STRATEGIC FINANCIAL MANAGEMENT

Q.1 (a) Calculation of Cross Currency Rate

$$\frac{₹}{HK\$}\text{ (Bid)} = \frac{₹}{US\$} \times \frac{US\$}{HK\$}$$

$$= 55.00 \times \frac{1}{7.9290} = 6.9366$$

$$\frac{₹}{HK\$}\text{ (Ask)} = \frac{₹}{US\$} \times \frac{US\$}{HK\$}$$

$$= 55.20 \times \frac{1}{7.9250} = 6.9653$$

₹ / HK\$ = 6.9366 / 6.9653

Calculation of Gain / Loss from transaction:

Sold to customer @	7.15
Buy from London Market @	6.9653
Gain per HK\$	0.1847
× No. of HK\$	40,00,000
Gain total	₹ 7,38,800

Q.1 (b) Valuation Based on Market Price

Particulars	1 Share	Total (3.10 crore)
Value	440.00	1364 crore

Valuation based on future cashflows (₹ in crore)

Value	CF	PV @ 12%
1	460	410.78
2	600	478.20
3	740	526.88
	Total	1415.86

	1 Share	**Total**
Value	456.729	1415.86 crore

Range of Valuation:	**1 Share**	**Total**
Minimum	440.00	1364.00 crore
Maximum	456.729	1415.86 crore

Q.1 (c) Value of Vacant Plot (₹ in lakhs)

	10 units	15 units
Value of apartment	800	1200
Less: Construction cost	600	1025
Value of vacant plot	200	175

$$\text{Average Value of vacant plot} = \frac{200 + 175}{2}$$

$$= 187.5$$

Evaluation of Propsal by Decision Tree
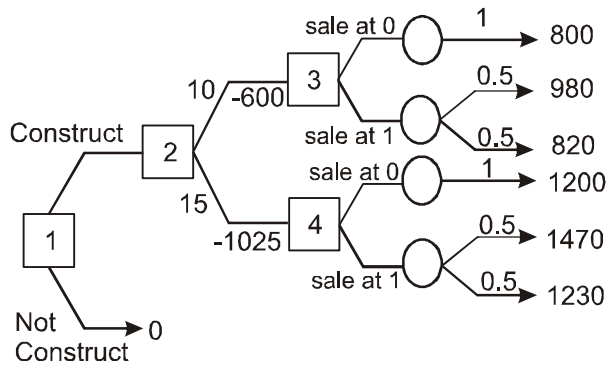
Solution of Decision Tree

$\boxed{3}$ $\longrightarrow$ 800 or $\dfrac{980 \times 0.5 + 820 \times 0.5}{1.10}$

818.18 i.e. wait for a year after construction and not sale immediate.

$\boxed{4}$ $\longrightarrow$ 1200 or $\dfrac{1470 \times 0.5 + 1230 \times 0.5}{1.1}$

=1227.27 – i.e. wait for a year after constructions.

$\boxed{2}$ $\longrightarrow$ 218.18 or 202.27

= 218.18 i.e. construct 10 apartment unit and wait for a year.

$\boxed{1}$ $\longrightarrow$ 218.18 or 0

= 218.18 i.e. construction today 10 apartment and sale after a year.

Q.1 **(d)** By way of cap option, XYZ limited hedge its risk by fixing the ceiling limit as LIBOR at 8%. XYZ limited (Borrower) has to pay maximum of 8 + 10 i.e. 18%. If LIBOR is less than 8% then option will not be exercise and if higher than 8% then option can be exercised to take the advantage.

Following are the forthcoming reset period where option should be exercise or not.

