

## PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

Question No.1 is compulsory.

Attempt any **four** out of the remaining **five** questions.

Wherever appropriate, suitable assumptions should be made and indicated in the answer by the candidate.

Working notes should form part of the answer.

### Question 1

(a) Compute Economic Value Added (EVA) of Good luck Ltd. from the following information:

#### Profit & Loss Statement

Particulars	(₹ in Lakh)
(a) Income - Revenue from Operations	2000
(b) Expenses - Direct Expenses	800
Indirect Expenses	400
(c) Profit before interest & tax(a-b)	800
(d) Interest	30
(e) Profit before tax (c - d)	770
(f) Tax	231
(g) Profit after tax (e - f)	<b>539</b>

#### Balance Sheet

Particulars	(₹ in Lakh)
<b>Equity and Liabilities :</b>	
(a) Shareholder's Fund - Equity Share Capital	1000
Reserve and Surplus	600
(b) Non- Current Liabilities - Long Term Borrowings	200
(c) Current Liabilities	800
Total	<b>2600</b>
<b>Assets :</b>	
(a) Non - Current Assets	2000

(b) Current Assets	600
Total	2600

Other Information:

- (1) Cost of Debts is 15%.
  - (2) Cost of Equity (i.e. shareholders' expected return) is 12%.
  - (3) Tax Rate is 30%.
  - (4) Bad Debts Provision of ₹ 40 lakhs is included in indirect expenses and ₹ 40 lakhs reduced from receivables in current assets. **(8 Marks)**
- (b) The shares of G Ltd. we currently being traded at ₹ 46. The company published its results for the year ended 31<sup>st</sup> March 2019 and declared a dividend of ₹ 5. The company made a return of 15% on its capital and expects that to be the norm in which it operates. G Ltd. Also expects the dividends to grow at 10% for the first three years and thereafter at 5%. **(8 Marks)**

You are required to advise whether the share of the company is being traded at a premium or discount.

PVIF @ 15% for the next 3 years is 0.870, 0.756 and 0.658 respectively.

- (c) State the important features of National Pension Scheme (NPS). **(4 Marks)**

**Answer**

- (a) EVA = NOPAT – (Invested Capital x WACC)  
 NOPAT = EBIT – Tax + Non-Cash Expenses  
 = 800 lakhs – 231 lakhs + 40 lakhs  
 = ₹ 609 lakh

**(OR)**

Operating Income = Taxable Income + Interest + Non-cash Expenses  
 = 539 + 30 + 40 = ₹ 609 lakh

Invested Capital = 1000 + 600 + 200 = 1800  
 = 1800 + 40 (Non-cash expenses)  
 = ₹ 1840 lakhs

WACC =  $\frac{1600}{1800} \times 12\% + \frac{200}{1800} \times 15\% (1-0.3)$   
 = 10.67% + 1.17% = 11.84%

Now, EVA = 609 – (1840 x 11.84%)

$$= 609 - 217.86$$

$$= ₹ 391.14 \text{ lakhs}$$

**OR**

$$\text{WACC} = \frac{1000}{1200} \times 12\% + \frac{200}{1200} \times 15\% (1 - 0.3)$$

$$= 10.00\% + 1.75\% = 11.75\%$$

Now, EVA = 609 - (1840 x 11.75%)

$$= 609 - 216.20$$

$$= ₹ 392.80 \text{ lakhs}$$

**(b) Expected dividend for next three years**

$$\text{Year 1 (D1)} = 5 (1.1) = 5.5$$

$$\text{Year 2 (D2)} = 5.5 (1.1) = 6.05$$

$$\text{Year 3 (D3)} = 6.05 (1.1) = 6.655$$

$$\text{Required Rate (K}_e\text{)} = 15\%$$

Present Value of Dividends

$$= 5.5 (0.870) + 6.05 (0.756) + 6.655 (0.658)$$

$$= 4.785 + 4.574 + 4.379$$

$$= 13.74$$

**Now, PV at growth rate of 5%**

$$P_3 = \frac{D_4}{K_e - g}$$

$$= \frac{6.655(1.05)}{0.15 - 0.05} = \frac{6.988}{0.1} = 69.88$$

$$\text{Therefore, } P_0 = 69.88 \times 0.658 = 45.98$$

Now, adding the PV of dividend at two different growth rates, we get,

$$13.74 + 45.98 = 59.72$$

Hence, it is clear that shares are being traded at discount i.e. undervalued because intrinsic value of share is more than the market price.

**(c) Important features of NPS are as under:**

- (i) Any citizen of India, whether resident or non-resident who are aged between 18 – 60 years as on the date of submission of his/her application can join NPS.

