹ $32,76,000-₹ 15,00,000=₹ 17,76,000$
Effective cost of factoring to the firm $=₹ 17,76,000 \times 100 / ₹ 1,24,08,000=14.31 \%$
Note: The number of days in a year is assumed to be 360 days. However it can also be solved assuming 365 days a year.
(b) (1) Working Notes:

Calculation of Return on each single security

|  | Cost ₹ <br> (1) | No. of Securities (2) | Total Cost $(3)=(1) \times(2)$ | Dividend/ Interest | Capital gain | Total <br> (4) | Total Income $(5)=(2) \times(4)$ | Beta <br> (6) | (6) $\times$ (3) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| G Ltd. | 10,000 | 1000 | 1,00,00,000 | 1,725 | -200 | 1,525 | 15,25,000 | 0.6 | 60,00,000 |
| S Ltd. | 15,000 | 1000 | 1,50,00,000 | 1,000 | 1,200 | 2,200 | 22,00,000 | 0.8 | 1,20,00,000 |
| B Ltd. | 28,000 | 500 | 1,40,00,000 | 1,400 | 300 | 1,700 | 8,50,000 | 0.6 | 84,00,000 |
| PSU Bonds | 1,800 | 20,000 | 3,60,00,000 | 180 | -75 | 105 | 21,00,000 | 0.10 | 36,00,000 |
| Total |  |  | 7,50,00,000 |  |  |  | 66,75,000 |  | 3,00,00,000 |

## Rate of Return on earned on the Portfolio

$\frac{\text { Dividend Earned }+ \text { Capital appreciation }}{\text { Initial investment }} \times 100$
$=\frac{₹ 66,75,000}{₹ 7,50,00,000} \times 100=8.90 \%$
Weighted Average Beta of the Portfolio
$\frac{3,00,00,000}{7,50,00,000}=0.40$
Expected Risk Free Rate of Return using CAPM
$8.90 \%=R_{f}+0.40\left[12.7 \%-R_{f}\right]$
$8.90 \%=R_{f}+5.08-0.40 R_{f}$
$3.82 \%=0.60 R_{f}$
$R_{f}=6.37 \%$
Thus keeping in view the present risk appetite, the client would expect at least a return of $6.37 \%$ on Bonds.
(2) The expected return on the Portfolio using CAPM:
$=7 \%+0.40[12.7-7 \%]$
= $9.28 \%$
Since the actual return is $8.90 \%$ which is quite lower than expected return considering the systematic risk borne by the investor and hence portfolio has not outperformed the market rather has underperformed.

Total Marks = 8
4. (a) Projected Balance Sheet

|  | Year 1 | Year 2 | Year 3 | Year 4 |
| :--- | ---: | ---: | ---: | ---: |
| Fixed Assets (40\% of Sales) | 19,200 | 23,040 | 27,648 | 27,648 |
| Current Assets (20\% of Sales) | 9,600 | 11,520 | 13,824 | 13,824 |
| Total Assets | 28,800 | 34,560 | 41,472 | 41,472 |
| Equity | 14,400 | 17,280 | 20,736 | 41,472 |

Projected Cash Flows:-

|  | Year 1 | Year 2 | Year 3 | Year 4 |
| :--- | ---: | ---: | ---: | ---: |
| Sales | $48,000.00$ | $57,600.00$ | $69,120.00$ | 69,120 |
| PBT (10\% of sale) | 4800.00 | 5760.00 | $6,912.00$ | 6,912 |
| PAT (70\%) | 3360.00 | 4032.00 | $4,838.40$ | $4,838.40$ |
| Depreciation | 1600.00 | 1920.00 | 2304.00 | $2,764.00$ |
| Addition to Fixed Assets | 4800.00 | 5760.00 | 6912.00 | $2,764.00$ |
| Increase in Current Assets | 1600.00 | 1920.00 | 2304.00 | -- |
| Operating cash flow (FCFF) | -1440.00 | -1728.00 | -2073.60 | $4,838.40$ |

## Projected Cash Flows:-

Present value of Projected Cash Flows:-

| Cash Flows | PVF at 15\% | PV |
| :---: | :---: | ---: |
| -1440.00 | 0.870 | $-1,252.80$ |
| -1728.00 | 0.756 | $-1,306.37$ |
| -2073.60 | 0.658 | $-1,364.43$ |
|  |  | $-3,923.60$ |

Residual Value
Present value of Residual value

Total shareholders' value
Pre strategy value
$\therefore$ Value of strategy

Evaluation: The strategy is not financially viable. However, it may be viable considering other non-financial factors.