Reset Period	LIBOR	Strike Rate	Exercise Option
1	9.00	8.00	yes
2	9.50	8.00	yes
3	10.00	8.00	yes

Calculation of premium payable:

$$\text{Premium} \quad = \quad \dfrac{\dfrac{0.01}{1/1.035 - \dfrac{1}{0.035 \times 1.035^4}} \times 15}{} \qquad = 0.0408$$

Net Benefit Due To Cap Option Exercise:

Reset Period	Interest		Premium	Net
Period 1	15 × (9 – 8)% × 6/12	= 0.0750	**0.0408**	**0.0342**
Period 2	15 × (9.50 – 8)% × 6/12	= 0.1125	0.0408	0.0717
Period 3	15 × (10 – 8)% × 6/12	= 0.1500	0.0408	0.1092
Net Benefit				0.2151

Q.2 **(a) (i) Calculation Of NPV** (₹ in lakhs**)**

(1) Initial Investment   40

(2) Annual cashflow after tax

Year 1				Year 2			Year 3		
CFAT	P	CFAT × P	CFAT	P	CFAT × P	CFAT	P	CFAT × P
12	0.1	1.2	12	0.1	1.2	18	0.2	3.6
15	0.2	3.0	18	0.3	5.4	20	0.5	10.0
18	0.4	7.2	30	0.4	12.0	32	0.2	6.4
32	0.3	9.6	40	0.2	8.0	45	0.1	4.5
Avg CFAT		21.0			26.6			24.5
PV @ 7%		19.63			23.23			20.0

Total   =   62.86

$$\text{NPV} = (1) + (2)$$
$$= -40 + 62.86$$
$$= 22.86$$

(ii) Calculation of Standard Deviation:

Year 1			Year 2			Year 3		
CFAT	P	$(\text{CFAT} - \overline{\text{CFAT}})^2 P$	CFAT	P	$(\text{CFAT} - \overline{\text{CFAT}})^2 P$	CFAT	P	$(\text{CFAT} - \overline{\text{CFAT}})^2 P$
12	0.1	8.1	12	0.1	21.316	18	0.2	8.45
15	0.2	7.2	18	0.2	22.188	20	0.5	10.125
18	0.4	3.6	30	0.4	4.624	32	0.2	11.25
32	0.3	36.3	40	0.2	35.912	45	0.1	42.025
		55.2			84.04			71.85

	Year 1	Year 2	Year 3
Variance	55.20	84.04	71.85
x (PVF)²	0.873	0.763	0.666
Variance	48.19	64.12	47.85

Σ Variance (σ^2)   160.16

Standard Deviation (σ)   12.66

Q.2 **(b)**

(i) Calculation of Beta of Portfolio

Security	Price	No. of shares	Amount	Beta	Amount × β
A	349.30	5000	17,46,500	1.15	20,08,475
B	480.50	7000	33,63,500	0.40	13,45,400
C	593.52	8000	47,48,160	0.90	42,73,344
D	734.70	10,000	73,47,000	0.95	69,79,650
E	824.85	2,000	16,49,700	0.85	14,03,224
			1,88,54,860		1,60,09,114

$$\beta p = \frac{\Sigma \text{Amount} \times \beta}{\Sigma \text{Amount}} = \frac{1,60,09,114}{1,88,54,860} = 0.849$$

(ii) Value of Nifty Future   =   Current value × e^n

     $\Rightarrow$ 5900 × 1.01598

     =   5994.28 or 5994

(iii) For full hedge investor can sell Nifty Future

Value of one contract   =   5900 × 200

                     =   11,80,000

Hedging required   =   B × Amount of Portfolio

                  =   0.849 × 1,88,54,860

                  =   1,60,09,114

Number of contracts to be taken   = $\dfrac{1,60,09,114}{18,80,000}$

                  =   13.567 or   14 cont.

(iv) If Investor wants to reduced the Beta to 0.6 then

$$\frac{\text{Portfolio amount} \times (\text{Existing } \beta - \text{Desired } \beta)}{\text{Value of One Contract}}$$

$$= \frac{1,88,54,860 \times (0.849 - 0.6)}{11,80,000}$$

$$= 3.978 \quad \text{or} \quad 4 \quad \text{contracts.}$$

Q.3 **(a) Calculation Of Effective Yield:**

$$= \frac{D + P_1 - P_0}{P_0} \times \frac{365}{n}$$

Scheme A $= \dfrac{23,000 + 11,94,146.34 - 12,00,000}{12,00,000} \times \dfrac{365}{122}$

