

PAPER – 2: STRATEGIC FINANCIAL MANAGEMENT

QUESTIONS

Security Valuation

1. ABC Limited, just declared a dividend of ₹ 28.00 per share. Mr. A is planning to purchase the share of ABC Limited, anticipating increase in growth rate from 8% to 9%, which will continue for three years. He also expects the market price of this share to be ₹ 720.00 after three years.

You are required to determine:

- (i) the maximum amount Mr. A should pay for shares, if he requires a rate of return of 13% per annum.
- (ii) the maximum price Mr. A will be willing to pay for share, if he is of the opinion that the 9% growth can be maintained indefinitely and require 13% rate of return per annum.
- (iii) the price of share at the end of three years, if 9% growth rate is achieved and assuming other conditions remaining same as in (ii) above.

Note : Calculate rupee amount up to two decimal points and use PVF upto 3 decimal points.

2. KLM Limited has issued 90,000 equity shares of ₹ 10 each. KLM Limited's shares are currently selling at ₹ 72. The company has a plan to make a rights issue of one new equity share at a price of ₹ 48 for every four shares held.

You are required to:

- (a) Calculate the theoretical post-rights price per share and analyse the change
- (b) Calculate the theoretical value of the right alone.
- (c) Suppose Mr. A who is holding 100 shares in KLM Ltd. is not interested in subscribing to the right issue, then advice what should he do.

Portfolio Management

3. Equity of ABC Ltd. (ABCL) is ₹ 500 Crores, its debt, is worth ₹ 290 Crores. Printer Division segments value is attributable to 64%, which has an Asset Beta (β_p) of 1.55, balance value is applied on Spares and Consumables Division, which has an Asset Beta (β_{sc}) of 1.40 ABCL Debt beta (β_D) is 0.28.

You are required to calculate:

- (i) Equity Beta (β_E),
- (ii) Ascertain Equity Beta (β_E), if ABC Ltd. decides to change its Debt Equity position by raising further debt and buying back of equity to have its Debt to Equity Ratio at 1.50.

Assume that the present Debt Beta (β_{D1}) is 0.45 and any further funds raised by way of Debt will have a Beta (β_{D2}) of 0.50.

- (iii) Whether the new Equity Beta (β_E) justifies increase in the value of equity on account of leverage?
4. K Ltd. has invested in a portfolio of short-term equity investments. You are required to calculate the risk of K Ltd.'s short-term investment portfolio relative to that of the market from the information given below:

Investment	A	B	C	D
No. of shares	1,20,000	1,60,000	2,00,000	2,50,000
Market price per share (₹)	8.58	5.84	4.34	6.28
Beta	2.32	4.56	1.80	3.00
Expected Dividend Yield	9.50%	14.00%	7.50%	16.00%

The current market return is 20% and the risk free return is 10%.

Advise whether K Ltd. should change the composition of its portfolio. If yes, then how.

Note: Make calculations upto 4 decimal points.

Mutual Fund

5. The following particulars relating to S Fund Schemes:

Particulars	Value ₹ in Crores
1. Investment in Shares (at cost)	
a. Pharmaceuticals companies	158
b. Construction Industries	62
c. Service Sector Companies	112
d. IT Companies	68
e. Real Estate Companies	20
2. Investment in Bonds (Fixed Income)	
a. Listed Bonds (8000, 14% Bonds of ₹ 15,000 each)	24
b. Unlisted Bonds	14
3. No. of Units outstanding (crores)	8.4
4. Expenses Payable	7
5. Cash and Cash equivalents	3
6. Market expectations on listed bonds	8.842%

The fund has incurred the following expenses:

Consultancy and Management fees	₹ 520 Lakhs
Office Expenses	₹ 180 Lakhs
Advertisement Expenses	₹ 48 Lakhs

Particulars relating to each sector are as follows:

Sector	Index on Purchase date	Index on Valuation date
Pharmaceutical companies	300	500
Construction Industries	275	490
Service Sector Companies	285	500
IT Companies	270	515
Real Estate Companies	265	440

Required:

- (i) Calculate the Net Asset Value of the fund
- (ii) Calculate the Net Asset Value per unit
- (iii) Determine the Net return (Annualized), if the period of consideration is 4 years, and the fund has distributed ₹ 2 per unit per year as cash dividend during the same period.

Note: Calculate figure in ₹ Crore upto 3 decimal points.

Derivatives

6. The following data relate to R Ltd.'s share price:

Current price per share	₹ 1,900
6 months future's price/share	₹ 2050

Assuming it is possible to borrow money in the market for transactions in securities at 10% per annum,

- (i) advise the justified theoretical price of a 6-months forward purchase; and
- (ii) evaluate any arbitrage opportunity, if available.

