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) "NBFCs can't accept deposits from NRI's". Comment. **[2]**

(b)

Machine (Original Cost)	₹ 1,00,000
Life of Machine	5 Years
WDV	Nil
Resale Value	₹10,000
No other use of the machine.	

Offer: to use the machine for construction of a Guest House for 1 year. Resale Value after 1 year is ₹1,000. Find out the Opportunity Cost of Machine. **[2]**

(c) Write down the criticism of Modern Portfolio Theory. **[3]**

(d) Calculate the NAV of Great Fund the following data:
Size of the fund ₹200 Crores, Face Value ₹10/ - per unit, Market Value of Investments – ₹280 Crores, Receivables – ₹2 Crores, Accrued Income – ₹2 Crores, Liabilities – ₹1 Crore, Accrued Expenses – ₹1 Crore. **[2]**

(e) MS. MOUSHIP holds a portfolio consisting of two stocks-stock A and stock B. Stock A has a standard deviation of returns of 0.6 and stock B has a standard deviation of 0.80. The correlation co-efficient of the two stock returns is 0.50. If MS. Moushiip holds equal amount of each stock, what will be risk of the portfolio consisting of two stocks? **[2]**

(f) The following portfolio details of a fund are available:

Stock	Share	Price (₹)
A	2,00,000	35
B	3,00,000	40
C	4,00,000	20
D	6,00,000	25

The fund has accrued management fees with the portfolio manager totaling ₹30,000. There are 40 lakhs shares outstanding. What is the NAV of the fund? If the fund is sold with a front end load of 5%, What is the sale price? **[2]**

(g) Why Purchasing Power Parity Theory does not always work in practice? **[5]**

(h) Zee Ltd. has a Beta of 1.15. Return on market portfolio is 14%. Return on Zed is 15.85%. Risk free rate is 5%.
What is the value of Alpha for Zed Ltd.? **[2]**

SECTION A
(Answer any two of the following.)

2. (a) A petrochemical plant needs to process 10,000 barrels of oil in three months time. To hedge against the rising price the plant needs to go long on the futures contract of crude oil. The spot price of crude oil is ₹ 1,950 per barrel, while futures contract expiring three months from now is selling for ₹ 2,200 per barrel. By going long on the futures the petrochemical plant can lock-in the procurement at ₹ 2,200 per barrel. Assuming the size of one futures contract of 100 barrels, the firm buys 100 futures to cover its exposure of 10,000 barrels.
Find out the price that would be payable under two scenarios of rise in price to ₹ 2,400 or fall in price to ₹ 1,800 per barrel after three months.

(b) Write short notes on Multi-Commodity Exchange of India Limited (MCX).

(c) Find out NAV per unit from the following information of Scheme Money Plant

Name of the scheme	Money Plant
Size of the scheme	₹100 Lakhs
Face value of the shares	₹100
Number of the outstanding shares	₹1 Lakhs
Market value of the fund's investments	₹180 Lakhs
Receivables	₹2 Lakhs
Liabilities	₹1 Lakh

[3+6+3]

3. (a) Explain the typical attributes of hard infrastructure.

(b) What are the differences between Merchant Banks and Commercial Banks? **[8+4]**

4 Gargi Ltd has promoted an open-ended equity oriented scheme in 2004 with two plans — Dividend Reinvestment Plan (Plan X) and Bonus Plan (Plan Y); the face value of the units was ₹10 each. P and Q invested ₹5 Lakhs each on 01.04.2006 respectively in Plan X and Plan Y, when the NAV was ₹42.18 for Plan X and P ₹35.02 for Plan Y. P and Q both redeemed their units on 31.03.2013. Particulars of dividend and bonus declared on the units over the period were as follows —

Date	Dividend	Bonus Ratio	NAV for Plan X	NAV for Plan Y
15.09.2006	15	—	46.45	29.10
28.07.2007	_	1 : 6	42.18	30.05
31.03.2008	20	—	48.10	34.95
31.10.2008	—	1 : 8	49.60	36.00
15.03.2009	18	—	52.05	37.00
24.03.2010	—	1:11	53.05	38.10

27.03.2011	16	—	54.10	38.40
28.02.2012	12	1:12	55.20	39.10
31.03.2013	—	—	50.10	34.10

You are required to calculate the annual return for P and Q after taking into consideration the following information —

(a) Securities Transaction Tax at 2% on redemption

(b) Liability of Capital Gains to Income Tax —

(i) Long Term Capital Gains — Exempt

(ii) Short Term Capital Gains —10% Plus Education Cess at 3%. **[6+6]**

SECTION B

(Answer any one of the following.)

5. (a) Unitech DLS's, international transfer of funds amounts to US $20 Lakhs monthly. Presently the average transfer time is 10 days. It has been proposed that the transfer of funds be turned over to one of the larger international banks, which can reduce the transfer time to an average of two days. A charge of 0.5% of the volume of transfer has been proposed for this service. In view of the fact that the firm's opportunity cost of funds is 12%, should this offer be accepted?

(b) Illustrate types of Liquidity risk.

(c) You as a dealer in foreign exchange have the following position in Swiss Francs on 31.10.2013 -

Particulars	SFr.	Particulars	SFr.
Balance in the Nostro A/c Credit	1,00,000	Forward purchase contract	30,000
Opening Position Over bought	50,000	cancelled	
Purchased a bill on Zurich	80,000	Remitted by TT	75,000
Sold forward TT	60,000	Draft on Zurich cancelled	30,000

What steps would Mr. Sen take, if he required maintaining a credit balance of S Fr. 30,000 in the Nostro A/c and keeping as over bought position on SFr. 10,000?