- (ii) NPS is an easily accessible, low cost, tax-efficient, flexible and portable retirement savings account.
- (iii) Under the NPS, the individual contributes to his retirement account and his employer can also co-contribute for the social security/welfare of the individual.
- (iv) NPS is designed on defined contribution basis wherein the subscriber contributes to his account.
- (v) In NPS, there is no defined benefit that would be available at the time of exit from the system and the accumulated wealth depends on the contributions made and the income generated from investment of such wealth.
- (vi) In NPS, Accumulated Pension Wealth = Contributions + Investment Growth – Charges.

### Question 2

- (a) Given is the following information:

	Day Ltd.	Night Ltd.
Net Earnings	₹ 5 crores	₹ 3.5 crores
No. of Equity Shares	10,00,000	7,00,000

The shares of Day Ltd. and Night Ltd. trade at 20 and 15 times their respective P/E ratios.

Day Ltd. considers taking over Night Ltd. By paying ₹55 crores considering that the market price of Night Ltd. reflects its true value. It is considering both the following options:

- I. Takeover is funded entirely in cash.
- II. Takeover is funded entirely in stock.

You are required to calculate the cost of the takeover and advise Day Ltd. on the best alternative. **(8 Marks)**

- (b) ABB Ltd. has a surplus cash balance of ₹ 180 lakhs and wants to distribute 50% of it to the equity shareholders. The company decides to buyback equity shares. The company estimates that its equity share price after re-purchase is likely to be 15% above the buyback price. if the buyback route is taken.

Other information is as under:

1. Number of equity shares outstanding at present (Face value ₹ 10 each) is ₹ 20 lakhs.
2. The current EPS is ₹ 5.

You are required to calculate the following:

- I. The price at which the equity shares can be re-purchased, if market capitalization of the company should be ₹ 400 lakhs after buy back.

- II. Number of equity shares that can be re-purchased.
- III. The impact of equity shares re-purchase on the EPS, assuming that the net income remains unchanged. **(8 Marks)**
- (c) List the main applications of Value At Risk (VAR). **(4 Marks)**

**Answer****(a) Working Notes:**

	Day Ltd.	Night Ltd.
Net Earnings	₹ 5 crores	₹ 3.5 crores
No. of Equity Shares	10,00,000	7,00,000
EPS	50	50
P/E	20 times	15 times
MPS	₹ 1000	₹ 750
Market Value	1,00,00,00,000	52,50,00,000

**(i) If takeover is funded by Cash**

Since Market Price of Night Ltd. reflects its full value, cost of takeover to Day Ltd is  
 $55 \text{ crore} - 52.50 \text{ crore} = ₹ 2.5 \text{ crore}$ .

**(ii) If the takeover is funded by stock**

Number of shares to be issued to Night Ltd.

$$= ₹ 55 \text{ Crore} / ₹ 1000 = 550000 \text{ Lakhs}$$

Market Value of Merged Firm = ₹ 1,00,00,00,000 + ₹ 52,50,00,000

$$= ₹ 1,52,50,00,000 \text{ i.e. ₹ 152.50 Crore}$$

Proportion that Night Ltd.'s shareholders get in Day Ltd.'s Capital Structure will be:

$$= \frac{5.5 \text{ Lakhs}}{5.5 \text{ Lakhs} + 10 \text{ Lakhs}} = 0.3548$$

True Cost of Merger = ₹ 152.50 Crore x 0.3548 – ₹ 55 Crore

$$= -₹ 0.893 \text{ Crore}$$

Since true cost is negative in case of funding from stock, Day Ltd. would better off by funding the takeover by stock.

**(b) (i) Let P be the buyback price decided by ABB Ltd.**

Market Capitalisation after Buyback

$$400 \text{ lakhs} = 1.15P (\text{Original Shares} - \text{Shares Bought Back})$$

$$= 1.15P \left( 20 \text{ lakhs} - \frac{50\% \text{ of } 180 \text{ lakhs}}{P} \right)$$

$$= 23 \text{ lakhs} \times P - 90 \text{ lakhs} \times 1.15$$

$$= 23 \text{ lakhs } P - 130.50 \text{ lakhs}$$

Again,  $23 \text{ lakhs } P - 130.50 \text{ lakhs}$

$$\text{or } 23 \text{ lakhs } P = 400 \text{ lakhs} + 130.50 \text{ lakhs}$$

$$\text{or } P = \frac{503.50}{23} = ₹ 21.89 \text{ per share}$$

- (ii) Number of Shares to be Bought Back :-  
 $₹ 90 \text{ lakhs} / 21.89 = 4.111 \text{ lakhs (Approx.) or } 411147 \text{ shares}$
- (iii) Shares after buyback  
 $= 20 \text{ lakhs} - 4.111 \text{ lakhs} = 15.889 \text{ lakhs}$   
 $\text{or } 20,00,000 - 4,11,147 = 15,88,853 \text{ shares}$   
 $\therefore \text{EPS} = 5 \times 20 \text{ lakhs} / 15.889 \text{ lakhs} = ₹ 6.29$   
 Thus, EPS of ABB Ltd., increases to ₹ 6.29.  
 So, EPS of ABB Ltd. is increased by ₹ 1.29 (6.29 – 5.00)