$$= 4.27 \text{ %}$$

Scheme B $= \dfrac{6,000 + 4,03,940.89 - 4,00,000}{4,00,000} \times \dfrac{365}{92}$

$$= 9.86 \text{ %}$$

Scheme C $= \dfrac{0 + 2,47,500 - 2,50,000}{2,50,000} \times \dfrac{365}{31}$

$$= -11.77 \text{ %}$$

Working Note – Calculation of $P_1 = \dfrac{\text{Amount of investment}}{\text{NAV at entry date}} \times \text{NAV at 31/7/11}$

Q.3 **(b)**
(i) $P_1 = P_0 (1 + ke) - D_1$
$\quad = 100 (1.10) - 15$
$\quad = 95$
(ii) $P_1 = P_0 (1 + ke) - D_1$
$\quad = 100 (1.10) - 0$
$\quad = 110$
(iii) If company pays dividend, then $P_1 = 95$
And available retained earning for investment will
$\quad = \text{Net profit} - \text{Dividend}$
$\quad = 6,00,000 - 15 \times (10,00,000 \div 100)$
$\quad = 4,50,000$
New shares to be issued:

$$= \frac{12,00,000 - 4,50,000}{95}$$

$$= 7894.74 \quad \text{or} \quad 7895$$

Q.4 **(a)**
(i) Mr. B should pay equals to the present value of future cashflows –

Year	CF	PV @ 13%
1	15.26	13.51
2	16.63	13.02
3	18.13	12.56
3	360.00	249.48
		288.57

Hence Mr. B should pay maximum of Rs. 288.57

(ii) If growth rate is 9% indefinetely then

$$P_0 = \frac{D_1}{ke - g} \qquad\qquad = \frac{14(1.09)}{.13 - .09}$$

$$= 381.50$$

Hence Mr. B should pay maximum Rs. 381.50

(iii) $P_3 = \dfrac{D_4}{ke - g}$

$= \dfrac{D_3(1+g)}{ke - g} = \dfrac{18.13 \times (1.09)}{0.13 - 0.09} = 494.04$

Q.4 (b) Calculation Of Net Assets: (₹ in lakhs)

Market value of portfolio	198.00
Cash & Bank balance (w.n.)	0.80
Less: O/S Management expenses.	0.80
Net Assets as on 30-04-12	198.00
No. of units	20.00
NAV	9.90

Calculation of earning rate (Annual)

$= \dfrac{(\text{Dividend} + \text{Capital Gain}) + (NAV_1 - NAV_0)}{NAV_0}$

$= \dfrac{0.20 + (9.90 - 10)}{10} \times \dfrac{12}{n}$

$= \dfrac{0.10}{10} \times \dfrac{12}{1}$

$= 12\%$

W.N. - Calculation of cash & Bank Balance (₹ in lakhs)

Cash & Bank A/C

Particular	Amount	Particular	Amount
To Mutual Fund	200.00	By Initial expenses	12.00
To Portfolio Investment	63.00	By Portfolio Investment.	185.00
To Dividend	2.00	By Portfolio Investment	56.00
		By Management expenses	7.20
		By Earning distribution	4.00
		By Balance c/d	0.80
	265.00		**265.00**

W.N. - Calculation of realised earning:

Capital gain (63 - 60)	3.00
Dividend	2.00
Realised earning	5.00
Earning distribution @ 80%	4.00
Earning per unit [4 ÷ 20]	0.20

Q.5 (a) Initial Cost

Issue cost		(2.5) Lakhs
call premium	(200 × 5%)	(10.0) Lakhs
Tax saving on unamortised issue cost	(3 × 0.30)	0.90 Lakhs
	Total	(11.60) Lakhs

Annual Benefit

saving in interest	(200 × 2%)	4.0
Tax on interest		(1.20)
Tax saving on issue cost amortisaion $\dfrac{(12.5 - 3)}{10} \times 30\%$		0.285

Net Benefit	3.085
× PVAF @ 7% for 10 years	7.023
PV of Benefit	21.66 Lakh

$\text{NPV} = 21.66 - 11.60$

$= 10.06 \quad \text{Lakhs}$

Hence earth limited should liquidate old bonds.

