Paper-14: ADVANCED FINANCIAL MANAGEMENT

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.
Answer Question No. 1 which is compulsory.
From Section A: Answer any two questions.
From Section B: Answer any one question.
From Section C: Answer any one question.
From Section D: Answer any one question.

Working Notes should form part of the answer.
"Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates."

1. (a) A one day repo is entered into on Jan 10, 2013 on an 11.99% 2014 security, maturing on April 7, 2014. The face value of the transaction is ₹ 5 Crores. The price of the security is ₹ 115.00. Assume that RBI has lent securities in the first leg to PNB. If the repo rate is 6%, what is the settlement amount on Jan 10, 2013? [Use 360 days convention] [3]

(b) Write the limitations of Social Cost Benefits Analysis? [3]

(c) RBI sold a 91 days T-Bill of face value of ₹ 100 at an yield of 7%. What was the issue price? [3]

(d) Mr. Y on 01.07.2011, during the initial offer of some Mutual Fund invested in 20,000 units having face value of ₹ 10 for each unit. On 31.03.2012 the dividend operated by the M.F. was 10% and Mr. Y found that his annualized yield was 153.33%.On 31.03.2013, 20% dividend was given. On 31.03.2014 Mr. Y redeemed all his balances of 22,592.23 units when his annualized yield was 73.52%. What are the NAVs as on 31.03.2012, 31.03.2013 and 31.03.2014? [5]

(e) Calculate the price of 3 months ADS futures, if ADS (FV ₹10) quotes ₹ 440 on NSE and 3 months future price quotes at ₹430 and the 1 month borrowing rate is given as 15% and the expected annual dividend yield is 25% per annum payable before expiry. Also examine arbitrage opportunities. [3]

(f) What are the steps involved in calculation of stock market index on a particular date? [3]

SECTION A
(Answer any two of the following.)

2. (a) Explain briefly Call Money in the context of financial market. [4]

(b) Describe the role of RBI as Governments' Debt Manager [3]

(c) You are required to compute the annualized cost of fund to XYZ Bank Ltd., Given;
Face value of CD – ₹ 15 lakhs
Issue price – ₹ 14,45,000
Tenure – ₹ 5 months

Stamp duty – ₹ 0.25% of face value. [5]

3. (a) What are the benefits of hedge funds? [4]

(b) ASN Ltd. has total sales of ₹4.50 crores and its average collection period is 120 days. The past experience indicates that bad debt losses are 2% on sales. The expenditure incurred by the company in administering its receivable collection efforts are ₹6,00,000. A factor is prepared to buy the company's receivables by charging 2% commission. The factor will pay advance on receivables to the company at an interest rate of 18% per annum after withholding 10% as reserve. Assume 360 days in a year.
You are required to calculate effective cost of factoring to the company. [8]

4. (a) Find delta of the following individual positions of a stock X, given that delta of call = + 1 and of put = - 1;
- 4 long calls
- 5 short calls
- 4 long puts and 4 shares
- 30 short calls and 3 shares [4]

(b) Mr. A is planning for making investment in bonds of Company X. The details of the bond are as follows:

Company	Face Value	Coupon Rate	Maturity Period
X	₹10,000	6%	5 years

The current market price of X Ltd's bond is ₹10,796.80. Calculate the duration of the bond? [8]

SECTION B
(Answer any one of the following.)

5. (a) (i) The rate of inflation in USA is likely to be 3% per annum and in India it is likely to be 6.5%. The current spot rate of US $ in India is ₹ 43.40. Find the expected rate of US $ in India after 1 year and 3 years from now using purchasing power parity theory.
(ii) On April1, 3 months interest rate in the UK £ and US $ are 7% and 3% per annum respectively. The UK £ /US $ spot rate is 0.7570. What would be the forward rate for US $ for delivery on 30th June? [4+4]

(b) The dollar is currently trading at ₹ 40. If Rupee depreciates by 10%, what will be the spot rate? If dollar appreciates by 10% what will be the spot rate? [4]

(c) The following market data is available:
Spot USD/JPY 116

Deposit rates p.a.	USD	JPY
3 months	4.50%	0.25%
6 months	5.00%	0.25%

Forward Rate Agreement (FRA) FOR Yen is Nil.
1. The 6&12 months LIBORS are 5% & 6.5% respectively. A bank is quoting 6/12 USD FRA at 6.50-6.75%. Is any arbitrage opportunity available?
Calculate profit in such case. [8]

