

PAPER – 2: STRATEGIC FINANCIAL MANAGEMENT

QUESTIONS

Security Valuation

- ABC Limited's shares are currently selling at ₹ 13 per share. There are 10,00,000 shares outstanding. The firm is planning to raise ₹ 20 lakhs to Finance a new project.
 - CALCULATE the ex-right price of shares and the value of a right, if the firm offers one right share for every two shares held.
 - CALCULATE the ex-right price of shares and the value of a right, if the firm offers one right share for every four shares held.
 - ANALYSE how does the shareholders' wealth change from (i) to (ii) above and right issue increases shareholders' wealth?
- Piyush Loonker and Associates presently pay a dividend of Re. 1.00 per share and has a share price of ₹ 20.00.
 - CALCULATE the firm's expected or required return on equity using a dividend-discount model approach if this dividend were expected to grow at a rate of 12% per annum forever.
 - CALCULATE the firm's expected, or required, return on equity if instead of this situation in part (i), suppose that the dividends were expected to grow at a rate of 20% per annum for 5 years and 10% per year thereafter.

Portfolio Management

- Mr. FedUp wants to invest an amount of ₹ 520 lakhs and had approached his Portfolio Manager. The Portfolio Manager had advised Mr. FedUp to invest in the following manner:

Security	Moderate	Better	Good	Very Good	Best
Amount (in ₹ Lakhs)	60	80	100	120	160
Beta	0.5	1.00	0.80	1.20	1.50

ADVISE Mr. FedUp in regard to the following, using Capital Asset Pricing Methodology:

- Expected return on the portfolio, if the Government Securities are at 8% and the NIFTY is yielding 10%.
 - Replacing Security 'Better' with NIFTY.
- The following are the data on five mutual funds:

Fund	Return	Standard Deviation	Beta
A	15	7	1.25
B	18	10	0.75

C	14	5	1.40
D	12	6	0.98
E	16	9	1.50

CALCULATE Reward to Volatility Ratio and rank this portfolio using:

- ◆ Sharpe method and
- ◆ Treynor's method
assuming the risk free rate is 6%.

Mutual Fund

5. Following information is related to XYZ Regular Income Fund:

Particulars	₹ Crores
Listed shares at Cost (ex-dividend)	20
Cash in hand	1.23
Bonds and debentures at cost	4.3
Of these, bonds not listed and quoted	1
Other fixed interest securities at cost	4.5
Dividend accrued	0.8
Amount payable on shares	6.32
Expenditure accrued	0.75
Number of units (₹ 10 face value)	20 lacs
Current realizable value of fixed income securities of face value of ₹ 100	106.5
The listed shares were purchased when Index was	1,000
Present index is	2,300
Value of listed bonds and debentures at NAV date	8

CALCULATE the NAV of scheme on per unit basis if there has been a diminution of 20% in unlisted bonds and debentures and Other fixed interest securities are valued at cost.

Derivatives

6. Ram holding shares of Reliance Industries Ltd. which is currently selling at ₹ 1000. He is expecting that this price will further fall due to lower than expected level of profits to be announced after one month. As on following option contract are available in Reliance Share.

Strike Price (₹)	Option	Premium (₹)
1030	Call	40

1010	Call	35
1000	Call	30
990	Put	35
970	Put	20
950	Put	8
930	Put	5

Ram is interested in selling his stock holding as he cannot afford to lose more than 5% of its value.

RECOMMEND a hedging strategy with option and show how his position will be protected.

7. Laxman buys 10,000 shares of X Ltd. at a price of ₹ 22 per share whose beta value is 1.5 and sells 5,000 shares of A Ltd. at a price of ₹ 40 per share having a beta value of 2. He obtains a complete hedge by Nifty futures at ₹ 1,000 each. He closes out his position at the closing price of the next day when the share of X Ltd. dropped by 2%, share of A Ltd. appreciated by 3% and Nifty futures dropped by 1.5%.

CALCULATE the overall profit/loss to Ram?

Foreign Exchange Exposure and Risk Management

8. On January 28, 2017 an importer customer requested a Bank to remit Singapore Dollar (SGD) 2,500,000 under an irrevocable Letter of Credit (LC). However, due to unavoidable factors, the Bank could effect the remittances only on February 4, 2017. The inter-bank market rates were as follows:

	January 28, 2017	February 4, 2017
US\$ 1=	₹ 45.85/45.90	₹ 45.91/45.97
GBP £ 1 =	US\$ 1.7840/1.7850	US\$ 1.7765/1.7775
GBP £ 1 =	SGD 3.1575/3.1590	SGD 3.1380/3.1390

The Bank wishes to retain an exchange margin of 0.125%

ANALYZE whether the customer stand to gain or lose due to the delay. (Note: Calculate the rate in multiples of 0.0001)

9. Place the following strategies by different persons in the Exposure Management Strategies Matrix.

Strategy 1: Kuljeet a wholesaler of imported items imports toys from China to sell them in the domestic market to retailers. Being a sole trader, he is always so much involved in the promotion of his trade in domestic market and negotiation with foreign supplier that he never pays attention to hedge his payable in foreign currency and leaves his position unhedged.