7. The Following data relate to A Ltd.'s Portfolio:

Shares	X Ltd.	Y Ltd.	Z Ltd.
No. of Shares (lakh)	6	8	4
Price per share (₹)	1000	1500	500
Beta	1.50	1.30	1.70

The CEO is of opinion that the portfolio is carrying a very high risk as compared to the market risk and hence interested to reduce the portfolio's systematic risk to 0.95. Treasury Manager has suggested two below mentioned alternative strategies:

- (i) Dispose off a part of his existing portfolio to acquire risk free securities, or
- (ii) Take appropriate position on Nifty Futures, currently trading at 8250 and each Nifty points multiplier is ₹ 210.

You are required to:

- (a) Interpret the opinion of CEO, whether it is correct or not.
- (b) Calculate the existing systematic risk of the portfolio,
- (c) Advise the value of risk-free securities to be acquired,
- (d) Advise the number of shares of each company to be disposed off,
- (e) Advise the position to be taken in Nifty Futures and determine the number of Nifty contracts to be bought/sold; and
- (f) Calculate the new systematic risk of portfolio if the company has taken position in Nifty Futures and there is 2% rise in Nifty.

Note: Make calculations in ₹ lakh and upto 2 decimal points.

Foreign Exchange Exposure and Risk Management

8. Doom Ltd. is an export business house. The company prepares invoice in customers' currency. Its debtors of US\$ 48, 00,000 is due on April 1, 2020.

Market information as at January 1, 2020 is:

Exchange rates US\$/INR		Currency Futures US\$/INR	
Spot	0.014285	Contract size: ₹ 2,88,16,368	
1-month forward	0.014184	1-month	0.014178
3-months forward	0.013889	3-month	0.013881

	Initial Margin	Interest rates in India
1-Month	₹ 27,500	5.5%
3-Months	₹ 32,500	9%

On April 1, 2020 the spot rate US\$/INR is 0.013894 and currency future rate is 0.013893.

Recommend as to which of the following methods would be most advantageous to Doom Ltd.

- (i) Using forward contract

- (ii) Using currency futures
- (iii) Not hedging the currency risk

Note: Round off calculation upto zero decimal points.

9. Telereal Trillium, a UK Company is in the process of negotiating an order amounting €5.5 million with a large German retailer on 6 month's credit. If successful, this will be first time for Telereal Trillium has exported goods into the highly competitive German Market. The Telereal Trillium is considering following 3 alternatives for managing the transaction risk before the order is finalized.
- (i) Mr. Grand, the Marketing head has suggested that in order to remove transaction risk completely Telereal Trillium should invoice the German firm in Sterling using the current €/£ average spot rate to calculate the invoice amount.
 - (ii) Mr. John, CE is doubtful about Mr. Grand's proposal and suggested an alternative of invoicing the German firm in € and using a forward exchange contract to hedge the transaction risk.
 - (iii) Ms. Royce, CFO is agreed with the proposal of Mr. John to invoice the German first in €, but she is of opinion that Telereal Trillium should use sufficient 6 month sterling future contracts (to the nearest whole number) to hedge the transaction risk.

Following data is available

Spot Rate	€ 1.1980 - €1.1990/£
6 months forward points	0.60 – 0.55 Euro Cents.
6 month future contract is currently trading at	€ 1.1943/£
6 month future contract size is	£70,500
After 6 month Spot rate and future rate	€ 1.1873/£

You are required to

- (a) Advise the alternative you consider to be most appropriate.
- (b) Interpret the proposal of Mr. Grand from non-financial point of view.

Note: Calculate (to the nearest £) the £ receipt.

International Financial Management

10. Right Limited has proposed to expand its operations for which it requires funds of \$ 30 million, net of issue expenses which amount to 4% of the issue size. It proposed to raise the funds through a GDR issue. It considers the following factors in pricing the issue:
- (i) The expected domestic market price of the share is ₹ 300 (Face Value of ₹ 10 each share)
 - (ii) 4 shares underly each GDR

- (iii) Underlying shares are priced at 20% discount to the market price
- (iv) Expected exchange rate is ₹ 70/\$

You are required to compute the number of GDR's to be issued and cost of GDR to Right Limited, if 20% dividend is expected to be paid with a growth rate of 20%.

Interest Rate Risk Management

11. Espaces plc is consumer electronics wholesaler. The business of the firm is highly seasonal in nature. In 6 months of a year, firm has a huge cash deposits and especially near Christmas time and other 6 months firm cash crunch, leading to borrowing of money to cover up its exposures for running the business.