(d) State the benefits of using Financial Derivatives? **[5+5+6+4]**

6. (a) What are the basic elements of joint venture?

(b) Company A has outstanding debt on which it currently pays fixed rate of interest at 9.5%. The company intends to refinance the debt with a floating rate interest. The best floating rate it can obtain is LIBOR + 2%. However, it does not want to pay more than LIBOR. Another company B is looking for a loan at a fixed rate of interest to finance its exports. The best rate it can obtain is 13.5%, but it cannot afford to pay more than 12%. However,

one bank has agreed to offer finance at a floating rate of LIBOR + 2%. Citibank is in the process of arranging an interest rate swap between these two companies.

(i) With a schematic diagram, show how the swap deal can be structured,

(ii) What are the interest savings by each company?

(iii) How much would Citi bank receive? **[5+(6+4+5)]**

SECTION C
(Answer any one of the following.)

7. Write short notes on *any four*. **[4 × 4]**

(a) Earning per Share

(b) Price to Earning Ratio

(c) Price to Sales Ratio

(d) Price to Book Ratio

(e) Projected Earnings Growth Rate-PEG Ratio

8. **(a)** A Ltd., and B Ltd., has the following risk and return estimates

R_A	R_B	σ_A	σ_B	(Correlation coefficient) = r_{AB}
20%	22%	18%	15%	-1.50

Calculate the proportion of investment in A Ltd., and B Ltd., to minimize the risk of Portfolio.

(b) The beta co-efficient of equity stock of ATRO Ltd. is 1.6. The risk free rate of return is 12% and the required rate of return is 15% on the market portfolio. If the dividend expected during the coming year is ₹ 2.50 and the growth rate of dividend and earnings is 8%, at what price the stock of ATRO Ltd. can be sold (based on CAPM)?

(c) X Ltd., has an expected return of 20% and Standard Deviation of 40%.
Y Ltd., has an expected return of 22% and Standard Deviation of 38%.
X Ltd., has a beta of 0.86 and Y Ltd., a beta of 1.24.
The correlation coefficient between the return of X Ltd. and Y Ltd., is 0.72. The Standard deviation of the market return is 20%.
Suggest.

(i) Is investing in Y Ltd., better than investing in X Ltd.?

(ii) If you invest 30% in Y Ltd., and 70% in X Ltd., what is your expected rate of return and Portfolio Standard Deviation?

(iii) What is the market Portfolio's expected rate of return and how much is the risk free rate?

(iv) What is the beta of portfolio if X Ltd.'s weight is 60% and Y Ltd.'s weight is 40%?

[4+2+(2+3+3+2)]

SECTION D
(Answer any one of the following.)

9. (a) Mr. Samik, a business man has two independent investments A and B available to him: but he lacks the capital to undertake both of them simultaneously. He can choose to take A first and then stop, or if A is successful then take B, or vice versa. The probability of success on A is 0.7, while for B it is 0.4. Both investments require an initial capital outlay of ₹ 2,000, and both return nothing if the venture is unsuccessful. Successful completion of A will return ₹ 3,000 (over cost), and successful completion of B will return ₹ 5,000 (over cost). Draw the decision tree and determine the best strategy.

(b) A publishing house has bought out a new monthly magazine which sells at ₹ 25 per copy. The cost of purchasing it by newsstand is ₹ 20 per copy. A newsstand estimates the sales pattern of the magazine as under:

Demand copies	Probability
0 < 200	0.18
200 < 400	0.32
400 < 600	0.25
600 < 800	0.15
800 < 1000	0.06
1000 <1200	0.04

The newsstand has contracted for 500 copies of the magazine per month from the publisher. The unsold copies are returnable to the publisher who will take them back at cost less ₹ 2 per copy for handling charges.
The newsstand manager wants to simulate the pattern of demand and profitability.

The following random number may be used for simulation of sales pattern of each month.

26	14	55	17	97	70
51	33	60	82	96	68

You are required to:
(i) Allocate random numbers to the demand pattern forecast by the newsstand.
(ii) Simulate twelve months sales and calculate the monthly and annual profit/loss.
(iii) Calculate the loss on lost sales. **[(4+6)+(3+6+1)]**

10. (a) Your company is considering to acquire an additional computer to supplement its time-share computer services to its clients. It has two options:
(i) To purchase the computer for ₹ 22 lakhs.
(ii) To lease the computer for three years from a leasing company for ₹ 5 lakhs as annual lease rent plus 10% of gross time-share service revenue. The agreement also requires an additional payment of ₹ 6 lakhs at the end of the third year. Lease rents are payable at the year-end and the computer reverts to the lessor after the contract period.

The company estimates that the computer under review will be worth ₹ 10 lakhs at the end of third year.

Forecast Revenues are:

Year	1	2	3
Amount (₹ in lakhs)	22.5	25	27.5

Annual operating costs excluding depreciation/lease rent of computer are estimated at ₹ 9 lakhs with an additional ₹ 1 lakh for start up and training costs at the beginning of the first year. These costs are to be borne by the lessee. Your company will borrow at 16% interest to finance the acquisition of the computer. Repayments are to be made according to the following schedule:

Year end	1	2	3
Principal (₹'000)	500	850	850
Interest (₹'000)	352	272	136

The company uses straight line method (SLM) to depreciate its assets and pays 50% tax on its income. The management approaches you to advice which alternative would be recommended and why?

Note: The PV factor at 8% and 16% rates of discount are:

Year	1	2	3
8%	0.926	0.857	0.794
16%	0.862	0.743	0.641

(b) Describe the applications of the Behavioral Finance Theory? **[12+8]**