Strategy 2: Moni, is in the business of exporting and importing brasswares to USA and European countries. In order to capture the market he invoices the customers in their home currency. Lavi enters into forward contracts to sell the foreign exchange only if he expects some profit out of it other-wise he leaves his position open.

Strategy 3: TSC Ltd. is in the business of software development. The company has both receivables and payables in foreign currency. The Treasury Manager of TSC Ltd. not only enters into forward contracts to hedge the exposure but carries out cancellation and extension of forward contracts on regular basis to earn profit out of the same. As a result management has started looking Treasury Department as Profit Centre.

Strategy 4: DNB Publishers Ltd. in addition to publishing books are also in the business of importing and exporting of books. As a matter of policy the movement company invoices the customer or receives invoice from the supplier immediately covers its position in the Forward or Future markets and hence never leave the exposure open even for a single day.

International Financial Management

10. A multinational company is planning to set up a subsidiary company in India (where hitherto it was exporting) in view of growing demand for its product and competition from other MNCs. The initial project cost (consisting of Plant and Machinery including installation) is estimated to be US\$ 500 million. The net working capital requirements are estimated at US\$ 50 million. The company follows straight line method of depreciation. Presently, the company is exporting two million units every year at a unit price of US\$ 80, its variable cost per unit being US\$ 40.

The Chief Financial Officer has estimated the following operating cost and other data in respect of proposed project:

- (i) Variable operating cost will be US \$ 20 per unit of production;
- (ii) Additional cash fixed cost will be US \$ 30 million p.a. and project's share of allocated fixed cost will be US \$ 3 million p.a. based on principle of ability to share;
- (iii) Production capacity of the proposed project in India will be 5 million units;
- (iv) Expected useful life of the proposed plant is five years with no salvage value;
- (v) Existing working capital investment for production & sale of two million units through exports was US \$ 15 million;
- (vi) Export of the product in the coming year will decrease to 1.5 million units in case the company does not open subsidiary company in India, in view of the presence of competing MNCs that are in the process of setting up their subsidiaries in India;
- (vii) Applicable Corporate Income Tax rate is 35%, and
- (viii) Required rate of return for such project is 12%.

CALCULATE the Net Present Value (NPV) of the proposed project in India, assuming that:

- (a) there will be no variation in the exchange rate of two currencies and
- (b) all profits will be repatriated, as there will be no withholding tax.

Present Value Interest Factors (PVIF) @ 12% for five years is as below:

Year	1	2	3	4	5
PVIF	0.8929	0.7972	0.7118	0.6355	0.5674

Interest Rate Risk Management

11. M/s. Parker & Co. is contemplating to borrow an amount of ₹60 crores for a Period of 3 months in the coming 6 month's time from now. The current rate of interest is 9% p.a., but it may go up in 6 month's time. The company wants to hedge itself against the likely increase in interest rate.

The Company's Bankers quoted an FRA (Forward Rate Agreement) at 9.30%p.a.

EVALUATE the effect of FRA and actual rate of interest cost to the company, if the actual rate of interest after 6 months happens to be (i) 9.60% p.a. and (ii) 8.80% p.a.?

Corporate Valuation

12. Eagle Ltd. reported a profit of ₹ 77 lakhs after 30% tax for the financial year 2016-17. An analysis of the accounts revealed that the income included extraordinary items of ₹ 8 lakhs and an extraordinary loss of ₹ 10 lakhs. The existing operations, except for the extraordinary items, are expected to continue in the future. In addition, the results of the launch of a new product are expected to be as follows:

	₹ In lakhs
Sales	70
Material costs	20
Labour costs	12
Fixed costs	10

You are required to:

- (i) CALCULATE the value of the business, given that the capitalization rate is 14%.
- (ii) CALCULATE the market price per equity share, assuming Eagle Ltd.'s share capital being comprised of 1,00,000 13% preference shares of ₹ 100 each and 50,00,000 equity shares of ₹ 10 each and the P/E ratio being 10 times.

