(Marks - 100)

Question no.1 is compulsory and attempt any four questions out of remaining five questions.

Working notes should form part of respective answers.

QUESTION NO.1

A. A Portfolio Manager (PM) has the following four stocks in his portfolio:

Security	No. of Shares	Market Price per share (Rs.)	β
VSL	10,000	50	0.9
CSL	5,000	20	1.0
SML	8,000	25	1.5
APL	2,000	200	1.2

Compute the following:

(i) Portfolio beta.

(ii) If the PM seeks to reduce the beta to 0.8, how much risk free investment should he bring in?

(iii) If the PM seeks to increase the beta to 1.2, how much risk free investment should he bring in?

(8 MARKS)

B. The equity share of VCC Ltd. is quoted at Rs. 210. A 3-month call option is available at a premium of Rs. 6 per share and a 3-month put option is available at a premium of Rs. 5 per share. Ascertain the net payoffs to the option holder of a call option and a put option.

(i) the strike price in both cases in Rs. 220; and

(ii) the share price on the exercise day is Rs. 200,210,220,230,240.

Also indicate the price range at which the call and the put options may be gainfully exercised.

(8 MARKS)

C. Compare and contrast start-ups and entrepreneurship. Describe the priorities and challenges which start-ups in India are facing. **(4 MARKS)**

QUESTION NO.2

A. T Ltd. and E Ltd. are in the same industry. The former is in negotiation for acquisition of the latter. Important information about the two companies as per their latest financial statements is given below:

	T Ltd.	E Ltd.
Rs. 10 Equity shares outstanding	12 Lakhs	6 Lakhs
Debt: 10% Debentures (Rs. Lakhs)	580	--
12.5% Institutional Loan (Rs. Lakhs)	--	240
Earning before interest, depreciation and tax (EBIDAT) (Rs. Lakhs)	400.86	115.71
Market Price/share (Rs.)	220.00	110.00

T Ltd. plans to offer a price for E Ltd., business as a whole which will be 7 times EBIDAT reduced by outstanding debt, to be discharged by own shares at market price.

E Ltd. is planning to seek one share in T Ltd. for every 2 shares in E Ltd. based on the market price. Tax rate for the two companies may be assumed as 30%.

Calculate and show the following under both alternatives - T Ltd.'s offer and E Ltd.'s plan:

(i) Net consideration payable.

(ii) No. of shares to be issued by T Ltd.

(iii) EPS of T Ltd. after acquisition.

(iv) Expected market price per share of T Ltd. after acquisition.

(v) State briefly the advantages to T Ltd. from the acquisition.

Calculations (except EPS) may be rounded off to 2 decimals in lakhs.

(10 MARKS)

B. On 01-07-2016, Mr. X Invested Rs. 50,000/- at initial offer in Mutual Funds at a face value of Rs. 10 each per unit. On 31-03-2017, a dividend was paid @ 10% and annualized yield was 120%. On 31-03-2018, 20% dividend and capital gain of Rs. 0.60 per unit was given. Mr. X redeemed all his 6271.98 units when his annualized yield was 71.50% over the period of holding. Calculate NAV as on 31-03-2017, 31-03-2018 and 31-03-2019.

For calculations consider a year of 12 months. **(6 MARKS)**

C. Explain the benefits of Securitization from the point of view of originator.

(4 MARKS)

QUESTION NO.3

A. Eagle Ltd. reported a profit of Rs. 77 lakhs after 30% tax for the financial year 2011-12. An analysis of the accounts revealed that the income included extraordinary items of Rs. 8 lakhs and an extraordinary loss of Rs.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:

	Rs. 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) Determine the market price per equity share, with Eagle Ltd.'s share capital being comprised of 1,00,000 13% preference shares of Rs. 100 each and 50,00,000 equity shares of Rs. 10 each and the P/E ratio being 10 times.

(8 MARKS)

B. A Ltd. has issued convertible bonds, which carries a coupon rate of 14%. Each bond is convertible into 20 equity shares of the company A Ltd. The prevailing interest rate for similar credit rating bond is 8%. The convertible bond has 5 years maturity. It is redeemable at par at Rs. 100. The relevant present value table is as follows.

