

## **Paper- 14: STRATEGIC FINANCIAL MANAGEMENT**

**Paper- 14: STRATEGIC FINANCIAL MANAGEMENT**

Full Marks: 100

Time Allowed: 3 Hours

This paper contains two sections **A** and **B**. **Section A** is compulsory and contains question No.1 for 20 marks. **Section B** contains question Nos. 2 to 8, each carrying 16 marks.

Answer any five questions from **Section B**.

**Section – A [20 Marks]**

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

- (i) Buenos Aires Limited has 10 lakh equity shares outstanding at the beginning of the year 2013. 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) ₹ 156  
(b) ₹ 166  
(c) ₹ 176  
(d) ₹ 186

- (ii) Sea Rock 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) 5 months  
(b) 6 months  
(c) 9 months  
(d) 12 months

- (iii) Rishav holds two equity shares A and B in equal proportion with the following risk and return:

$$E(R_A) = 26\%$$

$$\sigma_A = 20\%$$

$$E(R_B) = 22\%$$

$$\sigma_B = 24\%$$

## MTP\_Final\_Syllabus 2016\_Dec19\_Set 2

---

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), 30% risk
- (c) 24% (expected return), 20.30% risk
- (d) 25% (expected return), 20.30% risk

(iv) 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) 0.40
- (b) 0.39
- (c) 0.41
- (d) 0.43

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

Return	13
Risk ( $\sigma$ )	16
Beta ( $\beta$ )	0.90
Risk free rate	10

Calculate Sharpe ratio.

- (a) 0.18
- (b) 0.19
- (c) 0.20
- (d) 0.21

(vi) 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) ₹ 10.67
- (b) ₹ 11.67
- (c) ₹ 12.67
- (d) ₹ 13.67

## MTP\_Final\_Syllabus 2016\_Dec19\_Set 2

- (vii) 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) 3.40  
(b) 6.40  
(c) 4.50  
(d) 5.40
- (viii) A characteristic line is formed by regressing
- (a) Stock prices with market index  
(b) Beta with required rate of return  
(c) Standard deviation with required rate of return  
(d) Stock returns with market returns
- (ix) Beta of a security measures its
- (a) Diversifiable risk  
(b) Market risk  
(c) Financial risk  
(d) None of the above
- (x) 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. Find out whether any arbitrage opportunity exists.
- (a) Arbitrage opportunity exists  
(b) Does not exist

### Section - B

Answer any five questions.

[16×5= 80]

2. (a) A firm has an investment proposal, requiring 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 is 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 also the expected value and comment on the result.

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

Three mutual funds X, Y and Z, offer a Fund Scheme based on the Equi-Stable Portfolio Model. The actual return on Equi-Stable portfolios of each of the three funds for the past 3 years is as follows —

Year	1	2	3
Portfolio X	17.35%	18.70%	21.60%
Portfolio Y	17.20%	18.25%	22.15%
Portfolio Z	17.10%	18.60%	22.00%

Beta factor of the Equi-Stable portfolio is measured at 1.35. Return on Market Portfolio indicate 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 fund managers of X, Y and Z.

10

- (b) 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 monthly return. 6
4. (a) The Beta Co-efficient of Moon Light 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 Moon Light Ltd is ₹32.00.
- Required —
1. What will be the equilibrium price per share of Moon Light Ltd?
  2. Would you advise purchasing the share? 8
- (b) Securities X and Y have standard deviations of 3% and 9%. Nitin 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 X and Y is — (a) -1; (b) -0.30; (c) 0; (d) 0.60 8
5. (a) Shares of Sandeep Ltd are being quoted at ₹600. 3-Months Futures Contract Rate is ₹636 per share for a lot size of 500 shares. If the Sandeep Ltd is not expected to distribute any dividend in the interim, risk free rate of return is 9%, what is the recommended course of action for a trader in shares?
- If the 3-Months Futures Contract Rate is ₹600, what should be the action? 6
- (b) Ascertain the value of Options expiring one year later, for the following securities —
1. ABC Ltd (ABCL) 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 MN Ltd (MNL) carry an exercise price of ₹350. Stock Price is expected to be ₹250 or ₹450. Presently the shares are traded for ₹380
- Risk Free Rate may be assumed at 12% for continuous discounting. 10
6. (a) DS Inc. is considering a new plan in Netherlands. The plan will cost 26 Million Guilders. Incremental Cash Flows are expected to be 3 Million Guilders per year for the first 3 years, 4 Million Guilders for the next 3, 5 Million Guilders in Years 7 to 9, and 6 Million Guilders in years 10 through 19, after which the project will terminate with no residual value.
- The present exchange rate is 1.90 Guilders per dollar. The required rate of return on repatriated dollar is 16%.
- (a) If the exchange rate states at 1.90, what is the project NPV?

## MTP\_Final\_Syllabus 2016\_Dec19\_Set 2

- (b) If the guider 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 happens to 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) How much minimum CHF amount you have to pay for 1 Million GBP spot?  
 (b) Considering the quotes from Bank A only, for GBP / CHF, what are the Implied Swap Points for spot over 3 months? 6

7. (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

## MTP\_Final\_Syllabus 2016\_Dec19\_Set 2

---

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

10

(b) You can choose to invest in two shares, A and B.

	E(R)	( $\sigma$ )
A	10%	10%
B	15%	20%

The correlation between the returns on the two shares is 0.15. Your portfolio consists of 100 A shares and 50 B shares. The current price of A is 50 and the current price of B is 100. Calculate the expected return and standard deviation of the portfolio. 6

8. Write short note on (any four)

4×4=16

- (a) Dividend Payout Ratio
- (b) DuPont Model
- (c) Depository Receipts
- (d) Warrants
- (e) Collateralised borrowing and Lending Obligation (CBLO)