Mergers, Acquisitions and Corporate Restructuring

13. Yes Ltd. wants to acquire No Ltd. and the cash flows of Yes Ltd. and the merged entity are given below:

(₹ In lakhs)					
Year	1	2	3	4	5
Yes Ltd.	175	200	320	340	350
Merged Entity	400	450	525	590	620

Earnings would have witnessed 5% constant growth rate without merger and 6% with merger on account of economies of operations after 5 years in each case. The cost of capital is 15%.

The number of shares outstanding in both the companies before the merger is the same and the companies agree to an exchange ratio of 0.5 shares of Yes Ltd. for each share of No Ltd.

CALCULATE:

- (i) The Value of Yes Ltd. before and after merger.
- (ii) Value of Acquisition and
- (iii) Gain to shareholders of Yes Ltd.

Note: PV factor at 15% for years 1-5 are 0.870, 0.756; 0.658, 0.572, 0.497 respectively.

Theoretical Questions

14. (a) EXPLAIN the key elements of a well-functioning financial system.
 (b) DESCRIBE the various parameters to identify the currency risk.
 (c) EXPLAIN the challenges to Efficient Market Theory.
15. (a) DESCRIBE the constituents of International Financial Centers (IFC)
 (b) EXPLAIN Startup India Initiative
 (c) LIST the ways to arrange finance for Small and Medium Enterprises.

SUGGESTED ANSWERS/HINTS

1. (i) Number of shares to be issued: 5,00,000
 Subscription price ₹ 20,00,000 / 5,00,000 = ₹ 4

$$\text{Ex-right Price} = \frac{\text{₹ } 1,30,00,000 + \text{₹ } 20,00,000}{15,00,000} = \text{₹ } 10$$

$$\text{Value of right} = \frac{\text{₹ } 10 - \text{₹ } 4}{2} = 3$$
 Or
$$= \text{₹ } 10 - \text{₹ } 4 = \text{₹ } 6$$

(ii) Subscription price ₹ 20,00,000 / 2,50,000 = ₹ 8

$$\text{Ex-right Price} = \frac{\text{₹ } 1,30,00,000 + \text{₹ } 20,00,000}{12,50,000} = \text{₹ } 12$$

$$\text{Value of right} = \frac{\text{₹ } 12 - \text{₹ } 8}{4} = \text{₹ } 1.$$

$$\text{Or} \quad = \text{₹ } 12 - \text{₹ } 8 = \text{₹ } 4$$

(iii) The effect of right issue on wealth of Shareholder's wealth who is holding, say 100 shares.

(a) When firm offers one share for two shares held.

Value of Shares after right issue (150 X ₹ 10)	₹ 1,500
Less: Amount paid to acquire right shares (50X₹4)	<u>₹ 200</u>
	<u>₹1,300</u>

(b) When firm offers one share for every four shares held.

Value of Shares after right issue (125 X ₹ 12)	₹ 1,500
Less: Amount paid to acquire right shares (25X₹8)	<u>₹ 200</u>
	<u>₹1,300</u>

(c) Wealth of Shareholders before Right Issue ₹1,300

Thus, there will be no change in the wealth of shareholders from (i) and (ii).

2. (i) Firm's Expected or Required Return on Equity

According to Dividend discount model approach the firm's expected or required return on equity is computed as follows:

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

Where,

K_e = Cost of equity share capital or (Firm's expected or required return on 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.

Now, $D_1 = D_0 (1 + g)$ or ₹ 1 (1 + 0.12) or ₹ 1.12, $P_0 = ₹ 20$ and $g = 12\%$ per annum

$$\text{Therefore, } K_e = \frac{\text{₹ } 1.12}{\text{₹ } 20} + 12\%$$

Or, $K_e = ₹ 17.6\%$

(ii) Firm's Expected or Required Return on Equity

(If dividends were expected to grow at a rate of 20% per annum for 5 years and 10% per year thereafter)

Since in this situation if dividends are expected to grow at a super normal growth rate g_s , for n years and thereafter, at a normal, perpetual growth rate of g_n beginning in the year $n + 1$, then the cost of equity can be determined by using the following formula:

$$P_0 = \sum_{t=1}^n \frac{Div_0 (1+g_s)^t}{(1+K_e)^t} + \frac{Div_{n+1}}{K_e - g_n} \times \frac{1}{(1+K_e)^n}$$

Where,

g_s = Rate of growth in earlier years.

g_n = Rate of constant growth in later years.

P_0 = Discounted value of dividend stream.

K_e = Firm's expected, required return on equity (cost of equity capital).

