

PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

Question No.1 is compulsory.

Attempt any **five** out of the remaining **six** 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) A is an investor and having in its Portfolio Shares worth ₹ 1,20,00,000 at current price and Cash ₹ 10,00,000. The Beta (β) of Share Portfolio is 1.4. After four months the price of shares dropped by 1.8%.

You are required to determine:

- (i) Current Portfolio Beta and
- (ii) Portfolio Beta after four months-if A on current date goes for long position on ₹ 1,30,00,000 Nifty futures.

Show calculations in ₹ Lakhs with four decimal points.

(5 Marks)

- (b) You are requested to find out the approximate dividend payment ratio as to have the Share Price at ₹ 56 by using Walter Model, based on following information available for a Company.

	Amount ₹
Net Profit	50 lakhs
Outstanding 10% Preference Shares	80 lakhs
Number of Equity Shares	5 lakhs
Return on Investment	15%
Cost of Capital (after Tax) (K_e)	12%

(5 Marks)

- (c) Ram Chemical is in production Line of Chemicals and considering a proposal of building new plant to produce pesticides. The Present Value (PV) of new proposal is ₹ 150 crores (After considering scrap value at the end of life of project). Since this is a new product market, survey indicates following variation in Present Value (PV):

Condition Favourable in first year	PV will increase 30% from original estimate
Condition sluggish in first year	PV will decrease by 40% from original Figures.

In addition Rama Chemical has a option to abandon the project at the end of Year and dispose it at ₹ 100 crores. If risk free rate of interest is 8%, what will be present value of put option? (5 Marks)

- (d) A USA based company is planning to set up a software development unit in India. Software developed at the Indian unit will be bought back by the US parent at a transfer price of US \$200 Lakhs. The unit will remain in existence in India for one year; the software is expected to get developed within this time frame.

The US based company will be subject to corporate tax of 30% and a withholding tax of 10% in India and will not be eligible for tax credit in the US. The software developed will be sold in the US market for US \$ 240 lakhs. Other estimates are as follows:

Rent for fully furnished unit with necessary hardware in India	₹ 20,00,000
Man power cost (160 software professional will be working for 10 hours each day)	₹ 600 per man hour
Administrative and other costs	₹ 24,00,000

Advise the US Company on the financial viability of the project. The rupee-dollar rate is ₹ 67/\$. Assume 1 year = 360 days. (5 Marks)

Answer

(a) (i) Current portfolio

Current Beta for share = 1.4

Beta for cash = 0

Current portfolio beta = $\frac{120 \text{ lakhs}}{130 \text{ lakhs}} \times 1.4 + 0 \times \frac{10 \text{ lakhs}}{130 \text{ lakhs}} = 1.2923$

(ii) Portfolio beta after 4 months:

Beta for portfolio of shares = $\frac{\text{Change in value of portfolio of share}}{\text{Change in value of market portfolio (Index)}}$

$$1.4 = \frac{0.018}{\text{Change in value of market portfolio (Index)}}$$

Change in value of market portfolio (Index) = $(0.018 / 1.4) \times 100 = 1.2857$

Position taken on 100 lakh Nifty futures : Long

Value of index after 4 months = ₹ 130 lakh x (1.00 - 0.012857)

= ₹ 128.3286 lakh

Mark-to-market paid

= ₹ 1.6714 lakh

Cash balance after payment of mark-to-market = ₹ 8.3286 lakh

Value of portfolio after 4 months = ₹ 120 lakh x (1 - 0.018) + ₹ 8.3286 lakh
= ₹ 126.1686 lakh

Change in value of portfolio = $\frac{₹ 130 \text{ lakh} - ₹ 126.1686 \text{ lakh}}{₹ 130 \text{ lakh}} = 2.9472\%$

Portfolio beta = $0.029472 / 0.012857 = 2.2923$

(b) (i)

	₹ in lakhs
Net Profit	50
Less: Preference dividend	8
Earning for equity shareholders	42
Therefore earning per share	₹ 42 lakhs / 5 lakhs = ₹ 8.40

(ii) Cost of capital i.e. (k_e) 12%

Let, the dividend payout ratio be X and so the share price will be:

$$P = \frac{D}{K_e} + \frac{r(E-D)}{K_e} \text{ where } D = \text{Dividend (Rs)} \text{ and } r = 15\% \text{ and } k_e = 12\%.$$