**(c) Applications of Value at Risk (VAR)**

VAR can be applied

- to measure the maximum possible loss on any portfolio or a trading position.
- as a benchmark for performance measurement of any operation or trading.
- to fix limits for individuals dealing in front office of a treasury department.
- to enable the management to decide the trading strategies.
- as a tool for Asset and Liability Management especially in banks.

**Question 3**

(a) Following are the details of a portfolio consisting of 3 shares:

Shares	Portfolio Weight	Beta	Expected Return (%)	Total Variance
X Ltd.	0.3	0.50	15	0.020
Y Ltd.	0.5	0.60	16	0.010
Z Ltd.	0.2	1.20	20	0.120

Standard Deviation of Market Portfolio Return = 12%

You are required to calculate the following:

- (i) The Portfolio Beta.
- (ii) Residual Variance of each of the three shares.
- (iii) Portfolio Variance using Sharpe Index Model. **(8 Marks)**

(b) Mr. John established the following spread on the TTK Ltd.'s stock:

1. Purchased one 3-month put option with a premium of ₹15 and an exercise price of ₹900.
2. Purchased one 3-month call option with a premium of ₹90 and an exercise price of ₹1100.

TTK Ltd.'s stock is currently selling) at ₹1000. Calculate gain or loss, if the price of stock of TTK Ltd. –

- (i) Remains at ₹1000 after 3 months.
- (ii) Falls to ₹700 after 3 months.
- (iii) Raises to ₹1200 after 3 months.

Assume the size of option is 200 shares of TTK Ltd.

**(8 Marks)**

(c) Briefly explain the steps involved in Mechanism of Securitization.

**(4 Marks)**

### Answer

(a) (i) **Portfolio Beta**

$$\begin{aligned} & 0.30 \times 0.50 + 0.50 \times 0.60 + 0.20 \times 1.20 \\ & = 0.15 + 0.3 + 0.24 \\ & = 0.69 \end{aligned}$$

(ii) **Residual Variance**

To determine Residual Variance first of all we shall compute the Systematic Risk as follows:

$$\beta_X^2 \times \sigma_M^2 = (0.5)^2(0.12)^2 = 0.0036$$

$$\beta_Y^2 \times \sigma_M^2 = (0.6)^2(0.12)^2 = 0.0052$$

$$\beta_Z^2 \times \sigma_M^2 = (1.20)^2(0.12)^2 = 0.0207$$

Residual Variance = Total Variance – Systematic Risk

$$X \quad 0.020 - 0.0036 = 0.0164$$

$$Y \quad 0.010 - 0.0052 = 0.0048$$

$$Z \quad 0.120 - 0.0207 = 0.0993$$

**(iii) Portfolio variance using Sharpe Index Model**

Portfolio Variance = Systematic Risk of the Portfolio + Unsystematic Risk of the Portfolio

$$\text{Systematic Variance of Portfolio} = (0.12)^2 \times (0.69)^2 = 0.006856$$

$$\text{Unsystematic Variance of Portfolio} = 0.0164 \times (0.30)^2 + 0.0048 \times (0.50)^2 + 0.0993 \times (0.20)^2 = 0.006648$$

$$\text{Total Variance} = 0.006856 + 0.006648 = 0.013504$$

**(b) (i) Total premium paid on purchasing a call and put option**

$$= (\text{₹ } 15 \text{ per share} \times 200) + (\text{₹ } 90 \text{ per share} \times 200).$$

$$= \text{₹ } 3,000 + \text{₹ } 18,000 = \text{₹ } 21,000$$

In this case, Mr. John exercises neither the call option nor the put option as both will result in a loss for him.