Now,

$g_s = 20\%$ for 5 years, $g_n = 10\%$

Therefore,

$$P_0 = \sum_{t=1}^n \frac{D_0 (1+0.20)^t}{(1+K_e)^t} + \frac{Div_{5+1}}{K_e - 0.10} \times \frac{1}{(1+K_e)^t}$$

$$P_0 = \frac{1.20}{(1+K_e)^1} + \frac{1.44}{(1+K_e)^2} + \frac{1.73}{(1+K_e)^3} + \frac{2.07}{(1+K_e)^4} + \frac{2.49}{(1+K_e)^5} + \frac{2.49(1+0.10)}{-0.10} \times \frac{1}{(1+K_e)^5}$$

or $P_0 = ₹ 1.20 (PVF_1, K_e) + ₹ 1.44 (PVF_2, K_e) + ₹ 1.73 (PVF_3, K_e) + ₹ 2.07$

$$(PVF_4, K_e) + ₹ 2.49 (PVF_5, K_e) + \frac{Rs. 2.74 (PVF_5, K_e)}{K_e - 0.10}$$

By trial and error we are required to find out K_e

Now, assume $K_e = 18\%$ then we will have

$$P_0 = ₹ 1.20 (0.8475) + ₹ 1.44 (0.7182) + ₹ 1.73 (0.6086) + ₹ 2.07 (0.5158) + ₹ 2.49 (0.4371) + ₹ 2.74 (0.4371) \times \frac{1}{0.18-0.10}$$

$$= ₹ 1.017 + ₹ 1.034 + ₹ 1.053 + ₹ 1.068 + ₹ 1.09 + ₹ 14.97$$

$$= ₹ 20.23$$

Since the present value of dividend stream is more than required it indicates that K_e is greater than 18%.

Now, assume $K_e = 19\%$ we will have

$$P_0 = ₹ 1.20 (0.8403) + ₹ 1.44 (0.7061) + ₹ 1.73 (0.5934) + ₹ 2.07 (0.4986) + ₹ 2.49 (0.4190) + ₹ 2.74 (0.4190) \times \frac{1}{0.19-0.10}$$

$$= ₹ 1.008 + ₹ 1.017 + ₹ 1.026 + ₹ 1.032 + ₹ 1.043 + ₹ 12.76$$

$$= ₹ 17.89$$

Since the market price of share (expected value of dividend stream) is ₹ 20. Therefore, the discount rate is closer to 18% than it is to 19%, we can get the exact rate by interpolation by using the following formula:

$$K_e = LR + \frac{NPV \text{ at LR}}{NPV \text{ at LR} - NPV \text{ at HR}} \times \Delta r$$

Where,

LR = Lower Rate

NPV at LR = Present value of share at LR

NPV at HR = Present value of share at Higher Rate

Δr = Difference in rates

$$K = 18\% + \frac{(\text{₹ } 20.23 - \text{₹ } 20)}{\text{₹ } 20.23 - \text{₹ } 17.89} \times 1\%$$

$$= 18\% + \frac{\text{₹ } 0.23}{\text{₹ } 2.34} \times 1\%$$

$$= 18\% + 0.10\% = 18.10\%$$

Therefore, the firm's expected, or required, return on equity is 18.10%. At this rate the present discounted value of dividend stream is equal to the market price of the share.

3. (i) Computation of Expected Return from Portfolio

Security	Beta (β)	Expected Return (r) as per CAPM	Amount (₹ Lakhs)	Weights (w)	wr
Moderate	0.50	$8\% + 0.50(10\% - 8\%) = 9\%$	60	0.115	1.035
Better	1.00	$8\% + 1.00(10\% - 8\%) = 10\%$	80	0.154	1.540
Good	0.80	$8\% + 0.80(10\% - 8\%) = 9.60\%$	100	0.192	1.843
Very Good	1.20	$8\% + 1.20(10\% - 8\%) = 10.40\%$	120	0.231	2.402
Best	1.50	$8\% + 1.50(10\% - 8\%) = 11\%$	<u>160</u>	<u>0.308</u>	<u>3.388</u>
Total			<u>520</u>	<u>1</u>	<u>10.208</u>

Thus Expected Return from Portfolio 10.208% say 10.21%.

Alternatively, it can be computed as follows:

$$\text{Average } \beta = 0.50 \times \frac{60}{520} + 1.00 \times \frac{80}{520} + 0.80 \times \frac{100}{520} + 1.20 \times \frac{120}{520} + 1.50 \times \frac{160}{520} = 1.104$$

As per CAPM

$$= 0.08 + 1.104(0.10 - 0.08) = 0.10208 \text{ i.e. } 10.208\%$$

- (ii) As computed above the expected return from Better is 10% same as from Nifty, hence there will be no difference even if the replacement of security is made. The main logic behind this neutrality is that the beta of security 'Better' is 1 which clearly indicates that this security shall yield same return as market return.