Here $D = 8.40x$; $E = ₹ 8.40$; $r = 0.15$ and $K_e = 0.12$ and $P = ₹ 56$

$$\text{Hence } ₹ 56 = \frac{8.40x}{0.12} + \frac{0.15(8.40 - 8.40x)}{0.12 \times 0.12}$$

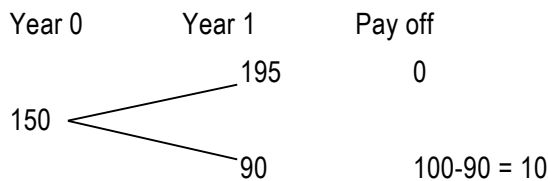
$$\text{Or, } ₹ 56 = 70X + 87.50 (1 - x)$$

$$-17.50x = -31.50$$

$$x = 1.80$$

Dividend Pay-out ratio would be zero, as pay-out is more than 100% of EPS seems to be illogical.

(c) Decision Tree showing pay off



First of all we shall calculate probability of high demand (P) using risk neutral method as follows:

$$8\% = p \times 30\% + (1-p) \times (-40\%)$$

$$0.08 = 0.30p - 0.40 + 0.40p$$

$$p = \frac{0.48}{0.70} = 0.6857 \text{ say } 0.686$$

The value of abandonment option will be as follows:

Expected Payoff at Year 1

$$\begin{aligned} &= p \times 0 + [(1-p) \times 10] \\ &= 0.686 \times 0 + [0.314 \times 10] \\ &= ₹ 3.14 \text{ crore} \end{aligned}$$

Since expected pay off at year 1 is 3.14 crore, present value of expected pay off will be:

$$\frac{3.14}{1.08} = 2.907 \text{ crore.}$$

This is the value of abandonment option (Put Option).

(d) Proforma profit and loss account of the Indian software development unit

	₹	₹
Revenue		1,34,00,00,000
Less: Costs:		
Rent	20,00,000	
Manpower (₹600 x 160 x 10 x 360)	34,56,00,000	
Administrative and other costs	24,00,000	35,00,00,000
Earnings before tax		99,00,00,000
Less: Tax		29,70,00,000
Earnings after tax		69,30,00,000
Less: Withholding tax(TDS)		6,93,00,000
Repatriation amount (in rupees)		62,37,00,000
Repatriation amount (in dollars)		\$93.09 lakhs

Advice: The cost of development software in India for the US based company is \$106.86 lakhs or \$ 10.686 million. As the USA based Company is expected to sell the software in the US at \$240 lakhs, it is advised to develop the software in India.

Question 2

- (a) Bank A enter into a Repo for 14 days with Bank B in 10% Government of India Bonds 2018 @ 5.65% for ₹ 8 crore. Assuming that clean price be ₹ 99.42 and initial Margin be 2% and days of accrued interest be 262 days. You are required to determine

(i) Dirty Price

(ii) Repayment at maturity. (consider 360 days in a year). (4 Marks)

- (b) A Stock costing ₹ 150 pays no dividends. The possible prices at which the stock may be sold for at the end of the year with the respective probabilities are:

Price ↓ (in ₹)	Probability ↓
130	0.2
150	0.1
160	0.1
165	0.3
175	0.1
180	0.2
Total	1.0

You are required to:

(i) calculate the Expected Return,

(ii) calculate the Standard Deviation (σ) of Returns.

Show calculations upto three decimal points.

(8 Marks)

- (c) RC Ltd. is able to issue commercial paper of ₹ 50,00,000 every 4 months at a rate of 15% p.a. The cost of placement of commercial paper issue is ₹ 2,000 per issue. RC Ltd. is required to maintain line of credit ₹ 2,00,000 in bank balance. The applicable income tax rate for RC Ltd. is 30%. What is the cost of funds (after taxes) to RC Ltd. for commercial paper issue? The maturity of commercial paper is four months. (4 Marks)

Answer

(a) (a) **Dirty Price**

= Clean Price + Interest Accrued

$$= 99.42 + 100 \times \frac{10}{100} \times \frac{262}{360}$$

$$= 106.70$$

(b) First Leg (Start Proceed)

$$= \text{Nominal Value} \times \frac{\text{Dirty Price}}{100} \times \frac{100 - \text{Initial Margin}}{100}$$

$$= ₹8,00,00,000 \times \frac{106.70}{100} \times \frac{100 - 2}{100}$$

$$= ₹8,36,52,800 \text{ or, rounded off to ₹8,36,53,000}$$

(c) Second Leg (Repayment at Maturity)