$$\text{Ending value} = -\text{₹ } 21,000 + \text{zero gain} = -\text{₹ } 21,000$$

$$\text{i.e. Net loss} = \text{₹ } 21,000$$

**(ii) Since the price of the stock is below the exercise price of the call, the call will not be exercised. Only put is valuable and is exercised.**

$$\text{Net Gain} = (\text{Exercise Price} - \text{Current Price}) \times \text{No of Shares} - \text{Premium Paid}$$

$$\text{Total premium paid} = \text{₹ } 21,000$$

$$\text{Ending value} = -\text{₹ } 21,000 + \text{₹ } [(900 - 700) \times 200] = \text{₹ } 19,000$$

$$\therefore \text{Net gain} = \text{₹ } 19,000$$

**(iii) In this situation, the put is worthless, since the price of the stock exceeds the put's exercise price. Only call option is valuable and is exercised.**

$$\text{Total premium paid} = \text{₹ } 21,000$$

$$\text{Ending value} = -\text{₹ } 21,000 + \text{₹ } [(1200 - 1100) \times 200] = -\text{₹ } 1,000$$

$$\text{Net Loss} = \text{₹ } 1,000$$

**(c) The steps involved in mechanism of securitization are as follows:**

- (i) Creation of Pool of Assets:** The process of securitization begins with creation of pool of assets by segregation of assets backed by similar type of mortgages in terms of interest rate, risk, maturity and concentration units.

- (ii) **Transfer to SPV:** Once assets have been pooled, they are transferred to Special Purpose Vehicle (SPV) especially created for this purpose.
- (iii) **Sale of Securitised Papers:** SPV designs the instruments based on nature of interest, risk, tenure etc. based on pool of assets. These instruments can be Pass Through Security or Pay Through Certificates.
- (iv) **Administration of assets:** The administration of assets is subcontracted back to originator which collects principal and interest from underlying assets and transfer it to SPV, which works as a conduit.
- (v) **Recourse to Originator:** Performance of securitized papers depends on the performance of underlying assets and unless specified in case of default they go back to originator from SPV.
- (vi) **Repayment of funds:** SPV will repay the funds in form of interest and principal that arises from the assets pooled.
- (vii) **Credit Rating to Instruments:** Sometime before the sale of securitized instruments credit rating can be done to assess the risk of the issuer.

#### Question 4

- (a) A Mutual Fund Company introduces two schemes - Dividend Plan and Bonus Plan. The face value of the Unit is ₹10 on 1-4-2014. Mr. R invested ₹ 5 lakh in Dividend Plan and ₹ 10 lakh in Bonus Plan. The NAV of Dividend Plan is ₹ 46 and NAV of Bonus Plan is ₹ 42. Both the plans matured on 31-03-2019. The particulars of Dividend and Bonus declared over the period are as follows:

Date	Dividend %	Bonus Ratio	NAV of Dividend Plan	NAV of Bonus Plan
			(₹)	(₹)
31-12-2014	12%	-	47.0	42.0
30-09-2015	-	1 : 4	48.0	43.0
31-03-2016	15%	-	49.5	41.5
30-09-2017	-	1 : 6	50.0	44.0
31-03-2018	10%	-	48.0	43.5
31-03-2019	-	-	49.0	44.0

You are required to calculate the effective yield per annum in respect of the above two plans. **(8 Marks)**

(b) Following financial information's are available of XP Ltd. for the year 2018:

Equity Share Capital (₹ 10 each)	₹ 200 Lakh
Reserves and Surplus	₹ 600 Lakh
10% Debentures (₹ 100 each)	₹ 350 Lakh
Total Assets	₹ 1200 Lakh
Assets Turnover Ratio	2 times
Tax Rate	30%
Operating Margin	10%
Dividend Payout Ratio	20%
Current Market Price per Equity Share	₹ 28
Required Rate of Return of Investors	18%

You are required to:

- Prepare Income Statement for the year 2018.
  - Determine its Sustainable Growth Rate.
  - Determine the fair price of the company's share using Dividend Discount Model.
  - Give your opinion on investment in the company's share at current price. **(8 Marks)**
- (c) Explain briefly the sources for funding a Start-up. **(4 Marks)**

### Answer

#### (a) Dividend Plan

$$\text{Unit acquired} = \frac{5,00,000}{46} = 10869.57$$

Date	Units held	Dividend		Reinvestment Rate	New Units	Total Units
		%	Amount			
01.04.2014						10869.57
31.12.2014	10869.57	12	13043.48	47.0	277.52	11147.09
31.03.2016	11147.09	15	16720.64	49.5	337.79	11484.88
31.03.2018	11484.88	10	11484.88	48.0	239.27	11724.15
31.03.2019	Maturity Value		(₹ 49.0 X 11724.15)			₹ 5,74,483.35
	Less: Cost of Acquisition					₹ 5,00,000.00
	Total Gain					₹ 74483.35

$$\therefore \text{Effective Yield} = \frac{\text{₹ } 74,483.35}{\text{₹ } 5,00,000} \times \frac{1}{5} \times 100 = 2.98\%$$