4. Sharpe Ratio $S = (R_p - R_f)/\sigma_p$

Treynor Ratio $T = (R_p - R_f)/\beta_p$

Where,

R_p = Return on Fund

R_f = Risk-free rate

σ_p = Standard deviation of Fund

β_p = Beta of Fund

Reward to Variability (Sharpe Ratio)

Mutual Fund	R_p	R_f	$R_p - R_f$	σ_p	Reward to Variability	Ranking
A	15	6	9	7	1.285	2
B	18	6	12	10	1.20	3
C	14	6	8	5	1.60	1

D	12	6	6	6	1.00	5
E	16	6	10	9	1.11	4

Reward to Volatility (Treyner Ratio)

Mutual Fund	R_p	R_f	$R_p - R_f$	β_p	Reward to Volatility	Ranking
A	15	6	9	1.25	7.2	2
B	18	6	12	0.75	16	1
C	14	6	8	1.40	5.71	5
D	12	6	6	0.98	6.12	4
E	16	6	10	1.50	6.67	3

5.

Particulars	Adjusted Values ₹ crores
Equity Shares	46.00
Cash in hand	1.23
Bonds and debentures not listed	0.80
Bonds and debentures listed	8.00
Dividends accrued	0.80
Fixed income securities	4.50
Sub total assets (A)	61.33
Less: Liabilities	
Amount payable on shares	6.32
Expenditure accrued	0.75
Sub total liabilities (B)	7.07
Net Assets Value (A) – (B)	54.26
No. of units	20,00,000
Net Assets Value per unit (₹ 54.26 crore / 20,00,000)	₹ 271.30

6. 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, the overall position will be as follows:

Spot Price after 1 month	Stock Value	Put Payoff	Initial Cash Flow	Total
$S < 950$	S	$950 - S$	-8	$942 - S$
$S > 950$	S	-	-8	$S - 8$

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.

7. No. of the Future Contract to be obtained to get a complete hedge

$$= \frac{10000 \times ₹22 \times 1.5 - 5000 \times ₹40 \times 2}{₹1000}$$

$$= \frac{₹3,30,000 - ₹4,00,000}{₹1000} = 70 \text{ contracts}$$

Thus, by purchasing 70 Nifty future contracts to be long to obtain a complete hedge.

Cash Outlay

$$= 10000 \times ₹ 22 - 5000 \times ₹ 40 + 70 \times ₹ 1,000$$

$$= ₹ 2,20,000 - ₹ 2,00,000 + ₹ 70,000 = ₹ 90,000$$

Cash Inflow at Close Out

$$= 10000 \times ₹ 22 \times 0.98 - 5000 \times ₹ 40 \times 1.03 + 70 \times ₹ 1,000 \times 0.985$$

$$= ₹ 2,15,600 - ₹ 2,06,000 + ₹ 68,950 = ₹ 78,550$$

Gain/ Loss

$$= ₹ 78,550 - ₹ 90,000 = - ₹ 11,450 \text{ (Loss)}$$

8. On January 28, 2017 the importer customer requested to remit SGD 25 lakhs.

To consider sell rate for the bank:

US \$	=	₹45.90
Pound 1	=	US\$ 1.7850
Pound 1	=	SGD 3.1575
Therefore, SGD 1	=	$\frac{₹ 45.90 \times 1.7850}{\text{SGD } 3.1575}$
SGD 1	=	₹25.9482
Add: Exchange margin (0.125%)		<u>₹ 0.0324</u>
		<u>₹ 25.9806</u>

On February 4, 2017 the rates are

US \$	=	₹ 45.97
Pound 1	=	US\$ 1.7775
Pound 1	=	SGD 3.1380
Therefore, SGD 1	=	$\frac{₹ 45.97 * 1.7775}{SGD 3.1380}$
SGD 1	=	₹ 26.0394
Add: Exchange margin (0.125%)		<u>₹ 0.0325</u>
		<u>₹ 26.0719</u>

Hence, loss to the importer

$$= \text{SGD } 25,00,000 (\text{₹ } 26.0719 - \text{₹ } 25.9806) = \text{₹ } 2,28,250$$

9. *Strategy 1:* This strategy is covered by High Risk: Low Reward category and worst as it leaves all exposures unhedged. Although this strategy does not involve any time and effort, it carries high risk.

Strategy 2: This strategy covers Low Risk: Reasonable reward category as the exposure is covered wherever there is anticipated profit otherwise it is left.

Strategy 3: This strategy is covered by High Risk: High Reward category as to earn profit, cancellations and extensions are carried out. Although this strategy leads to high gains but it is also accompanied by high risk.

Strategy 4: This strategy is covered by Low Risk : Low Reward category as company plays a very safe game.