$$= \text{Start Proceed} \times \left(1 + \text{Repo rate} \times \frac{\text{No. of days}}{360}\right)$$

$$= ₹8,36,53,000 \times \left(1 + 0.0565 \times \frac{14}{360}\right)$$

$$= ₹8,38,36,804$$

(b) Here, the probable returns have to be calculated using the formula

$$R = \frac{D}{P_0} + \frac{P_1 - P_0}{P_0}$$

Calculation of Probable Returns

Possible prices (P_1) ₹	$P_1 - P_0$ ₹	$[(P_1 - P_0) / P_0] \times 100$ Return (per cent)
130	-20	-13.33
150	0	0.00
160	10	6.67
165	15	10.00
175	25	16.667
180	30	20.00

Calculation of Expected Returns

Possible return X_i	Probability $p(X_i)$	Product $X_i \cdot p(X_i)$
-13.333	0.2	-2.667
0.00	0.1	0.000
6.667	0.1	0.667
10.00	0.3	3.000

16.667	0.1	1.667
20.00	0.2	<u>4.000</u>
		X = <u>6.667</u>

Expected return X = 6.667 per cent

Alternatively, it can also be calculated as follows:

Expected Price = $130 \times 0.2 + 150 \times 0.1 + 160 \times 0.1 + 165 \times 0.3 + 175 \times 0.1 + 180 \times 0.2 = 160$

$$\text{Return} = \frac{160 - 150}{150} \times 100 = 6.667\%$$

Calculation of Standard Deviation of Returns

Probable return X_i	Probability $p(X_i)$	Deviation $(X_i - \bar{X})$	Deviation squared $(X_i - \bar{X})^2$	Product $(X_i - \bar{X})^2 p(X_i)$
-13.333	0.2	-20.00	400.00	80.00
0.00	0.1	-6.667	44.449	4.445
6.667	0.1	0	0	0
10.00	0.3	3.333	11.109	3.333
16.667	0.1	10.00	100.00	10.00
20.00	0.2	13.333	177.769	<u>35.554</u>
				$\sigma^2 = \underline{133.332}$

Variance, $\sigma^2 = 133.332$ per cent

Standard deviation, $\sigma = \sqrt{133.332} = 11.547$ per cent

(c)

	₹
Issue Price	50,00,000
Less: Interest @ 15% for 4 months	2,50,000
Issue Expenses	2,000
Minimum Balance	2,00,000
	<u>45,48,000</u>

$$\begin{aligned} \text{Cost of Funds} &= \frac{2,52,000(1 - 0.30)}{45,48,000} \times \frac{12}{4} \times 100 = \\ &= \frac{5,29,200}{45,48,000} \times 100 = 11.636\% \end{aligned}$$

Question 3

- (a) SD Ltd. wants to purchase a machine worth ₹ 25,00,000. It has two options:

Either (i) to acquire the Asset by taking a Bank Loan @ 12% p.a. repayable in 5 yearly instalments of ₹ 5,00,000 each plus interest or, (ii) to lease the Asset at yearly rental of ₹ 7,00,000 for five years.

In both the cases, the instalment is payable at the end of the year.

The Company discounts its Cash Flows @ 14% (after tax).

Depreciation is to be taken at 20% on Written Down Value method (WDV).

The Company's tax rate is 34%.

You are required to advise which of the financing options is to be exercised and reason thereof.

Year	1	2	3	4	5	
Present Value Factor (PVF) 14%	0.877	0.769	0.675	0.592	0.519	(Total 3.432)

Show Amount to the nearest Rupee.

(8 Marks)

- (b) P Ltd. has current earnings of ₹ 6 per share with 10,00,000 shares outstanding. The company plans to issue 80,000, 8% convertible preference shares of ₹ 100 each at par. The preference shares are convertible into 2 equity shares for each preference share held. The equity share has a current market price of ₹ 42 per share. Calculate:

- What is preference share's conversion value?
- What is conversion premium?
- Assuming that total earnings remain the same, calculate the effect of the issue on the basic earning per share (A) before conversion (B) after conversion.
- If profits after tax increases by ₹ 20 Lakhs what will be the basic EPS, (A) before conversion and (B) on a fully diluted basis?