It is expected that firm shall borrow a sum of £25 million for the entire period of slack season in about 3 months.

The banker of the firm has given the following quotations for Forward Rate Agreement (FRA):

Spot	5.50% - 5.75%
3 × 6 FRA	5.59% - 5.82%
3 × 9 FRA	5.64% - 5.94%

3-month £50,000 future contract maturing in a period of 3 months is quoted at 94.15.

You are required to:

- (a) Advise the position to be taken in Future Market by the firm to hedge its interest rate risk and demonstrate how 3 months Future contract shall be useful for the firm, if later interest rate turns out to be (i) 4.5% and (ii) 6.5%
- (b) Evaluate whether the interest cost to Espace plc shall be less had it adopted the route of FRA instead of Future Contract.

Note:- Ignore the time value of money in settlement amount for future contract.

Corporate Valuation

12. Sun Ltd. recently made a profit of ₹ 200 crore and paid out ₹ 80 crore (slightly higher than the average paid in the industry to which it pertains). The average PE ratio of this industry is 9. The estimated beta of Sun Ltd. is 1.2. As per Balance Sheet of Sun Ltd., the shareholder's fund is ₹ 450 crore and number of shares is 10 crore. In case the company is liquidated, building would fetch ₹ 200 crore more than book value and stock would realize ₹ 50 crore less.

The other data for the industry is as follows:

Projected Dividend Growth	4%
Risk Free Rate of Return	6%

Market Rate of Return 11%

Calculate the valuation of Sun Ltd. using

- (a) P/E Ratio
- (b) Dividend Growth Model
- (c) Book Value
- (d) Net Realizable Value

Mergers, Acquisitions and Corporate Restructuring

13. ABC Ltd. is intending to acquire XYZ Ltd. by way of merger and the following information is available in respect of these companies:

	ABC Ltd.	XYZ Ltd.
Total Earnings (E) (in lakh)	₹ 1200	₹400
Number of outstanding shares (S) (in lakh)	400	200
Price earnings ratio (P/E)	8	7

- (a) Determine the maximum exchange ratio acceptable to the shareholders of ABC Ltd., if the P/E ratio of the combined firm is expected to be 8?
- (b) Determine the minimum exchange ratio acceptable to the shareholders XYZ Ltd., if the P/E ratio of the combined firm is expected to be 10?

Note: Make calculation in lakh multiples and compute ratio upto 4 decimal points.

Theoretical Questions

14. (a) Explain the traits that an organisation should have to make itself financially sustainable.
- (b) Describe the salient features of Foreign Currency Convertible Bonds.
- (c) Explain how an organization interested in making investment in foreign country can assess Country Risk and mitigate this risk.
15. (a) 'Venture Capital Financing is a unique way of financing Startup'. Discuss.
- (b) Explain the Secondary Participants involved in the process of Securitization of Instruments.
- (c) Explain how Cash flow-based approach of valuation is different from Income based approach and also explain briefly the steps involved in this approach.

SUGGESTED ANSWERS

1. (i) Expected dividend for next 3 years.

$$\text{Year 1 (D}_1\text{)} \quad ₹ 28.00 (1.09) = ₹ 30.52$$

$$\text{Year 2 (D}_2\text{)} \quad ₹ 28.00 (1.09)^2 = ₹ 33.27$$

$$\text{Year 3 (D}_3\text{)} \quad ₹ 28.00 (1.09)^3 = ₹ 36.26$$

Required rate of return = 13% (Ke)

Market price of share after 3 years = (P₃) = ₹ 720

The present value of share

$$P_0 = \frac{D_1}{(1+ke)} + \frac{D_2}{(1+ke)^2} + \frac{D_3}{(1+ke)^3} + \frac{P_3}{(1+ke)^3}$$

$$P_0 = \frac{30.52}{(1+0.13)} + \frac{33.27}{(1+0.13)^2} + \frac{36.26}{(1+0.13)^3} + \frac{720}{(1+0.13)^3}$$

$$P_0 = 30.52(0.885) + 33.27(0.783) + 36.26(0.693) + 720(0.693)$$

$$P_0 = 27.01 + 26.05 + 25.13 + 498.96$$

$$P_0 = ₹ 577.15$$

- (ii) If growth rate 9% is achieved for indefinite period, then maximum price of share should Mr. A willing be to pay is

$$P_0 = \frac{D_1}{(ke - g)} = \frac{₹ 30.52}{0.13 - 0.09} = \frac{₹ 30.52}{0.04} = ₹ 763$$

- (iii) Assuming that conditions mentioned above remain same, the price expected after 3 years will be:

$$P_3 = \frac{D_4}{k_e - g} = \frac{D_3(1.09)}{0.13 - 0.09} = \frac{36.26 \times 1.09}{0.04} = \frac{39.52}{0.04} = ₹ 988$$

2. (a) Calculation of theoretical Post-rights (ex-right) price per share

$$\text{Ex-right value} = \left[\frac{MN + SR}{N + R} \right]$$

Where,

M = Market price,

N = Number of old shares for a right share

S = Subscription price

R = Right share offer

$$= \left[\frac{\text{₹ } 72 \times 4 + \text{₹ } 48 \times 1}{4 + 1} \right] = \text{₹ } 67.20$$

Thus, post right issue the price of share has reduced by ₹4.80 per share.