Diagrammatically all these strategies can be depicted as follows:



10. Financial Analysis whether to set up the manufacturing units in India or not may be carried using NPV technique as follows:

I. Incremental Cash Outflows

	\$ Million
Cost of Plant and Machinery	500.00
Working Capital	50.00
Release of existing Working Capital	(15.00)
	535.00

II. Incremental Cash Inflow after Tax (CFAT)

(a) Generated by investment in India for 5 years

	\$ Million
Sales Revenue (5 Million x \$80)	400.00
Less: Costs	
Variable Cost (5 Million x \$20)	100.00
Fixed Cost	30.00
Depreciation (\$500Million/5)	100.00
EBIT	170.00
Taxes@35%	59.50
EAT	110.50
Add: Depreciation	100.00
CFAT (1-5 years)	210.50
Cash flow at the end of the 5 years (Release of Working Capital)	35.00

(b) Cash generation by exports

	\$ Million
Sales Revenue (1.5 Million x \$80)	120.00
Less: Variable Cost (1.5 Million x \$40)	60.00
Contribution before tax	60.00
Tax@35%	21.00
CFAT (1-5 years)	39.00

(c) Additional CFAT attributable to Foreign Investment

	\$ Million
Through setting up subsidiary in India	210.50
Through Exports in India	39.00
CFAT (1-5 years)	171.50

III. Determination of NPV

Year	CFAT (\$ Million)	PVF@12%	PV(\$ Million)
1-5	171.50	3.6048	618.2232
5	35	0.5674	19.8590
			638.0822
Less: Initial Outflow			535.0000
			103.0822

Since NPV is positive the proposal should be accepted.

11. Final settlement amount shall be computed by using formula:

$$= \frac{(N)(RR-FR)(dtm/DY)}{[1+RR(dt/DY)]}$$

Where,

N = the notional principal amount of the agreement;

RR = Reference Rate for the maturity specified by the contract prevailing on the contract settlement date;

FR = Agreed-upon Forward Rate; and

dtm = maturity of the forward rate, specified in days (FRA Days)

DY = Day count basis applicable to money market transactions which could be 360 or 365 days.

Accordingly,

If actual rate of interest after 6 months happens to be 9.60%

$$= \frac{(\text{₹ } 60 \text{ crore}) (0.096 - 0.093) (3/12)}{[1 + 0.096(3/12)]}$$

$$= \frac{(\text{₹ } 60 \text{ crore})(0.00075)}{1.024} = \text{₹ } 4,39,453$$

Thus, banker will pay Parker & Co. a sum of ₹ 4,39,453

If actual rate of interest after 6 months happens to be 8.80%

$$= \frac{(\text{₹ } 60 \text{ crore}) (0.088 - 0.093) (3/12)}{[1 + 0.088(3/12)]}$$

$$= \frac{(\text{₹ } 60 \text{ crore}) (-0.00125)}{1.022} = - \text{₹ } 7,33,855$$

Thus Parker & Co. will pay banker a sum of ₹ 7,33,855

Actual Rate	9.60%	8.80%
Interest payable		
₹ 60 crore x 0.096 x 3/12	(₹ 1,44,00,000)	
₹ 60 crore x 0.088 x 3/12		(₹ 1,32,00,000)
Compensation Receivable:		
₹ 60 crore x (0.096 – 0.093) x 3/12	₹ 4,50,000	

Compensation Payable: ₹ 60 crore x (0.088 – 0.093) x 3/12		(₹ 7,50,000)
Interest Cost to Company (In ₹)	₹ 1,39,50,000	₹ 1,39,50,000
Annual Interest Cost to Company (In %) (₹ 1,39,50,000/ ₹ 60crore) x 12/3	9.30%	9.30%

12. (i) Computation of Business Value

		(₹ Lakhs)
Profit before tax $\frac{77}{1-0.30}$		110
Less: Extraordinary income		(8)
Add: Extraordinary losses		<u>10</u>
		112
Profit from new product	(₹ Lakhs)	
Sales	70	
Less: Material costs	20	
Labour costs	12	
Fixed costs	<u>10</u>	(42)
		<u>28</u>
		140.00
Less: Taxes @30%		<u>42.00</u>
Future Maintainable Profit after taxes		<u>98.00</u>
Relevant Capitalisation Factor		0.14
Value of Business (₹98/0.14)		700

(ii) Computation of Market Price of Equity Share

Future maintainable profits (After Tax)	₹ 98,00,000
Less: Preference share dividends 1,00,000 shares of ₹ 100 @ 13%	<u>₹ 13,00,000</u>
Earnings available for Equity Shareholders	<u>₹ 85,00,000</u>
No. of Equity Shares	50,00,000
Earning per share = $\frac{₹ 85,00,000}{50,00,000}$ =	₹ 1.70
PE ratio	10
Market price per share	₹ 17

