



**FINAL EXAMINATION**  
**MODEL QUESTION PAPER**  
**PAPER – 14**

**SET - 1**  
**TERM – DECEMBER 2024**  
**SYLLABUS 2022**

**STRATEGIC FINANCIAL MANAGEMENT**

**Time Allowed: 3 Hours**

**Full Marks: 100**

The figures in the margin on the right side indicate full marks.

**SECTION – A (Compulsory)**

**1. Choose the correct option:**

**[15 x 2 = 30]**

- (i) The following information is available in case of an investment proposal:  
NPV at discounting rate of 10% = ₹1,250 and NPV at discounting rate of 11% = (-) ₹200.  
The IRR of the proposal is:  
(a) 11.86%  
(b) 9.87%  
(c) 11.96%  
(d) 10.86%
- (ii) Coefficient of variation \_\_\_\_\_.  
(a) Is an absolute measure of risk  
(b) Is given by the product of mean expected return and standard deviation  
(c) Is given by mean expected return by standard deviation  
(d) Is a relative measure of risk
- (iii) A certain mutual fund has a return of 17% with standard deviation of 3.5% and the sharpe ratio is 4.  
The risk free rate is \_\_\_\_\_.  
(a) 3%  
(b) 12.5%  
(c) 4%  
(d) 7.5%
- (iv) The growth in book value per share shows the \_\_\_\_\_.  
(a) Rise in the share price  
(b) Increase in the physical assets of the firm  
(c) Growth in reserve  
(d) Increase in the net worth
- (v) A stock with a dividend pay-out ratio of 45%, required rate of return is 15% and a constant growth rate of 10% will have a P/E ratio of \_\_\_\_\_.  
(a) 3 times  
(b) 9 times  
(c) 8 times  
(c) 7.5 times
- (vi) A mutual Fund had a Net Asset Value (NAV) of ₹72 at the beginning of the year. During the year, a sum of ₹6 was distributed as Dividend besides ₹ 4 as Capital Gain distributions. At the end of the year, NAV was ₹ 84. Total return for the year is:  
(a) 30.56%  
(b) 31.56%



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- (c) 40.56%  
(d) 41.56%
- (vii) Bond volatility is inversely related to \_\_\_\_\_.  
(a) Term to maturity  
(b) Yield to maturity  
(c) Coupon rate  
(d) Both (b) and (c)
- (viii) Covariance between a stock and a market index and variance of market index are 33.56 and 19.15 respectively. The Beta of stock is:  
(a) 1.55  
(b) 1.85  
(c) 1.75  
(d) 1.95
- (ix) The following details relate to an investment proposal of XYZ Ltd. Investment outlay — ₹ 100 lakhs, Lease Rentals are payable at ₹180 per ₹1,000, Term of lease — 8 years, Cost of capital—12%. What is the present value of lease rentals, if lease rentals are payable at the end of the year? [Given PV factors at 12% for years (1-8) is 4.9676.  
(a) ₹ 98,14,680  
(b) ₹ 89,41,680  
(c) ₹ 94,18,860  
(d) ₹ 96,84,190
- (x) A project had an equity beta of 1.4 and is to be financed by a combination of 25% Debt and 75% Equity. Assume Debt Beta as zero,  $R_f = 12\%$  and  $R_m = 18\%$ . Hence, the required rate of return of the project is \_\_\_\_\_.  
(a) 18.3%  
(b) 17.45%  
(c) 16.72%  
(d) 12.00%
- (xi) This type of risk is avoidable through proper diversification \_\_\_\_\_.  
(a) Portfolio risk  
(b) Systematic risk  
(c) Unsystematic risk  
(d) Total risk
- (xii) What should be the price of call, if value of a put ₹5, strike price ₹100, rate of interest 6% p.a. time period-2 months?