Q.5   **(b) Calculation Of Nominal Cashflow**

	Real cashflow		Nominal cashflow	
Year	India	African	Indian @ 10%	African @ 40%
0	– 50,000	– 2,00,000	– 50,000	– 2,00,000
1	– 1,500	+ 50,000	– 1,650	+ 70,000
2	– 2,000	+ 70,000	– 2,420	+ 1,37,200
3	– 2,500	+ 90,000	– 3,327.5	+ 2,46,960

Calculation of Cashflows in Indian Currency & P.V.

Year	African Rand	Conversion INR	Indian	Total	PV@20%
0	– 2,00,000	– 12,00,000	– 50,000	– 12,50,000	– 12,50,000
1	+ 70,000	+ 4,20,000	– 1,650	+ 4,18,350	+ 3,48,485.55
2	+ 1,37,200	+ 8,23,200	– 2,420	+ 8,20,780	+ 5,69,683.78
3	+ 2,46,960	+ 14,81,760	– 3,327.50	+ 14,81,432.5	+ 8,57,749.41
After 3	+ 2,46,960	+ 14,81,760	– 3,327.50	+ 14,81,432.5	+ 42,88,747.8
			NPV		48,14,665.82

Q.6   **(a) (i) Pre-merger value per share**

	Longitude Ltd.	Latitude Ltd.
EPS	8	5
P/E Ratio	15	10
MPS = EPS × P/E ratio	120	50

(ii) Exchange Ratio

(I) EPS should not dilute then

Ratio will be $\quad = \dfrac{5}{8} = 0.6250$

i.e. for every one share 0.625 shares will be issued i.e. in total
$\qquad$ 0.625 × 16 lakhs = 10 lakhs

(II) Market price should not dilute then

Ratio will be $= \dfrac{50}{120} = 0.4167$

i.e. For every 1 share 0.4167 shares will issued i.e. in total
0.4167 × 16 lakhs = 6.67 lakhs.

Q.6   **(b)** Company expects increasing interest rate
Hence entered into FRA @ 9.30 % p.a.

(i) If Actual Rate is 9.60 % p.a.
Hence company has to pay 9.30 (FRA)

$\qquad 60 \times 9.30\% \times \dfrac{3}{12} \qquad = 1.395$ Crore

Interest without FRA

$\qquad 60 \times 9.60\% \times \dfrac{3}{12} \qquad = 1.440$ Crore.

Advantage due to FRA $\qquad = 0.045$ Crore

(ii) If Actual Rate is 8.80 % p.a. then
Interest due to (FRA)

$\qquad 60 \times 9.30\% \times \dfrac{3}{12} \qquad = 1.395$ Crore

Interest without FRA

$\qquad 60 \times 8.80\% \times \dfrac{3}{12} \qquad = 1.32$ Crore

Loss due to FRA $\qquad = 0.075$ Crore

Q.7 **(a)**

Credit rating: Credit rating is a symbolic indication of the current opinion regarding the relative capability of a corporate entity to service its debt obligations in time with reference to the instrument being rated. It enables the investor to differentiate between instruments on the basis of their underlying credit quality. To facilitate simple and easy understanding, credit rating is expressed in alphabetical or alphanumerical symbols.

Thus Credit Rating is:

1) An expression of opinion of a rating agency.

2) The opinion is in regard to a debt instrument.

3) The opinion is as on a specific date.

4) The opinion is dependent on risk evaluation.

5) The opinion depends on the probability of interest and principal obligations being met timely.

Credit rating aims to

(i)   provide superior information to the investors at a low cost;

(ii) provide a sound basis for proper risk-return structure;

(iii) subject borrowers to a healthy discipline and

(iv) assist in the framing of public policy guidelines on institutional investment.