**Bonus Plan**

$$\text{Units Acquired} = \frac{10,00,000}{42} = 23809.52$$

Date	Particulars	Calculation Working	No. of Units	NAV (₹)
1.4.14	Investment		23809.52	42
30.9.15	Bonus	23,809.52 / 4 =	<u>5952.38</u>	
			29761.90	43
30.9.17	"	29761.9 / 6 =	<u>4960.32</u>	
			34722.22	44
31.3.19	Maturity Value	34722.22 x ₹ 44 =		15,27,777.68
	Less: Investment			<u>10,00,000.00</u>
	Gain			<u>5,27,777.68</u>

$$\therefore \text{Effective Yield} = \frac{5,27,777.68}{10,00,000} \times \frac{1}{5} \times 100 = 10.56\%$$

**(b) Workings:**

- Asset turnover ratio = 2 times
- Total Assets = ₹ 1200 lakh
- Turnover ₹ 1200 lakhs × 2 = ₹ 2400 lakhs
- Interest on Debentures = 350 lakh x 10% = 35 lakhs
- Operating Margin = 10%
- Hence operating cost = (1 - 0.10) 2400 lakhs = ₹ 2160 lakhs
- Dividend Payout = 20%
- Tax rate = 30%

**(i) Income statement**

	(₹ Lakhs)
Sale	2400
Operating Exp	<u>2160</u>
EBIT	240
Interest	<u>35</u>

EBT	205
Tax @ 30%	<u>61.5</u>
EAT	143.5
Dividend @ 20%	<u>28.7</u>
Retained Earnings	<u>114.8</u>

- (ii) SGR = Return on Equity (1- Dividend Payout Ratio)  
= ROE (1-b)

$$\text{ROE} = \frac{\text{PAT}}{\text{NW}} \text{ and NW} = \text{Rs. 200 lakh} + \text{Rs. 600 lakh} = \text{Rs. 800 lakh}$$

$$\text{ROE} = \frac{\text{Rs. 143.5 lakhs}}{\text{Rs. 800 lakhs}} \times 100 = 17.94\%$$

$$\text{SGR} = 0.1794 (1 - 0.20) = 14.35\% \text{ or } \frac{0.1794 \times 0.80}{1 - 0.1794 \times 0.80} = \frac{0.14352}{0.85648} = 16.76\%$$

- (iii) Calculation of fair price of share using dividend discount model

$$P_0 = \frac{D_0(1+g)}{k_e - g}$$

$$\text{Dividends} = \frac{\text{₹ 28.7 lakhs}}{20 \text{ lakhs}} = \text{₹ 1.435}$$

$$\text{Growth Rate} = 14.35\% \text{ or } 16.76\%$$

$$\text{Hence } P_0 = \frac{\text{₹ 1.435}(1+0.1435)}{0.18-0.1435} = \frac{\text{₹ 1.64}}{0.0365} = \text{₹ 44.93 or } 44.96$$

$$\text{or } \frac{1.435(1+0.1676)}{0.18-0.1676} = \frac{\text{₹ 1.676}}{0.0124} = \text{₹ 135.16 or } 135.12$$

- (iv) Since the current market price of share is ₹ 28, the share is undervalued. Hence, the investor should invest in the company.

**(c) Some of the sources for funding a start-up:**

- (i) **Personal financing:** It may not seem to be innovative but you may be surprised to note that most budding entrepreneurs never thought of saving any money to start a business. This is important because most of the investors will not put money into a deal if they see that you have not contributed any money from your personal sources.
- (ii) **Personal credit lines:** One qualifies for personal credit line based on one's personal credit efforts. Credit cards are a good example of this. However, banks are very

cautious while granting personal credit lines. They provide this facility only when the business has enough cash flow to repay the line of credit.

- (iii) **Family and friends:** These are the people who generally believe in you, without even thinking that your idea works or not. However, the loan obligations to friends and relatives should always be in writing as a promissory note or otherwise.
- (iv) **Peer-to-peer lending:** In this process group of people come together and lend money to each other. Peer to peer to lending has been there for many years. Many small and ethnic business groups having similar faith or interest generally support each other in their start up endeavors.
- (v) **Crowdfunding:** Crowdfunding is the use of small amounts of capital from a large number of individuals to finance a new business initiative. Crowdfunding makes use of the easy accessibility of vast networks of people through social media and crowdfunding websites to bring investors and entrepreneurs together.
- (vi) **Microloans:** Microloans are small loans that are given by individuals at a lower interest to a new business ventures. These loans can be issued by a single individual or aggregated across a number of individuals who each contribute a portion of the total amount.
- (vii) **Vendor financing:** Vendor financing is the form of financing in which a company lends money to one of its customers so that he can buy products from the company itself. Vendor financing also takes place when many manufacturers and distributors are convinced to defer payment until the goods are sold. This means extending the payment terms to a longer period for e.g. 30 days payment period can be extended to 45 days or 60 days. However, this depends on one's credit worthiness and payment of more money.
- (viii) **Purchase order financing:** The most common scaling problem faced by startups is the inability to find a large new order. The reason is that they don't have the necessary cash to produce and deliver the product. Purchase order financing companies often advance the required funds directly to the supplier. This allows the transaction to complete and profit to flow up to the new business.
- (ix) **Factoring accounts receivables:** In this method, a facility is given to the seller who has sold the good on credit to fund his receivables till the amount is fully received. So, when the goods are sold on credit, and the credit period (i.e. the date up to which payment shall be made) is for example 6 months, factor will pay most of the sold amount upfront and rest of the amount later. Therefore, in this way, a startup can meet his day to day expenses.