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- (a) ₹4  
(b) ₹6  
(c) ₹7  
(d) ₹5
- (xiii) Arbitrageur in a foreign exchange market \_\_\_\_\_.  
(a) buys when the currency is low and sells when it is high  
(b) buys and sells simultaneously the currency with a view to making riskless profit  
(c) sells the currency when he has a receivable in future  
(d) buys or sells to take advantage of market imperfections.
- (xiv) Digital Finance Cube has \_\_\_\_\_ dimensions.  
(a) Six  
(b) Four  
(c) Three  
(d) Two
- (xv) The 90 day interest rate is 1.85% in USA and 1.35% in the UK and the current spot exchange rate is \$ 1.6/£. The 90-day forward rate is \_\_\_\_\_.  
(a) \$ 1.607893  
(b) \$ 1.901221  
(c) \$ 1.342132  
(d) \$ 1.652312

**SECTION – B**

**(Answer any five questions out of seven questions given. Each question carries 14 marks.)**

**[5 x 14 = 70]**

2. (a) Techtronics Ltd., an existing company, is considering a new project for manufacture of pocket video games involving a capital expenditure of ₹ 600 lakhs and working capital of ₹150 lakhs. The capacity of the plant is for an annual production of 12 lakh units and capacity utilisation during the 6-year working life of the projects expected to be as indicated below:

| Year | Capacity Utilisation |
|------|----------------------|
| 1    | 33.33%               |
| 2    | 66.66%               |
| 3    | 90%                  |
| 4-6  | 100%                 |

The average price per unit of the product is expected to be ₹200 netting a contribution of 40%. Annual fixed costs, excluding depreciation, are estimated to be ₹480 lakhs per annum from the third year onwards; for the first and second year it would be ₹240 lakhs and ₹360 lakhs respectively. The average rate of depreciation for tax purposes is 33.33% on the capital assets. No other tax reliefs are anticipated. The rate of income-tax may be taken at 50%.



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At the end of the third year, an additional investment of ₹100 lakhs would be required for working capital. The company, without taking into account the effects of financial leverage, has targeted for a rate of return of 15%. You are required to analyse whether the proposal is viable, giving your working notes and analysis.

Terminal value for the fixed assets may be taken at 10% and for the current assets at 100%. Calculation may be rounded off to lakhs of rupees. For the purpose of your calculations, the recent amendments to tax laws with regard to balancing charge may be ignored. [7]

- (b) HB Finance Ltd is considering to enter the 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 percent 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. [7]

3. (a) A firm has an investment proposal, requiring an outlay of ₹40,000. The investment proposal is expected to have 2 years' economic life with no salvage value. In year 1, there is a 0.4 probability that cash inflow after tax will be ₹25,000 and 0.6 probability that cash inflow after tax will be ₹30,000. The probabilities assigned to cash inflows after tax for the year 2 are as follows:

|                           |         |             |         |             |
|---------------------------|---------|-------------|---------|-------------|
| The Cash inflow<br>year 1 | ₹25,000 |             | ₹30,000 |             |
| The Cash inflow<br>year 2 |         | Probability |         | Probability |
|                           | ₹12,000 | 0.2         | ₹20,000 | 0.4         |
|                           | ₹16,000 | 0.3         | ₹25,000 | 0.5         |
|                           | ₹22,000 | 0.5         | ₹30,000 | 0.1         |

The firm uses a 12% discount rate for this type of investment.

- (i) Construct a decision tree for the proposed investment project.
- (ii) Compute the net present value that the project will yield if worst outcome is realized. Compute the probability of occurrence of this NPV.
- (iii) Determine the best occurrence and the probability of that occurrence?
- (iv) Analyse whether project be accepted? [7]



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(b) For the first four years, India Incorporated is assumed to grow at a rate of 10%. After four years, the growth rate of dividend is assumed to decline linearly to 6 percent. After 7 years, it is assumed to grow at a rate of 6% infinitely. The next year dividend is ₹2.00 per share and the required rate of return is 14%. Find the value of the stock. [7]

4. (a) Akai Ltd's latest annual dividend of ₹1.25 a share was paid yesterday and maintained its historic 7% annual rate of growth. You plan to purchase the stock today because you believe that the dividend growth rate will increase to 8% for the next three years and the selling price of the stock will be ₹40.00 per share at the end of that time.

(i) Calculate how much should you be willing to pay for the share if you require a 12% return?

(ii) Compute the maximum price you should be willing to pay for the stock if you believe that the 8% growth rate can be maintained indefinitely and you require a 12% return?