(8 Marks)

Answer

- (a) **Alternative I:** Acquiring the asset by taking bank loan:

Years		1	2	3	4	5
(a)	Interest (@12% p.a. on opening balance)	300,000	240,000	1,80,000	1,20,000	60,000
	Depreciation (@ 20% WDV)	<u>500,000</u>	<u>400,000</u>	<u>320,000</u>	<u>256,000</u>	<u>204,800</u>
		800,000	640,000	500,000	376,000	264,800

(b)	Tax shield (@34%)	<u>272,000</u>	<u>217,600</u>	<u>1,70,000</u>	<u>127,840</u>	<u>90,032</u>
	Interest less Tax shield (a)-(b)	28,000	22,400	10,000	(-)7,840	(-)30,032
	Principal Repayment	<u>5,00,000</u>	<u>5,00,000</u>	<u>5,00,000</u>	<u>5,00,000</u>	<u>5,00,000</u>
	Total cash outflow	528,000	522,400	510,000	492,160	469,968
	Discounting Factor @ 14%	<u>0.877</u>	<u>0.769</u>	<u>0.675</u>	<u>0.592</u>	<u>0.519</u>
	Present Value	4,63,056	4,01,726	3,44,250	2,91,359	2,43,913

Total P.V of cash outflow = ₹17,44,304

Alternative II: Acquire the asset on lease basis

Year	Lease Rentals ₹	Tax Shield @34%	Net Cash Outflow	Discount Factor	Present Value
1	7,00,000	2,38,000	4,62,000	0.877	4,05,174
2	7,00,000	2,38,000	4,62,000	0.769	3,55,278
3	7,00,000	2,38,000	4,62,000	0.675	3,11,850
4	7,00,000	2,38,000	4,62,000	0.592	2,73,504
5	7,00,000	2,38,000	4,62,000	0.519	2,39,778
Present value of Total Cash out flow					15,85,584

Advice: By making Analysis of both the alternatives, it is observed that the present value of the cash outflow is lower in alternative II by ₹ 1,58,720 (i.e. ₹17,44,304 – ₹ 15,85,584) Hence, it is suggested to acquire the asset on lease basis.

(b) (i) Conversion value of preference share

Conversion Ratio x Market Price

$2 \times ₹ 42 = ₹ 84$

(Or ₹ 67,20,000)

(ii) Conversion Premium

$(₹ 100 / ₹ 84) - 1 = 19.05\%$

(Or ₹ 12,80,000 or ₹ 16 per share)

(iii) Effect of the issue on basic EPS

	₹
<i>Before Conversion</i>	
Total (after tax) earnings ₹ 6 × 10,00,000	60,00,000

Dividend on Preference shares	<u>6,40,000</u>
Earnings available to equity holders	<u>53,60,000</u>
No. of shares	10,00,000
EPS	5.36
<i>On Diluted Basis</i>	
Earnings	60,00,000
No of shares (10,00,000 + 1,60,000)	11,60,000
EPS	5.17

(iv) **EPS with increase in Profit**

	₹
<i>Before Conversion</i>	
Earnings	80,00,000
Dividend on Pref. shares	<u>6,40,000</u>
Earning for equity shareholders	<u>73,60,000</u>
No. of equity shares	10,00,000
EPS	7.36
<i>On Diluted Basis</i>	
Earnings	80,00,000
No. of shares	11,60,000
EPS	6.90

Question 4

(a) The following information are available with respect of Krishna Ltd.

Year	Krishna Ltd. Average share price	Dividend per Share	Average Market Index	Dividend Yield	Return on Govt. bonds
	₹	₹			
2012	245	20	2013	4%	7%
2013	253	22	2130	5%	6%
2014	310	25	2350	6%	6%
2015	330	30	2580	7%	6%

Compute Beta Value of the Krishna Ltd. at the end of 2015 and state your observation.

(8 Marks)

- (b) AC Co. Ltd. has a turnover of ₹ 1600 Lakhs and is expecting growth of 17.90% for the next year. Average credit period is 100 days. The Bad Debt losses are about 1.50% on sales. The administrative cost for collecting receivables is ₹ 8,00,000. The AC Co. Ltd. decides to make use of Factoring Services by FS Ltd. on terms as under:

- (i) that the factor will charge commission of 1.75%.
- (ii) 15% Risk with recourse and
- (iii) Pay an advance on receivables to AC Co. Ltd. at 14% p.a. interest after withholding 10% as reserve.

You are required to calculate the effective cost of factoring to AC Co. Ltd. for the year.

Assume 360 days in a year.

Show amount in Lakhs of ₹ with two decimal points.