#### Question 5

- (a) *A Rice Trader has planned to sell 22000 kg of Rice after 3 months from now. The spot price of the Rice is ₹ 60 per kg and 3 months future on the same is trading at ₹ 59 per kg. Size*

of the contract is 1000 kg. The price is expected to fall as low as ₹ 56 per kg, 3 months hence. What the trader can do to mitigate its risk of reduced profit? If he decides to make use of future market, what would be the effective realized price for its sale when after 3 months, spot price is ₹ 57 per kg and future contract price for 3 months is ₹ 58 per kg?

(8 Marks)

- (b) On 1<sup>st</sup> January 2019 Global Ltd., an exporter entered into a forward contract with BBC Bank to sell US\$ 2,00,000 on 31<sup>st</sup> March 2019 at ₹ 71.50/\$. However, due to the request of the importer, Global Ltd. received the amount on 28 February 2019. Global Ltd. requested the Bank to take delivery of the remittance on 2<sup>nd</sup> March 2019. The Inter- banking rates on 28<sup>th</sup> February were as follows:

Spot Rate	₹ 71.20/71.25
One month premium	5/10

If Bank agrees to take early delivery then what will be the net inflow to Global Ltd. assuming that the prevailing prime lending rate is 15%. Assume 365 days in a year. (8 Marks)

- (c) State the benefits of listing to a Small and Medium Enterprise (SME). (4 Marks)

**Answer**

- (a) In order to hedge its position trader would go short on future at current future price of ₹ 59/kg. This will help the trade to realize sure ₹ 59 per kg. after 3 months.

Particulars	
(a) Quantity of Rice to be hedged	22000 kg.
(b) Contract Size	1000 kg.
(c) No. of Contracts to be sold (a/b)	22
(d) Future Price	₹ 59/kg.
(e) Exposure in the future market (a x d)	₹ 12,98,000

After 3 months, trader would cancel its position in the future by buying a future contract of same quantity and will sell Rice in the spot market and position shall be as follows:

Particulars	₹
(a) Price of Future Contract	58/kg.
(b) Amount bought = 22000 x 58	12,76,000
(c) Gain(Loss) on future position (12,98,000 – 12,76,000)	22,000
(d) Spot Price	57/kg
(e) Amount realized by selling in the spot market (22000 x 57)	12,54,000
(f) Effective Selling Amount (c + e)	12,76,000
(g) Effective Selling Price (12,76,000/22000)	58/kg.

- (b) On 28<sup>th</sup> February 2019 bank would purchase from the exporter US\$ 200000 at the agreed rate i.e. ₹ 71.50/\$. However, bank will charge for this early delivery consisting of Swap Difference and Interest on outlay of funds.

(i) **Swap Difference**

Bank sells at	₹ 71.20
It buys at	<u>₹ 71.35</u>
Swap loss per US\$	<u>₹ 0.15</u>

Swap loss for \$ 200000 is ₹ 30,000

(ii) **Interest on Outlay of funds**

On February Bank sell \$ in Market	₹ 71.20
Bank buys from customer	<u>₹ 71.50</u>
Outlay per US \$	<u>₹ 0.30</u>
Outlay of funds for US\$ 200000	₹ 60,000

Interest of outlay of funds on ₹ 60,000 for 31 days (1<sup>st</sup> March 2019 to 31<sup>st</sup> March 2019) at 15% p.a. i.e. ₹ 764

(iii) **Charges for early delivery**

Swap Loss	₹ 30,000
Interest on Outlay of Funds	<u>₹ 764</u>
	<u>₹ 30,764</u>

(iv) **Net Inflow to Global Ltd.**

Proceed of US \$ 200000@₹ 71.50	₹ 1,43,00,000
Less: Charges for early delivery	<u>₹ 30,764</u>
Net Inflow	<u>₹ 1,42,69,236</u>

- (c) **Benefits of Listing to a Small and Medium Enterprise (SME) have been discussed as below:**

- **Easy access to Capital:** BSE SME provides an avenue to raise capital through equity infusion for growth oriented SME's.
- **Enhanced Visibility and Prestige:** The SME's benefit by greater credibility and enhanced financial status leading to demand in the company's shares and higher valuation of the company.
- **Encourages Growth of SMEs:** Equity financing provides growth opportunities like expansion, mergers and acquisitions thus being a cost effective and tax efficient mode.
- **Ensures Tax Benefits:** In case of listed securities Short Term Gains Tax is 15% and there is absolutely no Long Term Capital Gains Tax.