(b) Calculation of theoretical value of the rights alone:

= Ex-right price – Cost of rights share

$$= \text{₹ } 67.20 - \text{₹ } 48 = \text{₹ } 19.20$$

Or

$$= \frac{\text{₹ } 67.20 - \text{₹ } 48}{4} = \text{₹ } 4.80$$

(c) If Mr. A is not interested in subscribing to the right issue, he can renounce his right eligibility @ ₹ 19.20 per right and can earn a gain of ₹ 480.

3. (i) Equity Beta

To calculate Equity Beta first we shall calculate Weighted Average of Asset Beta as follows:

$$= 1.55 \times 0.64 + 1.40 \times 0.36$$

$$= 0.992 + 0.504 = 1.496$$

Now we shall compute Equity Beta using the following formula:

$$\beta_{\text{Asset}} = \beta_{\text{Equity}} \left[\frac{E}{E + D(1 - t)} \right] + \beta_{\text{Debt}} \left[\frac{D(1 - t)}{E + D(1 - t)} \right]$$

Accordingly,

$$1.496 = \beta_{\text{Equity}} \left[\frac{500}{500 + 290} \right] + \beta_{\text{Debt}} \left[\frac{290}{500 + 290} \right]$$

$$1.496 = \beta_{\text{Equity}} \left[\frac{500}{790} \right] + 0.28 \left[\frac{290}{790} \right]$$

$$\beta_{\text{Equity}} = 2.20$$

(ii) Equity Beta on change in Capital Structure

Amount of Debt to be raised:

Particulars	Value (in ₹ Crore)
Total Value of Firm (Equity ₹ 500 crore + Debt ₹ 290 crore)	790
Desired Debt Equity Ratio	1.50 : 1.00
Desired Debt Level = $\frac{\text{Total Value} \times \text{Debt Ratio}}{\text{Debt Ratio} + \text{Equity Ratio}}$	474
Less: Value of Existing Debt	(290)
Value of Debt to be Raised	184

$$\begin{aligned} \text{Equity after Repurchase} &= \text{Total value of Firm} - \text{Desired Debt Value} \\ &= ₹ 790 \text{ Crore} - ₹ 474 \text{ Crore} \\ &= ₹ 316 \text{ Crore} \end{aligned}$$

Weighted Average Beta of ABCL:

Source of Finance	Investment (in ₹ Crore)	Weight	Beta of the Division	Weighted Beta
Equity	316	0.4	$\beta_{(E=X)}$	0.4x
Debt – 1	290	0.367	0.45	0.165
Debt – 2	184	0.233	0.50	0.117
	790		Weighted Average Beta	0.282 + (0.4x)

$$\beta_{ABCL} = 0.282 + 0.4x$$

$$1.496 = 0.282 + 0.4x$$

$$0.4x = 1.496 - 0.282$$

$$X = 1.214/0.4 = 3.035$$

$$\beta_{\text{New Equity}} = 3.035$$

- (iii) Yes, it justifies the increase as it leads to increase in the Value of Equity due to increase in Beta.
4. (i) To determine whether K Ltd. should change composition of its portfolio first we should determine the Beta of the Portfolio and compare it with implicit Beta as justified by the Return on Portfolio.

Calculation of Beta of Portfolio

Investment	No. of shares	Market Price (₹)	Market Value	Dividend Yield	Dividend	Composition	β	Weighted β
A	1,20,000	8.58	10,29,600	9.50%	97,812	0.2339	2.32	0.5426
B	1,60,000	5.84	9,34,400	14.00%	1,30,816	0.2123	4.56	0.9681
C	2,00,000	4.34	8,68,000	7.50%	65,100	0.1972	1.80	0.3550
D	2,50,000	6.28	15,70,000	16.00%	2,51,200	0.3566	3.00	1.0698
			44,02,000		5,44,928	1.0000		2.9355

$$\text{Return of the Portfolio} = \frac{5,44,928}{44,02,000} = 0.1238$$

$$\text{Beta of Port Folio} = 2.9355$$

Market Risk implicit

$$0.1238 = 0.10 + \beta \times (0.20 - 0.10)$$

$$\text{Or, } 0.10 \beta + 0.10 = 0.1238$$

$$\beta = \frac{0.1238 - 0.10}{0.10} = 0.238$$

Market β implicit is 0.238 while the portfolio β is 2.93. Thus, the portfolio is marginally risky compared to the market.

