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.)** **[10×2= 20]**

(i) Following information is available regarding a mutual fund:

Return	**13**
Risk (σ)	**16**
Beta (β)	**0.90**
Risk free rate	**10**

Calculate Sharpe ratio.
(a) 0.19
(b) 0.18
(c) 0.20
(d) 0.21

(ii) The risk free return is 8 per cent and the return on market portfolio is 14 per cent. If the last dividend on Share 'A' was ₹2.00 and assuming that its dividend and earnings are expected to grow at the constant rate of 5 per cent. The beta of share 'A' is 2.50. Compute the intrinsic value of share A.

(a) ₹ 13.67
(b) ₹ 12.67
(c) ₹ 11.67
(d) ₹ 10.67

(iii) AB Limited has 10 lakh equity shares outstanding at the beginning of the year 2013. The current market price per share is ₹150. The current market price per share is ₹150. The company is contemplating a dividend of ₹9 per share. The rate of capitalization, appropriate to its risk class, is 10%.

Based on MM approach, calculate the market price of the share of the company when Dividend is declared

(a) ₹ 186
(b) ₹ 166
(c) ₹ 156
(d) ₹ 176

(iv) SR Ltd. Has an excess cash of ₹30,00,000 which it wants to invest in short-term marketable securities.

Expenses resulting to investment will be ₹ 45,000. The securities invested will have an annual yield of 10%. The company seeks your advice as to the period of investments so as to earn a pre-tax income of 6%.

(a) 12 months
(b) 5 months

(c) 6 months
(d) 9 months

(v) Consider the following quotes:

Spot (Euro/Pound) = 1.3904 — 1.3908

Spot (Pound/NZ $) = 0.5020 — 0.5040

What will be the possible % spread on the cross rate between Euro and NZ $?

(a) 0.41
(b) 0.43
(c) 0.39
(d) 0.40

(vi) R holds two equity shares A and B in equal proportion with the following risk and return:

$E(R_A) = 26\%$

$\sigma_A = 20\%$

$E(R_B) = 22\%$

$\sigma_B = 24\%$

The returns of these securities have a positive correlation of 0.7. Calculate the portfolio return and risk.

(a) 25% (expected return), 29% risk
(b) 24% (expected return), 20.30% risk
(c) 25% (expected return), 20.30% risk
(d) 24% (expected return), 30% risk

(vii) A characteristic line is formed by regressing

(a) Beta with required rate of return
(b) Standard deviation with required rate of return
(c) Stock returns with market returns
(d) Stock prices with market index

(viii) Beta of a security measures its

(a) Diversifiable risk
(b) Financial risk
(c) Market risk
(d) None of the above

(ix) The February Pepper future traded at 16.80, the February 18.00 call at 0.45 and the February 18.00 put at 0.58. Both are options on the February future.

Which of the following statements are correct?

(i) Arbitrage does not exist
(ii) Arbitrage opportunity exists

(a) Only Statement (i)
(b) Only Statement (ii)
(c) Both Statement (i) and Statement (ii)
(d) Neither Statement (i) nor Statement (ii)

(x) What is the price of a European put option on a non-dividend-paying stock when the stock price is ₹69, the strike price is ₹70, the risk-free interest rate is 5% per annum, the volatility is 35% per annum, and the time to maturity is six months?

(a) 6.40

(b) 4.50

(c) 3.40

(d) 5.40

PART – II

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

2. (a) A firm is considering an investment proposal, which requires an outlay of ₹ 80,000. The investment proposal is expected to have two years economic life with no salvage value. In year 1, there is a 0.4 probability that cash inflow after tax will be ₹ 50,000 and 0.6 probability that cash inflow after tax will be ₹60,000. The probability assigned to cash inflow after tax for the year 2 are as follows:

The cash inflow year 1	₹ 50,000		₹60,000	
The cash inflow year 2	Probability		Probability	
	₹24,000	0.2	₹40,000	0.4
	₹32,000	0.3	₹50,000	0.5
	₹44,000	0.5	₹60,000	0.1

The firm uses a 8% discount rate for this type of investment. Required:

(i) Construct a decision tree for the proposed investment project and calculate the expected net present value (NPV).

(ii) What net present value will the project yield, if worst outcome is realized? What is the probability of occurrence of this NPV?

(iii) What will be the best outcome and the probability of that occurrence?

(iv) Will the project be accepted?

(Note: 8% discount factor 1 year 0.9259; 2 year 0.8573) [8]

(b) A Production Manager wants planning to produce a new product and he wishes to estimate the raw material requirement for that new product. On the basis of usage for a similar product introduced previously, he has developed a frequency distribution of demand in tonnes per day for a two month period. Use this data to simulate the raw material usage requirements for 7 days. Compute the expected value with the average raw material usage.

Demand Tonnes/day	Frequency No. of days
10	6
11	18
12	15
13	12
14	6
15	3

Random Number : 27, 13, 80, 10, 54, 60, 49. [8]

3. (a) Balanced Fund is a portfolio model wherein 20% of Fund Value is invested in Fixed Income Bearing Instruments. The balance of 80% is divided among Iron and Steel Stocks, Automotive Industry Stocks, Information Technology Stocks, Infrastructure Company Stocks and Financial Services Sector in the ratio of 4:2:6:3:5.