- **Enables Liquidity for Shareholders:** Equity financing enables liquidity for shareholders provides growth opportunities like expansion, mergers and acquisitions, thus being a cost effective and tax efficient mode.
- **Equity financing through Venture Capital:** Provides an incentive for Venture Capital Funds by creating an Exit Route and thus reducing their lock in period.
- **Efficient Risk Distribution:** Capital Markets ensure that the capital flows to its best uses and those riskier activities with higher payoffs are funded.
- **Employee Incentives:** Employee Stock Options ensures stronger employee commitment, participation and recruitment incentive.

### Question 6

- (a) Sun Limited, an Indian company will need \$ 5,00,000 in 90 days. In this connection, following information is given below:

Spot Rate - \$1 = ₹71

90 days forward rate of \$1 as of today = ₹73

Interest Rates are as follows:

Particulars	US	India
90 days Deposit Rate	2.50%	4.00%
90 days Borrowing Rate	4.00%	6.00%

A call option on \$ that expires in 90 days has an exercise price of ₹74 and a premium of Re. 0.10. Sun Limited has forecasted the spot rates for 90 days as below:

Future Rate	Probability
₹72.50	25%
₹73.00	50%
₹74.50	25%

Which of the following strategies would be the most preferable to Sun Limited:

- A Forward Contract;
- A Money Market hedge;
- An Option Contract;
- No Hedging.

Show your calculations in each case.

**(8 Marks)**

- (b) K Ltd. currently operates from 4 different buildings and wants to consolidate its operations into one building which is expected to cost ₹90 crores. The Board of K Ltd. had approved the above plan and to fund the above cost, agreed to avail an External Commercial

Borrowing (ECB) of GBP 10 m from G Bank Ltd. on the following conditions:

- The Loan will be availed on 1<sup>st</sup> April, 2019 with interest payable on half yearly rest.
- Average Loan Maturity life will be 3.4 years with an overall tenure of 5 years.
- Upfront Fee of 1.20%.
- Interest Cost is GBP 6 months LIBOR + Margin of 2.50%.
- The 6 month LIBOR is expected to be 1.05%.

K Ltd. also entered into a GBP-INR hedge at 1 GBP = INR 90 to cover the exposure on account of the above ECB Loan and the cost of the hedge is coming to 4.00% p.a.

As a Finance Manager, given the above information and taking the 1 GBP = INR 90:

- Calculate the overall cost both in percentage and rupee terms on an annual basis.
- What is the cost of hedging in rupee terms?
- If K Ltd. wants to pursue an aggressive approach, what would be the net gain/loss for K Ltd. if the INR depreciates/appreciates against GBP by 10% at the end of the 5 years assuming that the loan is repaid in GBP at the end of 5 years?

Ignore time value and taxes and calculate to two decimals.

**(8 Marks)**

- (c) Discuss briefly the important constituents of International Financial Centre (IFC).

OR

What are the differences between Islamic Finance and Conventional Finance? **(4 Marks)**

**Answer**

- (a) (i) **Forward contract:**

Rupees needed in 90 days = \$5,00,000 x ₹ 73 = ₹ 3,65,00,000

- (ii) **Money market hedge:**

Amount in \$ to be invested = 5,00,000/1.0250 = ₹ 4,87,805

Amount of ₹ needed to convert into \$ = 4,87,805 x 71 = ₹ 3,46,34,155

Interest and principal on ₹ loan after 90 days

= ₹ 3,46,34,155 x 1.06 = ₹ 3,67,12,204

- (iii) **Call option:**

Expected Spot rate (1)	Prem./unit (2)	Exercise Option (3)	Total price per unit (4)	Total price for \$5,00,000 x (4) = (5)	Prob. Pi (6)	Pixi (5) x (6) (7)
72.50	0.10	No	72.60	3,63,00,000	0.25	90,75,000

73.00	0.10	No	73.10	3,65,50,000	0.50	1,82,75,000
74.50	0.10	Yes	74.10*	3,70,50,000	0.25	92,62,500
						3,66,12,500
Add: Interest on Premium @ 6% (50,000 x 6%)						3,000
						3,66,15,500

\* (₹ 74 + ₹ 0.10)

(iv) No hedge option:

Expected Future spot rate	₹ needed Xi	Prob. Pi	Pi xi
72.50	3,62,50,000	0.25	90,62,500
73.00	3,65,00,000	0.50	1,82,50,000
74.50	3,72,50,000	0.25	93,12,500
			3,66,25,000

**Decision:** Forward Contract Strategy is most preferable strategy because it requires the least amount to arrange \$5,00,000.