- (ii) To decide whether K Ltd. should change the composition of its portfolio the dividend yield (given) should be compared with the Expected Return as per CAPM as follows:

Expected return as per CAPM is $R_f + (R_M - R_f) \beta$

Accordingly,

$$\begin{aligned} \text{Expected Return for investment A} &= 0.10 + (0.20 - 0.10) 2.32 \\ &= 33.20\% \end{aligned}$$

$$\begin{aligned} \text{Expected Return for investment B} &= 0.10 + (0.20 - 0.10) 4.56 \\ &= 55.60\% \end{aligned}$$

$$\begin{aligned} \text{Expected Return for investment C} &= 0.10 + (0.20 - 0.10) 1.80 \\ &= 28\% \end{aligned}$$

$$\begin{aligned} \text{For investment D, Rs} &= 0.10 + (0.20 - 0.10) 3 \\ &= 40\% \end{aligned}$$

Comparing dividend yields with the expected returns of investment as per CAPM it can be observed that all investments are over-priced and they should be sold by the K Ltd. and acquire new securities.

5. (i) **Calculation of NAV of the Fund**

		(in ₹ Crore)	
1.	Value of Shares		
	a. Pharmaceutical Companies	$158 \times \frac{500}{300}$	263.333
	b. Construction Companies	$62 \times \frac{490}{275}$	110.473
	c. Service Sector Companies	$112 \times \frac{500}{285}$	196.491
	d. IT Companies	$68 \times \frac{515}{270}$	129.704
	e. Real Estate Companies	$20 \times \frac{440}{265}$	33.208
2.	Investment in Bonds		
	a. Listed Bonds	$\frac{14}{8.842} \times 24$	38.00
	b. Unlisted Bonds		14.000
3.	Cash and Cash Equivalents		3.00
			788.209
	Less: Expense Payable		7.000
	NAV of the Fund		781.209

(ii) **NAV of the Fund per Unit**

NAV of the Fund	₹ 781.209 crore
Number of Units	8.40 crore
NAV Per Unit (₹ 781.209 crore/ 8.40 crore)	₹ 93.00

(iii) **Net Return**

Initial Cost Per Unit		
Investment in Shares	₹ 420 crore	

Bonds	₹ 38 crore	₹ 458 crore
Number of Units		8.40 crore
Cost Per Unit		₹ 54.52
Return		
Capital Gain	(₹ 93.00 – ₹ 54.52)	₹ 38.48
Dividend	₹ 4x 2	₹ 8.00
		₹ 46.48
Annualised Return	$\frac{46.48}{54.52} \times \frac{1}{4}$	21.31%

6. (i) The justified theoretical price of a 6 months forward contract as per cost to carry model is as follows:

$$\text{Theoretical minimum price} = ₹ 1,900 + (₹ 1,900 \times 10/100 \times 6/12) = ₹ 1,995$$

- (ii) Arbitrage Opportunity - Since current future price is ₹2050, yes there is an opportunity for carrying arbitrage profit. The arbitrageur can borrow money @ 10 % for 6 months and buy the shares at ₹ 1,900. At the same time he can sell the shares in the futures market at ₹ 2,050. On the expiry date 6 months later, he could deliver the share and collect ₹ 2,050 pay off ₹ 1,995 and record a risk –less profit of ₹ 55 (₹ 2,050 – ₹ 1,995).
7. (a) Yes, the apprehension of CEO is correct as the current portfolio is more riskier than market as the beta (Systematic Risk) of market portfolio is as computed as follows:

Shares	No. of shares (lakhs) (1)	Market Price of Per Share (2) (₹)	(1) × (2) (₹ lakhs)	% to total (w)	β (x)	Wx
X Ltd.	6.00	1000.00	6000.00	0.30	1.50	0.45
Y Ltd.	8.00	1500.00	12000.00	0.60	1.30	0.78
Z Ltd.	4.00	500.00	<u>2000.00</u>	<u>0.10</u>	1.70	<u>0.17</u>
			<u>20000.00</u>	1.00		<u>1.40</u>

- (b) Since the Beta of existing portfolio is 1.40, the systematic risk of the current portfolio is 1.40.