6. (a) From the following data for certain stock, find the value of a call option:
Price of stock now = ₹ 80

Exercise price	= ₹ 75
Standard deviation of continuously compounded annual return	= 0.40
Maturity period	= 6 months
Annual interest rate	= 12%

Given

Number of S.D. from Mean, (Z)	Area of the left or right (one tail)
0.25	0.4013
0.30	0.3821
0.55	0.2912
0.60	0.2743

$e^{0.12 \times 0.5}$ = 1.062
ln 1.0667 = 0.0646 **[10]**

(b) Write short note on Leading and Lagging **[4]**

(c) The market received rumour about PQR Corporation's tie-up with a multinational company. This has induced the market price to move up. If the rumour is false, PQR Corporation stock price will probably fall dramatically. To protect from this an investor has bought the call and put options.
He purchased one 3 months call with a striking price of ₹42 for ₹2 premium, and paid ₹1 per share premium for a 3 months put with a striking price of ₹40.

(i) Determine the Investor's position if the tie up offer bids the price of PQR Corporation's stock up to ₹44 in 3 months.
(ii) Determine the Investor's ending position, if the tie-up programme fails and the price of the stock falls to ₹36 in 3 months. **[3+3]**

SECTION C
(Answer any one of the following.)

7. **(a)** Mr. X has the following portfolio of four shares:
The risk free rate of return is 7% and the market rate of return is 14%. Determine the portfolio beta and return.

Name	Beta	Investment ₹ Lakhs.
A Ltd.	0.45	0.80
B Ltd.	0.35	1.50
C Ltd.	1.15	2.25
D Ltd.	1.85	4.50

[5]

(b) A Ltd. and B Ltd. are in the same risk class, paying taxes at 33%. They are registering steady earnings. A study of their financial statements and the market information highlights the following:

Particulars	A Ltd.	B Ltd.
Capital Employed	₹1,500 crores	₹1,000 crores
Share Capital	₹850 crores	₹600 crores
Reserves	₹650 crores	₹300 crores
9% Debt	-	₹500 crores
Market value of shares	₹3,500 crores	₹1,850 crores
Market value of Debt	-	₹250 crores
Profit after tax	₹472.50 crores	₹396 crores

If Equity Beta of A Ltd. is 1.20, ascertain
(i) Cost of equity of B Ltd.

(ii) Beta of Equity of B Ltd. [1+5]

(c) SAIL shares were quoting at ₹ 126.80 on 6th February, 2012. Mr. X bought these shares that day and sold a year later at ₹ 158.60. Meanwhile SAIL gave dividend of ₹ 2.75 per share which Mr. X received. If beta of SAIL is 0.6 with risk free rate at 8% and market return at 20%, find whether SAIL is overvalued or undervalued. [5]

8. (a) What are the components of risk? [2]

(b) Good Luck Ltd. has been enjoying a substantial cash inflow, and until the surplus funds are needed to meet tax and dividend payments, and to finance further capital expenditure in several months time, they have been invested in a small portfolio of short-term equity investments.

Details of the portfolio, which consists of shares in four UK listed companies, are as follows.

Company	Number of shares held	Beta equity coefficient	Market price per share (₹)	Latest Dividend yield (%)	Expected return on equity in the next year (%)
A Ltd.	60,000	1.20	4.29	6.10	19.50
B Ltd.	80,000	2.30	2.92	3.40	24.00
C Ltd.	1,00,000	0.85	2.17	5.70	17.50
D Ltd.	1,25,000	1.28	3.14	3.30	23.00

The current market return is 20% a year and the Risk free rate is 12% a year.

(i) On the basis of the data given, calculate the risk of Good Luck Ltd's short term investment portfolio relative to that of the market.

(ii) Recommend, with reasons, whether Good Luck Ltd., should change the composition of its portfolio. [4+4]

(c) Following information is available in respect of dividend, market price and market condition after one year.

Market Condition	Probability	Market Price (₹)	Dividend per share (₹)
Good	0.25	115	9
Normal	0.50	107	5
Bad	0.25	97	3

The existing market price of an equity share is ₹106 which is cum 10% bonus debenture of ₹6 each, per share. M/s. X Finance Company, has offered the buy-back of debentures at face value.