Three mutual funds A, B and C, offer a Fund Scheme based on the Balanced Fund Portfolio Model. The actual return on Balanced Fund portfolios of each of the three funds for the past 3 years is as follows —

Portfolio	Year1	Year2	Year 3
Mutual Fund A	17.35%	18.70%	21.60%
Mutual Fund B	17.20%	18.25%	22.15%
Mutual Fund C	17.10%	18.60%	22.00%

Beta factor of the Balanced Fund portfolio is measured at 1.35. Return on Market Portfolio indicates that ₹1000 invested will fetch ₹153 in an year (including capital appreciation and dividend yield). RBI Bonds, guaranteed by the Central Government yields 4.50%.

Rate the mutual funds A, B and C. [10]

(b) Flexi Protect is a mutual fund that had a net asset value of ₹30 at the beginning of month and made income and capital gain distribution of ₹ 0.0375 and ₹0.03 per share respectively during the month, and then ended the month with a net asset value of ₹30.06. Calculate annual return. [6]

4. (a) The Beta Co-efficient of Eclipse Ltd is 1.40. The Company has been maintaining 8% rate of growth in dividends and earnings. The last dividend paid was ₹4 per share. Return on Government Securities is 12%. Return on Market Portfolio is 18%. The Current Market Price of one share of Eclipse Ltd is ₹32.00.

Required —

1. What should be the equilibrium market price per share of Eclipse Ltd?
2. Are the shares of the company under / over price? [8]

(b) Securities A and B have standard deviations of 3% and 9%. Mr. P is having a surplus of ₹20 Lakhs for investment in these two securities. How much should he invest in each of these securities to minimize risk, if the correlation co-efficient for A and B is — (a) -1; (b) -0.30; (c) 0; (d) 0.60 [8]

5. (a) Shares of Sun Ltd are being quoted at ₹600. 3-Months Futures Contract Rate is ₹636 per share for a lot size of 500 shares. If the San Ltd is not expected to distribute any dividend in the interim, risk free rate of return is 9%, what is the forward rate of the share? If the 3-Months Futures Contract Rate is ₹600, what should be the strategy of the trader? [6]

(b) Compute the value of Options expiring one year later, for the following securities —

1. CAB Ltd (CABL) is quoted at ₹110. At the end of 3 Months, the stock price will either be ₹100 or ₹150. Exercise price is ₹120.
2. 3-Month Options on NN Ltd (MNL) carry an exercise price of ₹350. Stock Price is expected to be ₹250 or ₹450. Current share price ₹380

Risk Free Rate may be assumed at 12% for continuous discounting. [10]

6. (a) AB Inc. is considering Expanding to Sweden. The plan will cost 26 Million Krona. Incremental Cash Flows are expected to be 3 Million Krona per year for the first 3 years. 4 Million Krona for the next 3, 5 Million Krona in Years 7 to 9, and 6 Million Krona in years 10 through 19, after which the project will terminate with no residual value.

The present exchange rate is 1.90 Krona per dollar. The required rate of return on repatriated dollar is 16%.

(a) If the exchange rate states at 1.90, should the project be expanded? Use NPV technique.

(b) If the Krona appreciates to 1.84 for years 1 - 3, to 1.78 for years 4-6,1.72 for years 7-9, and to 1.65 for years 10-19, what is the impact on the NPV? [10]

(b) You have the following quotes from Bank A and Bank B —

	Bank A		Bank B	
Spot	USD/CHF	1.4650/55	USD/CHF	1.4653/60
3 Months		5/10		
6 Months		10/15		
Spot	GBP/USD	1.7645/60	GBP /USD	1.7640/50
3 Months		25/20		
6 Months		35/25		

Calculate —

(a) What is the minimum CHF amount required to pay for 1 Million GBP spot?

(b) Considering the quotes from Bank A only, for GBP / CHF, what is the difference between the spot & forward rates over 3 months? 6

7. (a) Your company is considering to acquire an additional Software license to supplement its time-share computer services to its clients. It has two options:

(i) To purchase the license for ₹ 22 lakhs.

(ii) To lease the license 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 license reverts to the lessor after the contract period.

The company estimates that the software 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 amortisation/lease rent of software 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 is more profitable and by how much?

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

[10]

(b) You can choose to invest in two shares, Mona and Dona.

	E(R)	(σ)
Mona	10%	10%
Dona	15%	20%

The correlation between the returns on the two shares is 0.15. Your portfolio consists of ₹100 Mona shares and ₹50 Dona shares. The current price of Mona is ₹50 and the current price of Dona is ₹100. Calculate the expected return and standard deviation of the portfolio. [6]

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

(a) DuPont Model

(b) Dividend Payout Ratio

(c) Warrants

(d) Depository Receipts

(e) Collateralised borrowing and Lending Obligation (CBLO)