- (c) Required Beta 0.95

Let the proportion of risk-free securities for target beta 0.95 = p

$$0.95 = 0 \times p + 1.40 (1 - p)$$

$$p = 0.32 \text{ i.e. } 32\%$$

Shares to be disposed off to reduce beta (20000 × 32%) ₹ 6,400 lakh and Risk Free securities to be acquired for the same amount.

- (d) Number of shares of each company to be disposed off

Shares	% to total (w)	Proportionate Amount (₹ lakhs)	Market Price Per Share (₹)	No. of Shares (Lakh)
X Ltd.	0.30	1920.00	1000.00	1.92
Y Ltd.	0.60	3840.00	1500.00	2.56
Z Ltd.	0.10	640.00	500.00	1.28

- (e) Since, the company is in long position in cash market it shall take short position in Future Market.

Number of Nifty Contract to be sold

$$\frac{(1.40-0.95) \times 20000 \text{ lakh}}{8,250 \times 210} = 519 \text{ contracts}$$

- (f) If there is 2% rises in Nifty there will be 2.80%(2%×1.40) rise for portfolio of shares

	₹ Lakh
Current Value of Portfolio of Shares	20000
Value of Portfolio after rise	20560
Mark-to-Market Margin paid (8250 × 0.020 × ₹ 210 × 519)	179.83
Value of the portfolio after rise of Nifty	20380.17
% change in value of portfolio (20380.17 – 20000)/ 20000	1.90%
% rise in the value of Nifty	2%
New Systematic Risk (Beta)	0.95

8. Receipts using a forward contract = \$ 48,00,000/0.013889 = ₹ 34,55,97,235

Receipts using currency futures

The number of contracts needed is (\$ 48,00,000/0.013881)/ 28,816,368 = 12

Initial margin payable is 12 contracts x ₹ 32,500 = ₹ 3,90,000

On April 1, 2020 Close at 0.013893

Receipts = US\$ 48,00,000/0.013894 = ₹ 34,54,72,866

Variation Margin

[(0.013893 – 0.013881) × 12 × 28,816,368]/0.013894

OR $(0.000012 \times 12 \times 28,816,368)/0.013894$	= =	₹ 2,98,658
4149.5570/0.013894		
Less: Interest Cost – ₹ 3,90,000 x 0.09 x 3/12		₹ 8,775
Net Receipts		<u>₹ 34,57,62,749</u>

Receipts under different methods of hedging

Forward contract	₹ 34,55,97,235
Future Contract	₹ 34,57,62,749
No Hedge (US\$ 48,00,000/ 0.013894)	₹ 34,54,72,866

The most advantageous option would have been to hedge with futures as it is slightly higher than Forward Option but comparing to no hedge option it is better proposition.

9. (a) (i) Receipt under three proposals

(a) Proposal of Mr. Grand

$$\text{Invoicing in } \text{£} \text{ will produce} = \frac{\text{€}5.5 \text{ million}}{1.1990} = \text{£} 45, 87,156$$

(b) Proposal of Mr. John

$$\text{Forward Rate} = \text{€}1.1990 - 0.0055 = 1.1935$$

$$\begin{aligned} \text{Using Forward Market hedge Sterling receipt would be} &= \frac{\text{€}5.5 \text{ million}}{1.1935} \\ &= \text{£} 46,08,295 \end{aligned}$$

(c) Proposal of Ms. Royce

The equivalent sterling of the order placed based on future price (€1.1943)

$$= \frac{\text{€}5.5 \text{ million}}{1.1943} = \text{£} 46, 05,208 \text{ (rounded off)}$$

$$\text{Number of Contracts} = \frac{\text{£}46,05,208}{70,500} = 65 \text{ Contracts (to the nearest whole number)}$$

$$\text{Thus, € amount hedged by future contract will be} = 65 \times \text{£}70,500 = \text{£}45,82,500$$

Buy Future at €1.1943

Sell Future at €1.1873

€0.0070

Total loss on Future Contracts = $65 \times £70,500 \times €0.0070 = €32,078$

After 6 months

Amount Received	€55, 00,000
Less: Loss on Future Contracts	€ <u>32,078</u>
	€ <u>54, 67,922</u>

Sterling Receipts

On sale of € at spot = $\frac{€54,67,922}{1.1873} = £46, 05,342$

Proposal of option (ii) is preferable because the option (i) & (iii) produces least receipts.

- (b) Further, in case of proposal (i) there must be a doubt as to whether this would be acceptable to German firm as it is described as a competitive market and Telereal Trillium is moving into it first time.