## Total Marks = 8

(b) (i) We can compute the Portfolio variance on the basis of Correlation between each pair of securities as follows:
$=\left(w_{A} \times w_{A} X \sigma_{A}^{2}\right)+\left(w_{A} \times w_{B} X \operatorname{Cov}_{A B}\right)+\left(w_{A} \times w_{C} X \operatorname{Cov}_{A C}\right)+\left(w_{B} \times w_{A} X \operatorname{Cov}_{A B}\right)+\left(w_{B} X w_{B} X \sigma_{B}^{2}\right)+$ $\left(w_{B} \times w_{C} \times \operatorname{Cov}_{B C}\right)+\left(w_{C} \times w_{A} \times \operatorname{Cov}_{C A}\right)+\left(w_{C} \times w_{B} \times \operatorname{Cov}_{C B}\right)+\left(w_{C} \times w_{C} \times \sigma_{C}^{2}\right)$
$=(0.20 \times 0.20 \times 0.015)+(0.20 \times 0.50 \times 0.030)+(0.20 \times 0.30 \times 0.020)+(0.20 \times 0.50 \times$
$0.030)+(0.50 \times 0.50 \times 0.025)+(0.50 \times 0.30 \times 0.040)+(0.30 \times 0.20 \times 0.020)+(0.30 \times 0.50$
$x 0.040)+(0.30 \times 0.30 \times 0.10)$
$=0.0006+0.0030+0.0012+0.0030+0.00625+0.0060+0.0012+0.0060+0.0090$
$=0.0363$
(ii) To compute the Portfolio variance considering the Co-movement between securities due to change in the market index first we shall compute the Beta of the portfolio is as follows:
$0.20 \times 0.40+0.50 \times 0.50+0.30 \times 1.10=0.66$
Then we shall compute the Residual Variance by separating the Systematic Risk from total risk as follows:

Systematic Risk of each security shall be computed as follows:
$\beta_{A}^{2} \times \sigma_{M}^{2}=(0.40)^{2}(0.01)=0.0016$
$\beta_{B}^{2} \times \sigma_{M}^{2}=(0.50)^{2}(0.01)=0.0025$
$\beta_{C}^{2} \times \sigma_{M}^{2}=(1.10)^{2}(0.01)=0.0121$
The Residual Variance of each security
A $\quad 0.015-0.0016=0.0134$
B $\quad 0.025-0.0025=0.0225$
C $\quad 0.100-0.0121=0.0879$

Then Portfolio variance shall be computed using Sharpe Index Model as follows:
Systematic Variance of Portfolio $=(0.10)^{2} \times(0.66)^{2}=0.004356$
Unsystematic Variance of Portfolio $=0.0134 \times(0.20)^{2}+0.0225 \times(0.50)^{2}+0.0879 \times(0.30)^{2}$

$$
=0.014072
$$

Total Variance $=0.004356+0.014072=0.018428$
5. (a) Working Notes:
(i) Decomposition of Funds in Equity and Cash Components

|  | D Mutual Fund Ltd. | K Mutual Fund Ltd. |
| :--- | ---: | ---: |
| NAV on 31.12.14 | $₹ 70.71$ | $₹ 62.50$ |
| \% of Equity | $99 \%$ | $96 \%$ |
| Equity element in NAV | $₹ 70$ | $₹ 60$ |
| Cash element in NAV | $₹ 0.71$ | $₹ 2.50$ |

(ii) Calculation of Beta
(a) D Mutual Fund Ltd.

$$
\begin{aligned}
& \text { Sharpe Ratio }=2=\frac{E(R)-R_{f}}{\sigma_{D}}=\frac{E(R)-R_{f}}{11.25} \\
& E(R)-R_{f}=22.50 \\
& \text { Treynor Ratio }=15=\frac{E(R)-R_{f}}{\beta_{D}}=\frac{22.50}{\beta_{D}} \\
& \beta_{D}=22.50 / 15=1.50
\end{aligned}
$$

(b) K Mutual Fund Ltd.

