Paper- 14: STRATEGIC FINANCIAL MANAGEMENT

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

PART – I

Answer Question Number 1 which is compulsory

1. Choose the correct option among four alternative answer. (1 mark for correct choice, 1 mark for justification.) [2×10= 20]

(i) Portfolio beta is 0,30, risk free rate of interest (R_f) is 10%, and expected return on market portfolio (R_m) is 15%, What will be the expected return of the portfolio?

(a) 10%

(b) 10.5%

(c) 11%

(d) 11.5%

(ii) A finance company borrows £15 Million of six months LIBOR + 10.00% for a period of 24 months. The company anticipates a rise in LIBOR, hence it proposes to buy a Cap Option from its Bankers at the strike rate of 8.00%. The lump sum premium is 1.00% for the entire reset periods and the fixed rate of interest is 7.00% per annum. The actual position of LIBOR during the forthcoming reset period is as under:

Reset Period	LIBOR
1	9.00%
2	9.50%
3	10.00%

You are required to show how far interest rate risk is hedged through Cap Option after working out the figures at each stage up to four decimal points and amount nearest to £.

(a) £ 40,168

(b) £ 40,618

(c) £ 40,681

(d) £ 40,861

(iii) A finance company issued 9%, 5 year bonds of Rs. 1,000 each having a maturity of 3 years. The present rate of interest is 12% for one year tenure. It is expected that Forward rate of

interest for 1 year tenure is going to fall by 75 basis points and further by 50 basis points for every next year in further for the same tenure. This bond has a beta value of 1.02 and is more popular in the market due to less credit risk.

What will be the Intrinsic value of bond?

(a) ₹798.28
(b) ₹832.00
(c) ₹582.68
(d) ₹942.48

(iv) The following data is available for a bond:

A bond has a Face Value of ₹1,000, Coupon Rate is 11%, Years to Maturity is 6 years, Redemption Value is ₹1,000 and Yield to Maturity is 15% (Round-off your answer to 3 decimals) What will be the Current Market Price?

(a) ₹834.48

(b) ₹834.84

(c) ₹843.48

(d) ₹843.84

(v) An investor is interested in purchasing equity shares of a manufacturing company which are currently selling at ₹600 each. He expects that price of share may go upto ₹780 or may go down to ₹480 in 3 months.

What combination of share and option should the investor select if he wants a perfect hedge?

(a) 0.50 share

(b) 0.70 share

(c) 0.90 share

(d) 1.00 share

(vi) An investor's Portfolio comprises of shares worth ₹1,20,00,000 at current price and Cash ₹10,00,000. The Beta (β) of Share Portfolio is 1.4.

What will be the current portfolio beta after rounding –off to 4 decimal points?

(a) 1.2923

(b) 1.3025

(c) 2.2923

(d) 2.3025

(vii) An investor can earn a return of 16 per cent by investing in equity shares on his own. Now he is considering a recently announced equity based mutual fund scheme in which initial expenses are 5.7 per cent and annual recurring expenses are 1.7 per cent. How much should the mutual fund earn to provide the investor a return of 16 per cent?

(a) 16.67%

(b) 17.67%

(c) 18.67%

(d) 19.67%

(viii) There are two projects, Project X & Y. Brand on following data, which project will be selected?

	Project X	Project Y
Investment (₹.)	50,00,000	75,00,000
Net Cash Inflow (₹.)	62,50,000	91,50,000

K = 10%

(a) Project X
(b) Project Y
(c) BothX & Y
(d) Neither X nor Y

(ix) Find out the value of 10 year, 12% coupon bond with a par value of ₹ 10,000. Assuming that the yield on this bond is 13%.

(a) ₹ 2,601.1

(b) ₹5,601.1

(c) ₹9,461.2

(d) ₹4,601.1

(x) Government securities are free from

(a) Default risk

(b) Interest rate risk

(c) Purchasing power risk

(d) Re-Investment risk

PART – II

Answer any five questions from question numbers 2 to 8. Each question carries 16 marks [16×5= 80]

2. (a) From the following information determine the optimal combination of projects assuming that the projects are divisible.

Project	Required Initial Investment (₹)	NPV at appropriate cost of capital (₹)
A	1,00,000	20,000
B	3,00,000	35,000
C	50,000	16,000
D	2,00,000	25,000
E	1,00,000	30,000

Total fund available is 3, 00,000. 8

(b) The following table presents the proposed cash flows for projects X and Y with their associated probabilities. Which project has a higher preference for acceptance?