(b) (i) Calculation of Overall Cost

Upfront Fee (GBP 10 M @ 1.20%)	₹ 1,20,000
Interest Payment (GBP 10 M x 3.55% x 3.4)	₹ 12,07,000
Hedging Cost (GBP 10 M x 4% x 3.4)	₹ 13,60,000
Total	₹ 26,87,000

Or ₹ 2.687 million

$$\text{Overall cost in \% terms on Annual Basis} = \frac{2.687 \text{ million}}{(1,00,00,000 - 1,20,000)} \times \frac{1}{3.4}$$

$$= \frac{2.687}{9.88} \times \frac{1}{3.4} \times 100 = 8\%$$

$$\text{Overall Cost in Rupee terms@ GBP 1} = ₹ 90 \times \frac{2.687}{3.4} \times 100 = ₹ 711.26 \text{ lakhs}$$

OR

$$\text{Overall cost in \% terms on Annual Basis} = \frac{2.687 \text{ million}}{(1,00,00,000)} \times \frac{1}{3.4}$$

$$= \frac{2.687}{1.00} \times \frac{1}{3.4} \times 100 = 7.9\%$$

$$\begin{aligned} \text{Overall Cost in Rupee terms@ GBP 1} &= 10,000,000 \times 7.90\% \times 90 \\ &= ₹ 71,100,000 \end{aligned}$$

OR

**Calculation of overall cost**

Interest & Margin (A)	= 3.55%
Hedging cost (B)	= <u>4%</u>
	7.55%
Onetime fee	= 1.20%
Average loan maturity	= 3.4 years
Per annum cost 1.2/3.4 (C)	= <u>0.35%</u>
Annual overall cost in % terms (A+B+C)	= 7.9%
Overall Cost in Rupee terms@ GBP 1	= 10,000,000 X 7.90% X 90
	= ₹ 71,100,000

**(ii) Cost of Hedging in terms of Rupees**

₹ 13,60,000 x 90 = ₹ 12,24,00,000 = ₹ 12.24 crores in Total

OR

GBP10,000,000 X 90 X 4% = ₹ 3,60,00,000 on Annual Basis

**(iii) If K Ltd. pursues an aggressive approach then Gain/Loss in INR Depreciation/ Appreciation shall be computed as follows:****(a) If INR depreciates by 10%**

Re. loss per GBP = 90 x 10%	= ₹ 9
Total Losses GBP10M	= ₹ 90 Million
Less: Cost of Hedging	= <u>₹ 36 Million</u>
Net Loss	= <u>₹ 54 million</u>

**(b) If INR appreciates by 10%**

₹ Gains per GBP = ₹ 90 x 10%	= ₹ 9
Total Gain on Repayment of loan	= 90 Million
Add: Saving in Cost of Hedging	= <u>36 Million</u>
Net Gain	= <u>126 Million</u>

**(c) Some of the important constituents of International Financial Centre (IFC) are as follows:**

- (i) Highly developed Infrastructure:** - A leading edge infrastructure is prerequisite for creating a platform to offer internationally complete financial services.

- (ii) **Stable Political Environment:** - Destabilized political environment brings country risk investment by foreign nationals. Hence, to accelerate foreign participation in growth of financial centre, stable political environment is prerequisite.
- (iii) **Strategic Location:** - The geographical location of the finance centre should be strategic such as near to airport, seaport and should have friendly weather.
- (iv) **Quality Life:** - The quality of life at the centre should be good as centre retains highly paid professional from own country as well from outside.
- (v) **Rationale Regulatory Framework:** - Rationale legal regulatory framework is another prerequisite of international finance centre as it should be fair and transparent.
- (vi) **Sustainable Economy:** - The economy should be sustainable and should possess capacity to absorb all the shocks as it will boost investors' confidence.

**OR**

Major differences between Islamic finance and other form of finance (Conventional Finance) are as follows:

<b>Basis</b>	<b>Islamic Finance</b>	<b>Conventional Finance</b>
Promotion	Islamic Finance promotes just, fair and balanced society. Hence, interest is prohibited.	Based on commercial objectives and interest must be paid irrespective of outcome of business.
Ethical framework	Structured on ethical and moral framework of Sharia. Verses from the holy Quran and tradition from As-Sunnah are two divine guidance.	No such framework.
Speculation	The financial transactions should be free from the element of uncertainty (Gharar) and gambling (Maisir)	No such restrictions.
Unlawful Goods and Services	Islamic Finance must not be involved in any transactions not involve trade not allowed as per Islamic principles such as alcohol, armaments, pork and other socially detrimental products.	There are no such restrictions