13. (i) Working Notes:

Present Value of Cash Flows (CF) upto 5 years

Year End	CF of Yes Ltd. (₹ lakhs)	PVF @15%	PV of CF (₹ lakhs)	CF of Merged Entity (₹ lakhs)	PV of CF of Merged Entity (₹ lakhs)
1	175	0.870	152.25	400	348.00
2	200	0.756	151.20	450	340.20
3	320	0.658	210.56	525	345.45
4	340	0.572	194.48	590	337.48
5	350	0.497	<u>173.95</u>	620	<u>308.14</u>
			<u>882.44</u>		<u>1679.27</u>

PV of Cash Flows of Yes Ltd. after the forecast period

$$TV_5 = \frac{CF_5(1+g)}{K_e - g} = \frac{350(1+0.05)}{0.15-0.05} = \frac{367.50}{0.10} = ₹ 3675 \text{ lakhs}$$

PV of $TV_5 = ₹ 3675 \text{ lakhs} \times 0.497 = ₹ 1826.475 \text{ lakhs}$

PV of Cash Flows of Merged Entity after the forecast period

$$TV_5 = \frac{CF_5(1+g)}{K_e - g} = \frac{620(1+0.06)}{0.15-0.06} = \frac{657.20}{0.09} = ₹ 7302.22 \text{ lakhs}$$

PV of $TV_5 = ₹ 7302.22 \text{ lakhs} \times 0.497 = ₹ 3629.20 \text{ lakhs}$ **Value of Yes Ltd.**

	Before merger (₹ lakhs)	After merger (₹ lakhs)
PV of CF (1-5 years)	882.440	1679.27
Add: PV of TV_5	<u>1826.475</u>	<u>3629.20</u>
	<u>2708.915</u>	<u>5308.47</u>

(ii) Value of Acquisition

= Value of Merged Entity – Value of Yes Ltd.

= ₹ 5308.47 lakhs – ₹ 2708.915 lakhs = ₹ 2599.555 lakhs

(iii) Gain to Shareholders of Yes Ltd.

Share of Yes Ltd. in merged entity = ₹ 5308.47 lakhs $\times \frac{1}{1.5} = ₹ 3538.98 \text{ lakhs}$

Gain to shareholder = Share of Yes Ltd. in merged entity – Value of Yes Ltd. before merger

= ₹3538.98 lakhs - ₹2708.915 = ₹830.065 lakhs

14. (a) Key elements of a well-functioning financial system are explained as below:
- (i) **A strong legal and regulatory environment** – Capital market is regulated by SEBI which acts a watchdog of the securities market. This has been ensured through the passing of SEBI Act, Securities Contract Regulation Act and numerous SEBI rules, regulations and guidelines. Likewise money market and foreign exchange market is regulated by RBI and this has been ensured through various provisions of the RBI Act, Foreign Exchange Management Act etc. Thus, a strong legal system protects the rights and interests of investors and acts as a most important element of a sound financial system.
 - (ii) **Stable money** – Money is an important part of an economy. Frequent fluctuations and depreciations in the value of money lead to financial crises and restrict the economic growth.
 - (iii) **Sound public finances and public debt management** – Sound public finances means setting and controlling public expenditures and increase revenues to fund these expenditures efficiently. Public debt management is the process of establishing and executing a strategy for managing the government's debt in order to raise the required amount of funding. It also includes developing and maintaining an efficient market for government securities.
 - (iv) **A central bank** – A central bank supervises and regulates the operations of the banking system. It acts as a banker to the banks and government, manager of money market and foreign exchange market and also lender of the last resort. The monetary policy of the Central Bank is used to keep the pace of economic growth on a higher path.
 - (v) **Sound banking system** – A well-functioning financial system must have large variety of banks both in the private and public sector having both domestic and international operations with an ability to withstand adverse national and international events. They perform varied functions such as operating the payment and clearing system, and foreign exchange market. Banks also undertake credit risk analysis and assess the expected risk and return of a project before giving any loan for a proposed project.
 - (vi) **Information System** – All the participants in the financial system requires information at some stage or the other. Proper information disclosure practices form basis of a sound financial system for e.g. the corporates has to disclose their financial performance in the financial statements. Similarly, at the time of initial public offering, the companies have to disclose a host of information disclosing their financial health and efficiency.