Present values	t1	t2	t3	t4	t5
PVIF0.14, t	0.877	0.769	0.675	0.592	0.519
PVIF0.08, t	0.926	0.857	0.794	0.735	0.681

You are required to estimate:

(Calculations be made upto 3 decimal places)

(i) current market price of the bond, assuming it being equal to its fundamental value,

(ii) minimum market price of equity share at which bond holder should exercise conversion option; and duration of the bond.

(8 MARKS)

C. What is Value at Risk? Identify its main features. **(4 MARKS)**

QUESTION NO.4

A. During the audit of the Weak Bank (W), RBI has suggested that the Bank should either merge with another bank or may close down. Strong Bank (S) has submitted a proposal of merger of Weak Bank with itself. The relevant information and Balance Sheets of both the companies are as under:

Particulars	Weak Bank (W)	Strong Bank (S)	Assigned Weights (%)
Gross NPA (%)	40	5	30
Capital Adequacy Ratio (CAR) Total Capital/ Risk Weight Asset	5	16	28
Market price per Share (MPS)	12	96	32
Book value			10
Trading on Stock Exchange	Irregular	Frequent	

Balance Sheet (Rs. in Lakhs)

Particulars	Weak Bank (W)	Strong Bank (S)
Paid up Share Capital (Rs. 10 per share)	150	500
Reserves & Surplus	80	5,500
Deposits	4,000	44,000
Other Liabilities	890	2,500
Total Liabilities	5,120	52,500
Cash in Hand & with RBI	400	2,500
Balance with Other Banks	-	2,000
Investments	1,100	19,000
Advances	3,500	27,000
Other Assets	70	2,000
Preliminary Expenses	50	-
Total Assets	5,120	52,500

You are required to

(i) Calculate Swap ratio based on the above weights:

(ii) Ascertain the number of Shares to be issued to Weak Bank;

(iii) Prepare Balance Sheet after merger; and

(iv) Calculate CAR and Gross NPA of Strong Bank after merger.

(8 MARKS)

B. XYZ Ltd., a company based in India, manufactures very high quality modem furniture and sells to a small number of retail outlets in India and Nepal. It is facing tough competition. Recent studies on marketability of products have clearly indicated that the customer is now more interested in variety and choice rather than exclusivity and exceptional quality. Since the cost of quality wood in India is very high, the company is reviewing the proposal for import of woods in bulk from Nepalese supplier.

The estimate of net Indian (Rs.) and Nepalese Currency (NC) cash flows in Nominal terms for this proposal is shown below:

	Net Cash Flow (in millions)			
Year	0	1	2	3
NC	-25.000	2.600	3.800	4.100
Indian (Rs.)	0	2.869	4.200	4.600

The following information is relevant:

1. XYZ Ltd. evaluates all investments by using a discount rate of 9% p.a. All Nepalese customers are invoiced in NC. NC cash flows are converted to Indian (Rs.) at the forward rate and discounted at the Indian rate.

2. Inflation rates in Nepal and India are expected to be 9% and 8% p.a. respectively. The current exchange rate is Rs. 1= NC 1.6

Assuming that you are the finance manager of XYZ Ltd., calculate the net present value (NPV) and modified internal rate of return (MIRR) of the proposal.

You may use following values with respect to discount factor for Rs. 1 @ 9%.

	Present Value	Future Value
Year 1	0.917	1.188
Year 2	0.842	1.090
Year 3	0.772	1

(8 MARKS)

C. **Calculate the value of share from the following information:**

Profit after tax of the company	Rs. 290 crores
Equity capital of company	Rs. 1,300 crores
Par value of share	Rs. 40 each
Debt ratio of company (Debt/ Debt + Equity)	27%
Long run growth rate of the company	8%
Beta 0.1; risk free interest rate	8.7%
Market returns	10.3%
Capital expenditure per share	Rs. 47
Depreciation per share	Rs. 39
Change in Working capital	Rs. 3.45 per share