(8 Marks)

Answer

(a)

Computation of Beta Value

Calculation of Returns

$$\text{Returns} = \frac{D_1 + (P_1 - P_0)}{P_0} \times 100$$

Year	Returns
2012 – 13	$\frac{22 + (253 - 245)}{245} \times 100 = 12.24\%$
2013 – 14	$\frac{25 + (310 - 253)}{253} \times 100 = 32.41\%$
2014 – 15	$\frac{30 + (330 - 310)}{310} \times 100 = 16.13\%$

Calculation of Returns from market Index

Year	% of Index Appreciation	Dividend Yield %	Total Return %
2012–13	$\frac{(2130 - 2013)}{2013} \times 100 = 5.81\%$	5%	10.81%
2013–14	$\frac{(2350 - 2130)}{2130} \times 100 = 10.33\%$	6%	16.33%

2014–15	$\frac{(2580 - 2350)}{2350} \times 100 = 9.79\%$	7%	16.79%
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Computation of Beta

Year	Krishna Ltd. (X)	Market Index (Y)	XY	Y ²
2012–13	12.24%	10.81%	132.31	116.86
2013–14	32.41%	16.33%	529.25	266.67
2014–15	16.13%	16.79%	270.82	281.90
Total	60.78%	43.93%	932.38	665.43

$$\text{Average Return of Krishna Ltd.} = \frac{60.78}{3} = 20.26\%$$

$$\text{Average Market Return} = \frac{43.93}{3} = 14.64\%$$

$$\text{Beta } (\beta) = \frac{\sum XY - n\bar{X}\bar{Y}}{\sum Y^2 - n(\bar{Y})^2} = \frac{932.38 - 3 \times 20.26 \times 14.64}{665.43 - 3(14.64)^2} = 1.897$$

Observation

	Expected Return (%)	Actual Return (%)	Action
2012 – 13	6% + 1.897(10.81% - 6%) = 15.12%	12.24%	Sell
2013 – 14	6% + 1.897(16.33% - 6%) = 25.60%	32.41%	Buy
2014 – 15	6% + 1.897(16.79% - 6%) = 26.47%	16.13%	Sell

(b) Expected Turnover = ₹ 1600 lakhs + ₹ 286.40 = ₹ 1886.40 lakhs

	₹ in Lacs	₹ in Lacs
<i>Advance to be given:</i>		
Debtors ₹1886.40 lakhs x 100/360	524.00	
Less: 10% withholding	<u>52.40</u>	
		471.60
Less: Commission 1.75%		<u>9.17</u>
Net payment		462.43
Less: Interest @14% for 100 days on ₹ 462.43 lacs		<u>17.98</u>
		<u>444.45</u>

<i>Calculation of Average Cost:</i>		
Total Commission ₹1886.40 lakhs x 1.75%		33.01
Total Interest ₹ 17.98 lacs x 360/100		<u>64.73</u>
		97.74
Less: Admin. Cost	8.00	
Saving in Bad Debts (₹1886.40 lacs x 1.50% x 85%)	<u>24.05</u>	<u>32.05</u>
		<u>65.69</u>
Effective Cost of Factoring = 65.69/444.45 x 100		14.78%

Question 5

- (a) The five portfolios of a mutual fund experienced following result during last 10 years periods :

Portfolio	Average annual return %	Standard Deviation	Correlation with the market return
A	20.0	2.3	0.8869
B	17.0	1.8	0.6667
C	18.0	1.6	0.600
D	16.0	1.8	0.867
E	13.5	1.9	0.5437

Market risk : 1.2

Market rate of return : 14.3%

Risk free rate : 10.1%

Beta may be calculated only upto two decimal. Rank the portfolio using JENSEN'S ALPHA method. (8 Marks)

- (b) The following is the Balance Sheet of XYZ Ltd. as at 31st March, 2016 :

Liabilities	₹ in lakhs	Assets	₹ in lakhs
Equity Shares of ₹ 10 each	500	Land and Buildings	150
11 % Preference Shares of ₹ 10 each	100	Plant and Machinery	200
12% Debentures	100	Furniture and Fixtures	60
Debenture Interest accrued and Payable	12	Inventory	60
		Sundry Debtors	50
		Cash at Bank	50

Loan from Bank	60	Preliminary Expenses	15
Trade Creditors	300	Cost of Issue of Debentures	7
		Profit and Loss Account	480
	1,072		1,072

The Company's performance is not good and has suffered sizable losses during the last few years. The Company can be nursed back to health with proper financial restructuring. As such, the following scheme is prepared:

- (i) Equity Shares are to be reduced to ₹ 2 per Share, fully paid-up.
- (ii) Preference Shares are to be reduced (with coupon Rate of 9%) to equal number of Shares of ₹ 5 each, fully paid-up.
- (iii) Debenture holders have agreed to forgo the accrued interest due to them and for the future the rate of interest on Debentures to be 10%.
- (iv) Trade Creditors will forgo 20% of the amount due to them.
- (v) The Company to issue 50 Lakh Shares at ₹ 2 each to be paid fully on Application. The entire amount is fully subscribed by Promoters.
- (vi) Land and Building to be revalued at ₹ 350 Lakhs, Plant and Machinery value to be taken at ₹ 150 Lakhs and a provision of ₹ 5 Lakhs to be made for Bad and Doubtful Debts.

You are required to:

- (1) show the impact of Financial Restructuring on the Company's activities.
- (2) prepare the fresh Balance Sheet after the reconstruction is completed on the basis of above proposals. (8 Marks)

Answer

- (a) Let portfolio standard deviation be σ_p

Market Standard Deviation = σ_m

Coefficient of correlation = r

Portfolio beta (β_p) = $\frac{\sigma_p r}{\sigma_m}$, (Beta for A = $2.30 \times 0.8869 / 1.2 = 1.7$, etc)

Required portfolio return (R_p) = $R_f + \beta_p (R_m - R_f)$,

[Rp for A = $10.1 + 1.70 \times (14.3 - 10.1) = 17.24$, etc.]

Portfolio	Beta	Return from the portfolio (R_p) (%)
A	1.70	17.24

B	1.00	14.30
C	0.80	13.46
D	1.30	15.56
E	0.86	13.71

Portfolio	Actual Return	Expected Return	Jensen's Alpha	
	%	%	AR – ER	Rank
A	20	17.24	2.76	II
B	17	14.30	2.70	III
C	18	13.46	4.54	I
D	16	15.56	0.44	IV
E	13.5	13.71	-0.21	V

(b) Impact of Financial Restructuring

(i) Benefits to Grape XYZ Ltd.

	₹ in lakhs
(a) <i>Reduction of liabilities payable</i>	
Reduction in equity share capital (50 lakh shares x ₹8 per share)	400
Reduction in preference share capital (10 lakh shares x ₹ 5 per share)	50
Waiver of outstanding debenture Interest	12
Waiver from trade creditors (₹300 lakhs x 0.20)	<u>60</u>
	<u>522</u>
(b) <i>Revaluation of Assets</i>	
Appreciation of Land and Building (₹350 lakhs - ₹150 lakhs)	<u>200</u>
Total (A)	<u>722</u>

(ii) Amount of ₹ 722 lakhs utilized to write off losses, fictitious assets and over- valued assets.

Writing off profit and loss account	480
Cost of issue of debentures	7
Preliminary expenses	15
Provision for bad and doubtful debts	5
Revaluation of Plant and Machinery (₹ 200 lakhs – ₹ 150 lakhs)	<u>50</u>

Total (B)	<u>557</u>
Capital Reserve (A) – (B)	165

(iii) Balance sheet of XYZ Ltd as at 31st March 2016 (after re-construction)

(₹ in lakhs)

Liabilities	Amount	Assets		Amount
100 lakhs equity shares of ₹ 2/- each	200	Land & Building		350
9% Preference shares of ₹ 5/- each	50	Plant & Machinery		150
Capital Reserve	165	Furniture & Fixtures		60
10% debentures	100	Inventory		60
Loan from Bank	60	Sundry debtors	50	
Trade Creditors (300 – 60)	240	Prov. for Doubtful Debts	<u>-5</u>	45
		Cash-at-Bank (Balancing figure)*		150
	815			815

Balance Sheet total

*Opening Balance of ₹ 50/- lakhs + Sale proceeds from issue of new equity shares ₹ 100/- lakhs.

Question 6

- (a) An importer requested his bank to extend for Forward contract of US \$ 25,000 which is due for maturity on 31-10-2015 for a further periods of six month. The other details are as under:

Contract rate US \$ 1 = ₹ 61.00

The US \$ quoted on 31-10-2015

Spot : ₹ 60.3200/60.6300

Six month premium : 0.86 %/0.98%

Margin money for buying and selling rate are 0.086% and 0.15% respectively

Compute

- (1) Cost to importer in respect to extension of forward contract.
- (2) New Forward contract rate.