Find out the expected return and variability of returns of the equity shares. [3+3]

SECTION D
(Answer any one of the following.)

9. (a) Explain briefly the concept of bridge financing. [3]

(b) SD Limited is engaged in large retail business in India. It is contemplating for expansion into a country of Africa by acquiring a group of stores having the same line of operation as that of India.

The exchange rate for the currency of the proposed African country is extremely volatile. Rate of inflation is presently 40% a year. Inflation in India is currently 10% a year.

Management of SD Limited expects these rates likely to continue for the foreseeable future.

Estimated projected cash flows, in real terms, in India as well as African country for the first three years of the project are as follows:

	Year - 0	Year - 1	Year - 2	Year – 3
Cash flows in Indian ₹(000)	-50,000	-1,500	-2,000	-2,500
Cash flows in African Rands (000)	-2,00,000	+50,000	+70,000	+90,000

SD Ltd. assumes year 3 nominal cash flows will continue to be earned each year indefinitely. It evaluates all investments using nominal cash flows and a nominal discounting rate. The present exchange rate is African rand 6 to ₹ 1.

You are required to calculate the net present value of the proposed investment considering the following:

(i) African rand cash flows are converted into rupees and discounted at a risk adjusted rate.

(ii) All cash flows for these projects will be discounted at a rate of 20% to reflect its high risk.

(iii) Ignore Taxation.

	Year -1	Year-2	Year-3
PVIF @ 20%	.833	.694	.579

[10]

(c) ABC Limited has decided to go in for a new model of Mercedes Car. The cost of the vehicle is 40 lakhs. The company has two alternatives: (i) taking the car on finance lease or (ii) borrowing and purchasing the car.

BMN Limited is willing to provide the car on finance lease to ABC Limited for five years at an annual rental of ₹ 8.75 lakhs, payable at the end of the year.

The vehicle is expected to have useful life of 5 years, and it will fetch a net salvage value of 10 lakhs at the end of year five. The depreciation rate for tax purpose is 40% on written-down value basis. The applicable tax rate for the company is 35%. The applicable before tax borrowing rate for the company is 13.8462%.

What is the net advantage of leasing for ABC Limited?

The present value interest factor at different rates of discount are as under:

Rate of Discount	Y-1	Y-2	Y-3	Y-4	Y-5
0.138462	0.8784	0.7715	0.6777	0.5953	0.5229
0.09	0.9174	0.8417	0.7722	0.7084	0.6499

[7]

10. (a) Skylark Airways is planning to acquire a light commercial aircraft for flying class clients at an investment of ₹ 50,00,000.The expected cash flow after tax for the next three years is as follows:

Year 1		Year 2		Year 3	
CFAT	Probability	CFAT	Probability	CFAT	Probability
14,00,000	0.1	15,00,000	0.1	18,00,000	0.2
18,00,000	0.2	20,00,000	0.3	25,00,000	0.5
25,00,000	0.4	32,00,000	0.4	35,00,000	0.2
40,00,000	0.3	45,00,000	0.2	48,00,000	0.1

The Company wishes to take into consideration all possible risk factors relating to an airline operation. The company wants to know:

(i) The expected NPV of this venture assuming independent probability distribution with 10% risk free rate of interest.

(ii) The possible deviation in the expected value. [4+6]

(b) A expect to receive (in nominal terms) the following cash flows. Viz. 250, (422) 1,067. What is the present value, if the real discount rate is 5% and inflation is expected to be 4%, 3.5% and 5% for the following years? [3]

(c) A Ltd has the following book-value capital structure as on 31st March

Equity Share Capital (2,00,000 Shares)	**₹40,00,000**
11.5% Preference Shares	**₹10,00,000**
10% Debentures	**₹30,00,000**
Total	**₹80,00,000**

The Equity Shares of the company sell for ₹20. It is expected that the Company will pay a dividend of ₹ 2 per share next year, this dividend is expected to grow at 5% p.a. forever. Assume 35% corporate tax rate.

1. **Compute the Company's WACC based on the existing Capital Structure.**
2. **Compute the new WACC if the company raises an additional ₹40 lakhs debt by issuing 12% debentures. This would result in increasing the expected Equity dividend to ₹2.40 and leave the growth rate unchanged, but the price of equity share will fall to ₹16 per share. [4+3]**