10. Net Issue Size = \$30 million

Gross Issue = $\frac{\$30 \text{ million}}{0.96} = \31.25 million

Issue Price per GDR in ₹ (300 x 4 x 80%)	₹ 960
Issue Price per GDR in \$ (₹ 960/ ₹ 70)	\$13.71
Dividend per GDR (D ₁) (₹ 2 x 4)	₹ 8
Net Proceeds per GDR (₹ 960 x 0.96)	₹ 921.60

- (a) Number of GDR to be issued

$$\frac{\$31.25 \text{ million}}{\$13.71} = 2.2794 \text{ million}$$

- (b) Cost of GDR to Right Ltd.

$$k_e = \frac{8}{921.60} + 0.20 = 20.87\%$$

11. (a) (i) 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.

$$\text{No. of Contracts} = \frac{\text{Amount of Borrowing}}{\text{Contract Size}} \times \frac{\text{Duration of Loan}}{3 \text{ months}}$$

$$= \frac{\text{£ } 25,000,000}{\text{£ } 50,000} \times \frac{6}{3} = 1000 \text{ Contracts}$$

(ii) 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 × 1000 × 1.35% × 3/12 = £1,68,750	£ 50,000 × 1000 × 0.65% × 3/12 = (£81,250)
Interest for 6 months on £50 million at actual rates	£ 25 million × 4.5% × ½ = £ 5,62,500	£ 25 million × 6.5% × ½ = £ 8,12,500
	£ 7,31,250	£ 7,31,250

Thus, the firm locked itself in interest rate $\frac{\text{£ } 7,31,250}{\text{£ } 25,000,000} \times 100 \times \frac{12}{6} = 5.85\%$

(b) No, the interest cost shall not be less for Espace plc had it taken the route of FRA, as the 3 x 9 FRA contract are available at 5.64% – 5.94% i.e. borrowing rate of 5.94%. Hence, the interest cost under this option shall be nearby by 5.94% which is more than interest rate under Future contract rate of 5.85%.

12. (a) ₹ 200 crore x 9 = ₹ 1800 crore

(b) $K_e = 6\% + 1.2 (11\% - 6\%) = 12\%$

$$= \frac{80 \text{ crore} \times 1.04}{0.12 - 0.04} = ₹ 1040 \text{ crore}$$

(c) ₹ 450 crore

(d) ₹ 450 crore + ₹ 200 crore – ₹ 50 crore = ₹ 600 crore

13. (a) Maximum exchange ratio acceptable to the shareholders of ABC Ltd.

Market Price of share of ABC Ltd. (₹ 3 x 8)	₹ 24
No. of Equity Shares	400 lakh
Market Capitalisation of ABC Ltd. (₹ 24 x 400 lakh)	₹ 9600 lakh
Combined Earnings (₹ 1200 + ₹ 400) lakh	₹ 1600 lakh
Combined Market Capitalisation (₹ 1600 lakh x 8)	₹ 12800 lakh
Market Capitalisation of ABC Ltd. (₹ 24x 400 lakh)	₹ 9600 lakh
Balance for XYZ Ltd.	₹ 3200 lakh

Let D be the no. of equity shares to be issued to XYZ Ltd. then,

$$\frac{\text{₹ 3200 Lakh}}{\left(\frac{1600 \text{ Lakh}}{D + 400}\right) \times 8} = D$$

$$D = 133.333 \text{ lakh Shares}$$

$$\text{Exchange Ratio} = 133.333 / 200 = 0.6666:1$$

- (b) Minimum exchange ratio acceptable to the shareholders of XYZ Ltd.

Market Price of share of XYZ Ltd.	₹ 14.00
No. of Equity Shares	200 lakh
Market Capitalisation of XYZ Ltd. (₹ 14.00 x 200 lakh)	₹ 2800 lakh
Combined Earnings (₹ 1200 + ₹ 400) lakh	₹ 1600 lakh
Combined Market Capitalisation (₹ 1600 lakh x 10)	₹ 16000 lakh
Balance for ABC Ltd.	₹ 13200 lakh

Let D be the no. of equity shares to be issued to XYZ Ltd. then,

$$\frac{\text{₹ 2800 lakh}}{\left(\frac{1600 \text{ lakh}}{D + 400}\right) \times 10} = D$$

$$D = 84.8485 \text{ lakh Shares}$$

$$\text{Exchange Ratio} = 84.8485 / 200 = 0.4242:1$$

14. (a) To be financially sustainable, an organization must have following traits:
- ❖ have more than one source of income.
 - ❖ have more than one way of generating income.

- ❖ do strategic, action and financial planning regularly.
- ❖ have adequate financial systems.
- ❖ have a good public image.
- ❖ be clear about its values (value clarity); and
- ❖ have financial autonomy.