- (vii) **Well functioning securities market** – A securities market facilitates the issuance of both equity and debt. An efficient securities market helps in the deployment of funds raised through the capital market to the required sections of the economy, lowering the cost of capital for the firms, enhancing liquidity and attracting foreign investment.
- (b) Just like interest rate risk the currency risk is dependent on the Government action and economic development. Some of the parameters to identify the currency risk are as follows:
- (1) **Government Action:** The Government action of any country has visual impact in its currency. For example, the UK Govt. decision to divorce from European Union i.e. Brexit brought the pound to its lowest since 1980's.
 - (2) **Nominal Interest Rate:** As per interest rate parity (IRP) the currency exchange rate depends on the nominal interest of that country.
 - (3) **Inflation Rate:** Purchasing power parity theory discussed in later chapters impact the value of currency.
 - (4) **Natural Calamities:** Any natural calamity can have negative impact.
 - (5) **War, Coup, Rebellion etc.:** All these actions can have far reaching impact on currency's exchange rates.
 - (6) **Change of Government:** The change of government and its attitude towards foreign investment also helps to identify the currency risk.
- (c) **Challenges to the Efficient Market Theory**
- (i) *Information inadequacy* – Information is neither freely available nor rapidly transmitted to all participants in the stock market. There is a calculated attempt by many companies to circulate misinformation.
 - (ii) *Limited information processing capabilities* – Human information processing capabilities are sharply limited. According to Herbert Simon every human organism lives in an environment which generates millions of new bits of information every second but the bottle necks of the perceptual apparatus does not admit more than thousand bits per seconds and possibly much less.

David Dreman maintained that under conditions of anxiety and uncertainty, with a vast interacting information grid, the market can become a giant.
 - (iii) *Irrational Behaviour* – It is generally believed that investors' rationality will ensure a close correspondence between market prices and intrinsic values. But in practice this is not true. J. M. Keynes argued that all sorts of consideration enter into the market valuation which is in no way relevant to the prospective yield. This was confirmed by L. C. Gupta who found that the market evaluation processes work haphazardly almost like a blind man firing a gun. The market

seems to function largely on hit or miss tactics rather than on the basis of informed beliefs about the long term prospects of individual enterprises.

- (iv) *Monopolistic Influence* – A market is regarded as highly competitive. No single buyer or seller is supposed to have undue influence over prices. In practice, powerful institutions and big operators wield great influence over the market. The monopolistic power enjoyed by them diminishes the competitiveness of the market.

15. (a) Although there are many constituents for IFC but some of the important constituent are as follows:

- (i) *Highly developed Infrastructure*: A leading edge infrastructure is prerequisite for creating a platform to offer internationally competitive 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 center, stable political environment is prerequisite.
- (iii) *Strategic Location*: The geographical location of the finance center should be strategic such as near to airport, seaport and should have friendly weather.
- (iv) *Quality Life*: The quality of life at the center should be good as center retains highly paid professional from own country as well from outside.
- (v) *Rational Regulatory Framework*: Rational legal regulatory framework is another prerequisite of international finance center 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.

(b) Startup India scheme was initiated by the Government of India on 16th of January, 2016. The definition of startup was provided which is applicable only in case of Government Schemes. Startup means an entity, incorporated or registered in India:

- ❖ Not prior to five years,
- ❖ With annual turnover not exceeding ₹ 25 crore in any preceding financial year, and
- ❖ Working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property.

Provided that such entity is not formed by splitting up, or reconstruction, of a business already in existence. Provided also that an entity shall cease to be a Startup if its turnover for the previous financial years has exceeded ₹ 25 crore or it has completed 5 years from the date of incorporation/ registration. Provided further that a Startup

shall be eligible for tax benefits only after it has obtained certification from the Inter-Ministerial Board, setup for such purpose.

(c) The need for finance can be classified into following types:

- Long and medium term loans
- Short term or working capital requirements
- Risk Capital
- Seed Capital/Marginal Money
- Bridge loans

Financial assistance in India for MSME units is available from a variety of institutions. The important ones are:

- (i) Commercial/Regional Rural/Co-operative Banks.
- (ii) SIDBI: Small Industries Development Bank of India (refinance and direct lending)
- (iii) SFCs/SIDCs: State Financial Corporations (e.g. Delhi Financial Corporation)/State Industrial Development Corporations.

Long and medium term loans are provided by SFCs, SIDBI and SIDCs. Banks also finance term loans. This type of financing is needed to fund purchase of land, construction of factory building/shed and for purchase of machinery and equipment. The short-term loans are required for working capital requirements, which fund the purchase of raw materials and consumables, payment of wages and other immediate manufacturing and administrative expenses. Such loans are generally available from commercial banks. The commercial banks also sanction composite loan comprising of working capital and term loan up to a loan limit of ₹ 1 crore.