(6 Marks)

- (b) XML bank was established in 2001 and doing banking business in India. The bank is facing very critical situation. There are problems of Gross NPA (Non-Performing Assets) at 40% & CAR/CRAR (Capital Adequacy Ratio/Capital Risk Weight Asset Ratio) at 2%. The net worth of the bank is not good. Shares are not traded regularly. Last week, it was traded @ ₹ 4 per share.

RBI Audit suggested that bank has either to liquidate or to merge with other bank.

ZML Bank is professionally managed bank with low gross NPA of 5%. It has net NPA as 0% and CAR at 16%. Its share is quoted in the market @ ₹ 64 per share. The Board of Directors of ZML Bank has submitted a proposal to RBI for takeover of bank XML on the basis of share exchange ratio.

The Balance Sheet details of both the banks are as follows:

PARTICULARS	XML Bank (₹) (Amount in Crores)	ZML Bank (₹) (Amount in Crores)
Liabilities		
Paid up share capital (₹ 10)	70	250
Reserve and Surplus	35	2,750
Deposits	2,000	20,000
Other Liabilities	445	1,250
Total Liabilities	2,550	24,250
Assets		
Cash in hand and with RBI	200	1,250
Balance with other banks	0	1,000
Investments	550	7,500
Advances	1,750	13,500
Other Assets	50	1,000
Total Assets	2,550	24,250

It was decided to issue shares at Book Value of ZML Bank to the shareholders of XML Bank. All Assets & Liabilities are to be taken over at Book Value.

For the Swap Ratio, weights assigned to different parameters are as follows:

Gross NPA	40%
CAR	10%
Market Price	40%
Book Value	10%

You are required to :

- (i) Calculate swap ratio based on above rates.
- (ii) Calculate number of shares are to be issued.
- (iii) Prepare Balance Sheet after Merger. (10 Marks)

Answer

- (a) (i) The contract is to be cancelled on 31-10-2015 at the spot buying rate of
 US\$ = ₹ 60.3200
 Less: Margin Money 0.086% = ₹ 0.0519
 = ₹ 60.2681
 Rounded off ₹ 60.2700
 US\$ 25,000 @ ₹ 60.2700 = ₹ 15,06,750
 US\$ 25,000 @ ₹ 61.0000 = ₹ 15,25,000
 The difference in favour of the Bank/Cost to the importer ₹ 18,250
- (ii) The Rate of New Forward Contract
 Spot Selling Rate US\$ 1 = ₹ 60.6300
 Add: Premium @ 0.98% = ₹ 0.5942
 = ₹ 61.2242
 Add: Margin Money 0.15% = ₹ 0.0918
 = ₹ 61.3160 or ₹ 61.3175

(b) Calculation of book value per share:

	XML	ZML
Assets	2550	24,250
Deposits	(2000)	(20,000)
Other Liability	(445)	(1250)
Net Assets	105	3000
No. of Shares (crores)	7	25
Book value per share (₹)	105 / 7 = 15	3000 / 25 = 120

(a) Swap Ratio

Gross NPA	5:40	i.e.	5/40 x 40% =	0.05
CAR	2:16	i.e.	2/16 x 10% =	0.0125
Market Price	4:64	i.e.	4/64 x 40% =	0.0250

Book Value	15:120	i.e.	$15/120 \times 10\% =$	0.0125
				0.1

Thus for every share of Bank XML 0.1 share of Bank ZML shall be issued.

(b) **No. of equity shares to be issued:**

$$\frac{\text{₹ 70 crore}}{\text{₹ 10}} \times 0.1 = 0.7 \text{ crore shares}$$

= 70 lakh number of shares

(c) **Balance Sheet after Merger**

Calculation of Capital Reserve

Book Value of Shares	₹ 105.00 cr
Value of Shares issued	₹ 7.00 cr
Capital Reserve	₹ 98.00 cr

Balance Sheet as at date after merger

	₹ in Cr		₹ in Cr
Paid up Share Capital	257.00	Cash in Hand & RBI	1450.00
Reserves & Surplus	2750.00	Balance with other banks	1000.00
Capital Reserve	98.00	Investment	8050.00
Deposits	22000.00	Advances	15250.00
Other Liabilities	1695.00	Other Assets	1050.00
	26800.00		26800.00

Question 7

Write short notes on any *FOUR* of the following:

- What makes an organization financially sustainable?
- Distinguish between Cash and Derivative Market.
- Briefly explain the main strategies for exposure management.
- What is simulation analysis and how it is beneficial?
- What is commercial meaning of synergy and how it used as a tool when deciding Merger and Acquisitions?