Sharpe Ratio $=3.3=\frac{E(R)-R_{f}}{\sigma_{k}}=\frac{E(R)-R_{f}}{5}$
$E(R)-R_{f}=16.50$
Treynor Ratio $=15=\frac{E(R)-R_{f}}{\beta_{K}}=\frac{16.50}{\beta_{K}}$
$\beta_{K}=16.50 / 15=1.10$
(iii) Decrease in the Value of Equity

|  | D Mutual Fund Ltd. | K Mutual Fund Ltd. |
| :--- | ---: | ---: |
| Market goes down by | $5.00 \%$ | $5.00 \%$ |
| Beta | 1.50 | 1.10 |
| Equity component goes down | $7.50 \%$ | $5.50 \%$ |

(iv) Balance of Cash after 1 month

|  | D Mutual Fund Ltd. | K Mutual Fund Ltd. |
| :--- | ---: | ---: |
| Cash in Hand on 31.12.14 | $₹ 0.71$ | $₹ 2.50$ |
| Less: Exp. Per month | $₹ 0.25$ | $₹ 0.25$ |
| Balance after 1 month | $₹ 0.46$ | $₹ 2.25$ |

NAV after 1 month

|  | D Mutual Fund Ltd. | K Mutual Fund Ltd. |
| :--- | ---: | ---: |
| Value of Equity after 1 month |  |  |
| $70 \times(1-0.075)$ | $₹ 64.75$ | - |
| $60 \times(1-0.055)$ | - | $₹ 56.70$ |
| Cash Balance | 0.46 | 2.25 |
|  | 65.21 | 58.95 |

(b) (i) Forward Cover

3-month Forward Rate $=\frac{1}{1.9726}=₹ 0.5070 / \mathrm{JY}$
Accordingly, INR required for JY $5,00,000(5,00,000$ X ₹ 0.5070 ) ₹ $2,53,500$
(ii) Option Cover

To purchase JY 5,00,000, XYZ shall enter into a Put Option @ JY 2.125/INR
Accordingly, outflow in INR $\left(\frac{\mathrm{JY} 5,00,000}{2.125}\right)$
Premium $\left(\frac{\text { INR } 2,35,294 \times 0.098}{1.9516}\right)$
₹ $2,35,294$
₹ 11,815
₹ $2,47,109$
Since outflow of cash is least in case of Option same should be opted for. Further if price of INR goes above JY 2.125/INR the outflow shall further be reduced.

Total Marks = 6
6. (a) Evaluation of project utilizes of Project A and Project B

|  | Project A |  |  |
| :---: | :---: | :---: | :---: |
| Cash flow <br> (in ₹) | Probability | Utility | Utility value |
| $-15,000$ | 0.10 | -100 | -10 |
| $-10,000$ | 0.20 | -60 | -12 |
| 15,000 | 0.40 | 40 | 16 |
| 10,000 | 0.20 | 30 | 6 |
| 5,000 | 0.10 | 20 | $\underline{2}$ |


| Cash flow <br> (in ₹) | Project B |  |  |
| :---: | :---: | :---: | :---: |
|  | Probability | Utility | Utility value |
| $-10,000$ | 0.10 | -60 | -6 |
| $-4,000$ | 0.15 | -3 | -0.45 |
| 15,000 | 0.40 | 40 | 16 |
| 5,000 | 0.25 | 20 | 5 |
| 10,000 | 0.10 | 30 | $\underline{3}$ |
|  |  |  | $\underline{17.55}$ |

Project $B$ should be selected as its expected utility is more
Total Marks = 8
(b) (i) Walter's model is given by

$$
P=\frac{D+(E-D)\left(r / K_{e}\right)}{K_{e}}
$$

Where,

$$
\begin{array}{lll}
\mathrm{P} & = & \text { Market price per share. } \\
\mathrm{E} & = & \text { Earnings per share }=₹ 10 \\
\mathrm{D} & = & \text { Dividend per share }=₹ 8 \\
\mathrm{r} & = & \text { Return earned on investment }=10 \% \\
\mathrm{~K}_{\mathrm{e}} & =\quad \text { Cost of equity capital }=1 / 12.5=8 \% \\
\mathrm{P} & =\frac{8+(10-8) \times \frac{0.10}{0.08}}{0.08}=\frac{8+2 \times \frac{0.10}{0.08}}{0.08} \\
= & ₹ 131.25
\end{array}
$$