(iii) If the 8% rate of growth is achieved, what will be the price at the end of year 3, assuming the conditions in part (ii)? [7]

(b) Mr. Z has invested in the three mutual funds as per the following details:

| Particulars                                        | MF X     | MF Y     | MF Z     |
|----------------------------------------------------|----------|----------|----------|
| Amount of investment                               | 2,00,000 | 4,00,000 | 2,00,000 |
| Net assets value (NAV) at the time of purchase (₹) | 10.30    | 10.10    | 10.00    |
| Dividend received up to 31/03/2023                 | 6000     | Nil      | 5000     |
| NAV as on 31/03/2023                               | 10.25    | 10.00    | 10.20    |
| Effective yield p.a. as on 31/03/2023              | 9.66     | 11.66    | 24.15    |

Assume 1 year = 365 days

Mr. Z has misplaced the documents of his investment. Help him in computing the original investment after ascertaining the following:

(i) Numbers of units in each scheme,

(ii) Total net present value,

(iii) Total yield,

(iv) Number of days of investment held. [7]

5. (a) From the following information, ascertain the Market Price of Risk of the portfolio :

| $R_m$ | $\sigma_m$ | $R_f$ | $\sigma_p$ |
|-------|------------|-------|------------|
| 18%   | 6%         | 6%    | 8%         |
| 20%   | 8%         | 7%    | 4%         |
| 22%   | 9%         | 8%    | 12%        |

Also, determine the expected return for each of the above cases. [7]



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- (b) An investor is interested to construct a portfolio of securities M and N. He has collected the following information about the proposed investment:

|                 | M   | N   |
|-----------------|-----|-----|
| Expected return | 20% | 25% |
| $\sigma$        | 12% | 16% |

Co-efficient of Correlation (r) between M and N is 16. He wants to constitute only five portfolios of M and N as follows:

- (i) All funds invested in M
- (ii) 50% of funds in M and 50% in N.
- (iii) 75% of funds in M and 25% in N.
- (iv) 25% of funds in M and 75% in N.
- (v) All funds invested in N.

You are required to calculate:

- I. Expected return under different portfolios.
- II. Risk factor associated with these portfolios.
- III. Which portfolio is best from the view-point of risk?
- IV. Which portfolio is best from the view-point of return?

[7]

6. (a) A portfolio manager owns 3 stocks :

| Stock | Share owned | Stock Price (₹) | Beta |
|-------|-------------|-----------------|------|
| 1     | 2 Lakh      | 800             | 1.1  |
| 2     | 4 Lakh      | 600             | 1.2  |
| 3     | 6 Lakh      | 200             | 1.3  |

The spot Nifty Index is at ₹2,700 and futures price is ₹2,704. Use stock index future to analyse the following situation -

- (i) decrease the portfolio beta to 0.8 and
- (ii) Increase the portfolio beta to 1.5. Assume the index factor is ₹100. find out the number of contracts to be bought or sold of stock index futures

[7]

- (b) Given the following:

|                            |        |
|----------------------------|--------|
| Strike price               | ₹200   |
| Current stock price        | ₹185   |
| Risk free rate of interest | 5% p.a |

- i. Calculate the theoretical minimum price of a European put option after 6 months.
- ii. If European put option price is ₹5, then how can an arbitrageur make profit.

[7]

7. (a) A firm is contemplating import of a consignment from USA for a value of USD 10,000. It requires 90 days to make payment. Supplier has offered 60 days' interest-free credit and is willing to offer additional 30 days' credit at an interest rate of 6% per annum. (Consider 360 days p.a.)



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The Bankers of the firm offer a 30 days loan at 9 % per annum and its quotes for foreign exchange are as follows:

Spot 1 USD = ₹ 46.00,

60 days forward rate for 1 USD = ₹ 46.20,

90 days forward rate for 1 USD = ₹ 46.35.

You are required to advice the firm as to whether it should—

- (i) Pay the supplier in 60 days or
- (ii) Avail the suppliers offer of 90 days' credit [7]

- (b) Exchange rate between Rupee and Swiss franc is ₹33/SFr at the reference period and the forward rate is found to be ₹33.40/SFr after 9 months. Nine-month interest rate on Rupee is 8% p.a. Recommend what should have been corresponding interest rate on Swiss franc. Show that interest rate differential is equal to forward premium or discount. [7]

**8. Short Notes on:**

- (a) What do you mean by Stable-coins? Discuss their uses. [5]
- (b) What are the different types of foreign bonds? Discuss. [4]
- (c) What are the objectives of Cross Border Leasing? [4]