(4 MARKS)

QUESTION NO.5

A. Sensex futures are traded at a multiple of 50. Consider the following quotations of Sensex futures in the 10 trading days during February, 2009:

Day	High	Low	Closing
4-2-09	3306.4	3290.00	3296.50
5-2-09	3298.00	3262.50	3294.40
6-2-09	3256.20	3227.00	3230.40
7-2-09	3233.00	3201.50	3212.30
10-2-09	3281.50	3256.00	3267.50
11-2-09	3283.50	3260.00	3263.80
12-2-09	3315.00	3286.30	3292.00
14-2-09	3315.00	3257.10	3309.30
17-2-09	3278.00	3249.50	3257.80
18-2-09	3118.00	3091.40	3102.60

Abhishek bought one sensex futures contract on February, 04. The average daily absolute change in the value of contract is Rs. 10,000 and standard deviation of these changes is Rs. 2,000. The maintenance margin is 75% of initial margin.

You are required to determine the daily balances in the margin account and payment on margin calls, if any.

(8 MARKS)

B. A Ltd. of U.K. has imported some chemical worth of USD 3,64,897 from one of the U.S. suppliers. The amount is payable in six months time. The relevant spot and forward rates are:

Spot rate USD 1.5617-1.5673

6 months' forward rate USD 1.5455 –1.5609

The borrowing rates in U.K. and U.S. are 7% and 6% respectively and the deposit rates are 5.5% and 4.5% respectively.

Currency options are available under which one option contract is for GBP 12,500. The option premium for GBP at a strike price of USD 1.70/GBP is USD 0.037 (call option) and USD 0.096 (put option) for 6 months period.

The company has 3 choices:

(i) Forward cover

(ii) Money market cover, and

(iii) Currency option

Which of the alternatives is preferable by the company?

(8 MARKS)

C. Mr. Tamarind intends to invest in equity shares of a company the value of which depends upon various parameters as mentioned below:

Factor	Beta	Expected value in %	Actual value in %
GNP	1.20	7.70	7.70
Inflation	1.75	5.50	7.00
Interest rate	1.30	7.75	9.00
Stock market index	1.70	10.00	12.00
Industrial production	1.00	7.00	7.50

If the risk free rate of interest be 9.25%, how much is the return of the share under Arbitrage Pricing Theory?

(4 MARKS)

QUESTION NO.6

A. Mercy is a Forex Dealer with XYZ Bank. She notices following information relating to Canadian Dollar (CAD) and German Deutschmark (DEM):

Exchange rate – CAD 0.775 per DEM (Spot)

CAD 0.780 per DEM (3 months)

Interest rates – DEM 7% p.a.

CAD 9% p.a.

(i) Assuming that there is no transaction cost determine does the Interest Rate Parity holds in above quotations.

(ii) If yes, then explain the steps that would be required to make an arbitrage profit if Mercy is authorized to work with CAD 1 Million for the same purpose. Also determine the profit that would be made in CAD.

Note: Ignore the decimal points in the amounts.

(8 MARKS)

B. Two companies ABC Ltd. and XYZ Ltd. approach the DEF Bank for FRA (Forward Rate Agreement). They want to borrow a sum of ` 100crores after 2 years for a period of 1 year. Bank has calculated Yield Curve of both companies asfollows:

Year	XYZ Ltd.	ABC Ltd.*
1	3.86	4.12
2	4.20	5.48
3	4.48	5.78

*The difference in yield curve is due to the lower credit rating of ABC Ltd. compared to XYZ Ltd.

(i) You are required to calculate the rate of interest DEF Bank would quote under 2V3 FRA, using the company's yield information as quoted above.

(ii) Suppose bank offers Interest Rate Guarantee for a premium of 0.1% of the amount of loan, you are required to calculate the interest payable by XYZ Ltd. if interest rate in 2 years turns out to be

(a) 4.50%

(b) 5.50%

(8 MARKS)

C. What is the difference between Management Buy Out and Leveraged Buyout? State the purpose of a leveraged buyout with the help of an example.

(4 MARKS)