(ii) According to Walter's model when the return on investment is more than the cost of equity capital, the price per share increases as the dividend pay-out ratio decreases. Hence, the optimum dividend pay-out ratio in this case is nil.
So, at a pay-out ratio of zero, the market value of the company's share will be:
$\frac{0+(10-0) \frac{0.10}{0.08}}{0.08}=₹ 156.25$
Total Marks $=8$
7. (a) Yes, this statement is correct because while Exchange Position is referred to total of purchases or sale of commitment of a bank to purchase or sale foreign exchange whether actual delivery has taken place or not. In other words, all transactions for which bank has agreed with counter party are entered into exchange position on the date of the contract.
While Cash Position is outstanding balance (debit or credit) in bank's Nostro account. Since all foreign exchange dealings of bank are routed through Nostro account it is credited for all purchases and debited for sale by bank.
Therefore, all transactions effecting Cash position will affect Exchange Position not vice versa.

## Total Marks $=4$

(b) Financial planning is a systematic approach whereby the financial planner helps the customer to maximize his existing financial resources by utilizing financial tools to achieve his financial goals. Financial Resources, Financial Tools and Financial Goals are not the outcomes of Financial Planning rather these are components of Financial Planning.
Outcomes of the financial planning are as follows:

* Financial objectives: Financial objectives are to be decided at the very outset so that rest of the decisions can be taken accordingly. The objectives need to be consistent with the corporate mission and corporate objectives.
* Financial decision making: It helps in analyzing the financial problems that are being faced by the corporate and accordingly deciding the course of action to be taken by it.
* Financial measures: It includes ratio analysis, analysis of cash flow statement etc. to evaluate the performance of the Company. The selection of these measures again depends upon the corporate objectives.

Total Marks = 4
(c) Yes, incremental after-tac cash flow can be used to evaluate the leasing but following main problems faced in using the same:
(1) The IRR method cannot be used to choose between alternative lease bases with different lives or payment patterns.
(2) If the firms do not pay tax or pay at constant rate, then IRR should be calculated from the lease cash-flows and compared to after-tax rate of interest. However, if the firm is in a temporary non-tax paying status, its cost of capital changes over time, and there is no simple standard of comparison.
(3) Another problem is that risk is not constant. For the lessee, the payments are fairly riskless and interest rate should reflect this. The salvage value for the asset, however, is probably much riskier. As such two discount rates are needed. IRR gives only one rate, and thus, each cash-flow is not implicitly discounted to reflect its risk.
(4) Multiple roots rarely occur in capital budgeting since the expected cashflow usually changes signs once. With leasing, this is not the case often. A lessee will have an immediate cash inflow, a series of outflows for a number of years, and then an inflow during the terminal year. With two changes of sign, there may be, in practice frequently two solutions for the IRR.

Total Marks $=4$
(d) Following are main differences between Finance Lease and Operating Lease:

| Finance Lease | Operating Lease |
| :--- | :--- |
| (i) It is an intermediate term to long-term <br> arrangement. | (i) The lease term is significantly less than <br> the economic life of the equipment. |
| (ii) During the primary lease period, the lease <br> cannot be cancelled. | (ii) It can be cancelled by the lessee prior to <br> its expiration date. |
| (iii) The lease is more or less fully amortized <br> during the primary lease period. | (iii) The lease rental is generally not <br> sufficient to fully amortize the cost of the <br> asset. |
| (iv) The costs of maintenance, taxes, <br> insurance etc., are to be incurred by the <br> lessee unless the contract provides <br> otherwise. | (iv) The cost of maintenance, taxes, <br> insurance are the responsibility of the <br> lessor. |
| (v) The lessee is required to take the risk of <br> obsolescence. | (v) The lessee is protected against the risk <br> of obsolescence. |
| (vi) The lessor is only the Financier and is not <br> interested in the asset. | (vi) The lessor has the option to recover the <br> cost of the asset from another party on <br> cancellation of the lease by leasing out the <br> asset. |

Total Marks $=4$
(e) Yes, in case of reverse take-over, a small company takes over a big company. This concept has been successfully followed for revival of sick industries.
The acquired company is said to be big if any one of the following conditions is satisfied:
(i) The assets of the transferor company are greater than the transferee company;
(ii) Equity capital to be issued by the transferee company pursuant to the acquisition exceeds its original issued capital, and
(iii) The change of control in the transferee company will be through the introduction of minority holder or group of holders.

Total Marks = 4