	Project X		Project Y	
Possibilities	Cash flow (₹ lakhs)	Probability (₹ lakhs)	Cash flow (₹ lakhs)	Probability (₹ lakhs)
1	21,000	0.10	36,000	0.10
2	24,000	0.20	24,000	0.10
3	27,000	0.30	18,000	0.10
4	30,000	0.20	12,000	0.20
5	33,000	0.20	6,000	0.50

8

3. (a) An investor purchased certain units of a Mutual Fund when the Net Asset Value (NAV) was ₹12.65. After 60 Days the NAV per unit of the mutual fund was ₹12.25. In the meantime, the investor received a cash dividend of ₹ 0.50 and a Capital Gain distribution of ₹ 0.30. What is the monthly return on investment? 6

(b) The Net Asset Value of a Mutual Fund having 200 units was in NAV ₹ 8.75 at the beginning and ₹ 9.45 at the end of the year .

The fund manager considered the following two options:

(A) Pay ₹0.75 per unit as dividend and ₹0.60 per unit as a capital gain, or

(B) These distributions are to be reinvested at an average NAV of ₹8.65 per unit.

What difference it would make in terms of return available and which option is preferable? 10

4. (a) An investor has two portfolios X and Y known to be on minimum variance set for a population of three securities A, B and C having the weights mentioned below:

	Weight (A)	Weight (B)	Weight (C)
Portfolio X	0.30	0.40	0.30
Portfolio Y	0.20	0.50	0.30

It is supposed that there are no restrictions on short sales.

(i) What would be the weight for each stock for a portfolio constructed by investing ₹6,000 in Portfolio X and ₹4,000 in Portfolio Y?

(ii) Suppose the investor invests ₹5,000 out of ₹10,000 in Security A. How he will allocate the balance between security B and T to ensure that his portfolio is on minimum variance set? 10

(b) A limited company has declared and paid annual dividend of ₹4 per share. It is expected to grow @ 20% for the next 2 years and 10% thereafter. The required rate of return of equity investors is 15%. Compute the current price at which equity shares should sell.

$PVIF_{0.15,1}$ = 0.8696
$PVIF_{0.15,2}$ = 0.7561

6

5. (a) X as a portfolio manager has to manage a portfolio having beta 1.5 whose current market value of ₹67.50 Crores. It is expected that the markets are likely to correct downwards and hedging needs to be adopted using NIFTY Index Futures. Currently Index Futures are quoted at 4500 with each contract underlies 100 units. Examine a situation when markets correct 10% down and also a possibility market trend upwards by 10% against the belief of product X. Assume that X hedged 100% of the portfolio. 10

(b) The Month 1 Year 202X future traded at 16.80, the Month 2 Year 202X 18.00 call at 0.45 and the February 18.00 put at 0.58. Both are options on the February future. Find out whether any arbitrage opportunity exists. 6

6. (a) A Backpack is priced at $ 105.00 at Washington. The same Backpack is priced at ₹ 4,250 in New Delhi. Determine Exchange Rate in New Delhi.

(i) If, over the next one year, price of the Backpack increases by 7% in New Delhi and by 4% in Washington, determine the price of the Backpack at New Delhi and-Washington? Also determine the exchange rate prevailing at Washington for ₹ 100.

(ii) Determine the appreciation or depreciation in one year from now. 8

(b) The details of Cash Inflows and Outflows in foreign currency denominations, an Indian export firm, with no foreign subsidiaries —

Currency	Inflow	Outflow	Spot Rate	Forward Rate
US $	4,00,00,000	2,00,00,000	48.01	48.82
French Franc (F Fr)	2,00,00,000	80,00,000	7.45	8.12
UK £	3,00,00,000	2,00,00,000	75.57	75.98
Japanese Yen	1,50,00,000	2,50,00,000	3.20	2.40

(i) Determine the Net Exposure of each foreign currency in terms of Rupees.

(ii) Are any of the exposure positions off-setting to some extent? 8

7. (a) A financing company is considering to enter the IT and Computer leasing business. Mainframe computers can be purchased for ₹2,00,000 each and, in turn, be leased out at ₹50,000 per year for 8 years with the initial payment occurring at the end of first year. You may ignore taxes and depreciation.

(i) Estimate the Annual before Tax Expenses and Internal Rate of Return (IRR) for the company.

(ii) What should be the yearly lease payment charged by the company in order to earn a 20% Annual Compounded Rate of Return before Expenses and Taxes?

(iii) Assume that the firm uses the straight-line method of depreciation, there is no salvage value, the annual expenses are ₹20,000, and the tax rate is 35%. Calculate the yearly lease payment in order to enable the firm to earn 20 percent After Tax Annual Compound Rate of Return.

(iv) Further, assume that computer has a resale value of ₹40,000. Determine the revised lease rental to enable the firm to earn 20 per cent. 10

(b) On the basis of the following information, compute covariance between the returns on a pair of securities according to the Sharpe single-index model:

Beta for Stock X = 1.183

Beta for Stock Y= 1.021

Beta for Stock Z = 2.322

The variance of the market portfolio = 20.91 **6**

8. Write short note on (*any four*) **4×4=16**

(a) Swaption

(b) Relationship between Correlation and Diversification

(c) Currency swaps

(d) The RBI's Regulatory Role

(e) Global Depository Receipt