In India the rating coverage is of fairly recent origin, beginning 1988 when the first rating agency CRISIL was established. At present there are few other rating agencies like:

(i)   Credit Rating Information Services of India Ltd. (CRISIL).

(ii) Investment Information and Credit Rating Agency of India (ICRA).

(iii) Credit Analysis and Research Limited (CARE).

(iv) Duff & Phelps Credit Rating India Pvt. Ltd. (DCR I)

(v)   ONICRA Credit Rating Agency of India Ltd.

(vi) Fitch Ratings India (P) Ltd.

Q. 7 (b) Asset Securitisation: Securitisation is a process of transformation of illiquid asset into security which may be traded later in the open market. It is the process of transformation of the assets of a lending institution into negotiable instruments. The term 'securitisation' refers to both switching away from bank intermediation to direct financing via capital market and/or money market, and the transformation of a previously illiquid asset like automobile loans, mortgage loans, trade receivables, etc. into marketable instruments.

This is a method of recycling of funds. It is beneficial to financial intermediaries, as it helps in enhancing lending funds. Future receivables, EMIs and annuities are pooled together and transferred to an special purpose vehicle (SPV). These receivables of the future are shifted to mutual funds and bigger financial institutions. This process is similar to that of commercial banks seeking refinance with NABARD, IDBI, etc.

Q. 7 (c) Call Money: The Call Money is a part of the money market where, day to day surplus funds, mostly of banks, are traded. Moreover, the call money market is most liquid of all short-term money market segments. The maturity period of call loans vary from 1 to 14 days. The money that is lent for one day in call money market is also known as 'overnight money'. The interest paid on call loans are known as the call rates. The call rate is expected to freely reflect the day-to-day lack of funds. These rates vary from day-to-day and within the day, often from hour-to-hour. High rates indicate the tightness of liquidity in the financial system while low rates indicate an easy liquidity position in the market.

In India, call money is lent mainly to even out the short-term mismatches of assets and liabilities and to meet CRR requirement of banks. The short-term mismatches arise due to variation in maturities i.e. the deposits mobilized are deployed by the bank at a longer maturity to earn more returns and duration of withdrawal of deposits by customers vary. Thus, the banks borrow from call money markets to meet short-term maturity mismatches.

Moreover, the banks borrow from call money market to meet the cash Reserve Ratio (CRR) requirements that they should maintain with RBI every fortnight and is computed as a percentage of Net Demand and Time Liabilities (NDTL).

Q. 7 (d) Euro Convertible Bonds: They are bonds issued by Indian companies in foreign market with the option to convert them into pre-determined number of equity shares of the company. Usually price of equity shares at the time of conversion will fetch premium. The Bonds carry fixed rate of interest.

The issue of bonds may carry two options:

Call option: Under this the issuer can call the bonds for redemption before the date of maturity. Where the issuer's share price has appreciated substantially, i.e., far in excess of the redemption value of bonds, the issuer company can exercise the option. This call option forces the investors to convert the bonds into equity. Usually, such a case arises when the share prices reach a stage near 130% to 150% of the conversion price.

Put option: It enables the buyer of the bond a right to sell his bonds to the issuer company at a pre-determined price and date. The payment of interest and the redemption of the bonds will be made by the issuer-company in US dollars.

Q. 7 (e) Financial restructuring: Financial restructuring, is carried out internally in the firm with the consent of its various stakeholders. Financial restructuring is a suitable mode of restructuring of corporate firms that have incurred accumulated sizable losses for / over a number of years. As a sequel, the share capital of such firms, in many cases, gets substantially eroded / lost; in fact, in some cases, accumulated losses over the years may be more than share capital, causing negative net worth. Given such a dismal state of financial affairs, a vast majority of such firms are likely to have a dubious potential for liquidation. Can some of these Firms be revived? Financial restructuring is one such a measure for the revival of only those firms that hold prom- ise/prospects for better financial performance in the years to come. To achieve the desired objective, 'such firms warrant / merit a restart with a fresh balance sheet, which does not contain past accumulated losses and fictitious assets and shows share capital at its real/true worth.