(b) The salient features of FCCBs are as follows:

1. FCCB is a bond denominated in a foreign currency issued by an Indian company which can be converted into shares of the Indian Company denominated in Indian Rupees.
2. Prior permission of the Department of Economic Affairs, Government of India, Ministry of Finance is required for their issue
3. There will be a domestic and a foreign custodian bank involved in the issue
4. FCCB shall be issued subject to all applicable Laws relating to issue of capital by a company.
5. Tax on FCCB shall be as per provisions of Indian Taxation Laws and Tax will be deducted at source.
6. Conversion of bond to FCCB will not give rise to any capital gains tax in India.

(c) Organisation can assess country risk

- (1) By referring political ranking published by different business magazines.
- (2) By evaluating country's macro-economic conditions.
- (3) By analyzing the popularity of current government and assess their stability.
- (4) By taking advises from the embassies of the home country in the host countries.

Further, following techniques can be used to mitigate this risk.

- (i) Local sourcing of raw materials and labour.
- (ii) Entering into joint ventures
- (iii) Local financing
- (iv) Prior negotiations

15. (a) Yes, Venture Capital Financing is unique manner of financing a Startup as it possesses the following characteristics:

- (i) **Long time horizon:** The fund would invest with a long time horizon in mind. Minimum period of investment would be 3 years and maximum period can be 10 years.

- (ii) **Lack of liquidity:** When VC invests, it takes into account the liquidity factor. It assumes that there would be less liquidity on the equity it gets and accordingly it would be investing in that format. They adjust this liquidity premium against the price and required return.
 - (iii) **High Risk:** VC would not hesitate to take risk. It works on principle of high risk and high return. So, high risk would not eliminate the investment choice for a venture capital.
 - (iv) **Equity Participation:** Most of the time, VC would be investing in the form of equity of a company. This would help the VC participate in the management and help the company grow. Besides, a lot of board decisions can be supervised by the VC if they participate in the equity of a company.
- (b) Secondary participants involved into the securitization process are as follows:
- (i) **Obligors:** Actually they are the main source of the whole securitization process. They are the parties who owe money to the firm and are assets in the Balance Sheet of Originator. The amount due from the obligor is transferred to SPV and hence they form the basis of securitization process and their credit standing is of paramount importance in the whole process.
 - (ii) **Rating Agency:** Since the securitization is based on the pools of assets rather than the originators, the assets have to be assessed in terms of its credit quality and credit support available. Rating agency assesses the following:
 - ❖ Strength of the Cash Flow.
 - ❖ Mechanism to ensure timely payment of interest and principle repayment.
 - ❖ Credit quality of securities.
 - ❖ Liquidity support.
 - ❖ Strength of legal framework.Although rating agency is secondary to the process of securitization but it plays a vital role.
 - (iii) **Receiving and Paying agent (RPA):** Also, called Servicer or Administrator, it collects the payment due from obligor(s) and passes it to SPV. It also follow up with defaulting borrower and if required initiate appropriate legal action against them. Generally, an originator or its affiliates acts as servicer.
 - (iv) **Agent or Trustee:** Trustees are appointed to oversee that all parties to the deal perform in the true spirit of terms of agreement. Normally, it takes care of interest of investors who acquires the securities.
 - (v) **Credit Enhancer:** Since investors in securitized instruments are directly exposed to performance of the underlying and sometime may have limited or no recourse to the

originator, they seek additional comfort in the form of credit enhancement. In other words, they require credit rating of issued securities which also empowers marketability of the securities.

Originator itself or a third party say a bank may provide this additional context called Credit Enhancer. While originator provides his comfort in the form of over collateralization or cash collateral, the third party provides it in form of letter of credit or surety bonds.

- (vi) **Structurer:** It brings together the originator, investors, credit enhancers and other parties to the deal of securitization. Normally, these are investment bankers also called arranger of the deal. It ensures that deal meets all legal, regulatory, accounting and tax laws requirements.
- (c) As opposed to the asset based and income based approaches, the cash flow approach takes into account the quantum of free cash that is available in future periods, and discounting the same appropriately to match to the flow's risk.

Simply speaking, if the present value arrived post application of the discount rate is more than the current cost of investment, the valuation of the enterprise is attractive to both stakeholders as well as externally interested parties (like stock analysts). It attempts to overcome the problem of over-reliance on historical data.

There are essentially five steps in performing DCF based valuation:

- (i) Arriving at the 'Free Cash Flows'
- (ii) Forecasting of future cash flows (also called projected future cash flows)
- (iii) Determining the discount rate based on the cost of capital
- (iv) Finding out the Terminal Value (TV) of the enterprise
- (v) Finding out the present values of both the free cash flows and the TV, and interpretation of the results.