(4 x 4 = 16 Marks)

Answer**(a) To be financially sustainable, an organization must:**

- 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 basic differences between Cash and the Derivative market are enumerated below: -

- (a) In cash market tangible assets are traded whereas in derivative market contracts based on tangible or intangibles assets like index or rates are traded.
- (b) In cash market, we can purchase even one share whereas in Futures and Options minimum lots are fixed.
- (c) Cash market is more risky than Futures and Options segment because in “Futures and Options” risk is limited.
- (d) Cash assets may be meant for consumption or investment. Derivative contracts are for hedging, arbitrage or speculation.
- (e) The value of derivative contract is always based on and linked to the underlying security. However, this linkage may not be on point-to-point basis.
- (f) In the cash market, a customer must open securities trading account with a securities depository whereas to trade futures a customer must open a future trading account with a derivative broker.
- (g) Buying securities in cash market involves putting up all the money upfront whereas buying futures simply involves putting up the margin money.
- (h) With the purchase of shares of the company in cash market, the holder becomes part owner of the company. While in future it does not happen.

(c) Four separate strategy options are feasible for exposure management. They are:

- (a) Low Risk: Low Reward-** This option involves automatic hedging of exposures in the forward market as soon as they arise, irrespective of the attractiveness or otherwise of the forward rate.
- (b) Low Risk: Reasonable Reward-** This strategy requires selective hedging of exposures whenever forward rates are attractive but keeping exposures open whenever they are not.

- (c) **High Risk: Low Reward-** Perhaps the worst strategy is to leave all exposures unhedged.
- (d) **High Risk: High Reward-** This strategy involves active trading in the currency market through continuous cancellations and re-bookings of forward contracts. With exchange controls relaxed in India in recent times, a few of the larger companies are adopting this strategy.
- (d) Simulation is the exact replica of the actual situation. To simulate an actual situation, a model shall be prepared. The simulation Analysis is a technique, in which infinite calculations are made to obtain the possible outcomes and probabilities for any given action.

Monte Carlo simulation ties together sensitivities and probability distributions. The method came out of the work of first nuclear bomb and was so named because it was based on mathematics of Casino gambling. Fundamental appeal of this analysis is that it provides decision makers with a probability distribution of NPVs rather than a single point estimates of the expected NPV.

This analysis starts with carrying out a simulation exercise to model the investment project. It involves identifying the key factors affecting the project and their inter relationships. It involves modeling of cash flows to reveal the key factors influencing both cash receipt and payments and their inter relationship.

This analysis specifies a range for a probability distribution of potential outcomes for each of model's assumptions.

1. Modelling the project: The model shows the relationship of NPV with parameters and exogenous variables. (Parameters are input variables specified by decision maker and held constant over all simulation runs. Exogenous variables are input variables, which are stochastic in nature and outside the control of the decision maker).
2. Specify values of parameters and probability distributions of exogenous variables.
3. Select a value at random from probability distribution of each of the exogenous variables.
4. Determine NPV corresponding to the randomly generated value of exogenous variables and pre-specified parameter variables.
5. Repeat steps (3) & (4) a large number of times to get a large number of simulated NPVs.
6. Plot probability distribution of NPVs and compute a mean and Standard Deviation of returns to gauge the project's level of risk.

Advantages of Simulation Analysis:

- (1) We can predict all type of bad market situation beforehand.

- (2) Handle problems characterized by
- (a) numerous exogenous variables following any kind of distribution.
 - (b) Complex inter-relationships among parameters, exogenous variables and endogenous variables. Such problems defy capabilities of analytical methods.
 - (c) Compels decision maker to explicitly consider the inter-dependencies and uncertainties featuring the project.
- (e) Synergy may be defined as follows:
- $$V(AB) > V(A) + V(B)$$

In other words the combined value of two firms or companies shall be more than their individual value. Synergy is the increase in performance of the combined firm over what the two firms are already expected or required to accomplish as independent firms. This may be result of complimentary services economics of scale or both.

A good example of complimentary activities can be that one company may have a good networking of branches and the other company may have efficient production system. Thus the merged companies will be more efficient than individual companies.

On similar lines, economics of large scale is also one of the reasons for synergy benefits. The main reason is that, the large scale production results in lower average cost of production e.g. reduction in overhead costs on account of sharing of central services such as accounting and finances, office executives, top level management, legal, sales promotion and advertisement etc.

These economics can be “real” arising out of reduction in factor input per unit of output, or pecuniary economics are realized from paying lower prices for factor inputs for bulk transactions.