

FINAL COURSE: GROUP – I

PAPER – 2: ADVANCED FINANCIAL MANAGEMENT

Time Allowed – 3 Hours

Maximum Marks – 100

1. The question paper comprises two parts, Part I and Part II.
2. Part I comprises Case Scenario based Multiple Choice Questions (MCQs)
3. Part II comprises questions which require descriptive type answers.

PART I – Case Scenario based MCQs (30 Marks)

Part I is compulsory.

Case Scenario I

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

| Particulars  | MF 'X'   | MF 'Y'   | MF 'Z'   |
|--|----------|----------|----------|
| Amount of Investment (₹)                             | 4,00,000 | 8,00,000 | 4,00,000 |
| Net Assets Value (NAV) at the time of purchase (₹)   | 10.30    | 10.10    | 10       |
| Dividend Received up to 31.03.2023 (₹)               | 9,000    | 0        | 6,000    |
| NAV as on 31.03.2023 (₹)                             | 10.35    | 10       | 10.30    |
| Effective Yield per annum as on 31.03.2023 (percent) | 9.66     | -11.66   | 24.15    |

Assume 1 Year = 365 days

On the basis of above information, choose the most appropriate answer to the following questions:

1. Total NAV of MF 'Y' as on 31.03.2023 would be approximately .....
  - (a) ₹ 401941.73
  - (b) ₹ 412000.00
  - (c) ₹ 792079.20
  - (d) ₹ 82500.00
2. Total Yield of MF 'X' in terms of ₹ would be approximately .....
  - (a) ₹ 10941.73
  - (b) ₹ 7,920.80
  - (c) ₹ 18,000.00
  - (d) ₹ 12450.45
3. Number of days for which MF 'X' is held would be approximately.....
  - (a) 31 Days
  - (b) 68 Days

- (c) 103 Days
  - (d) 85 Days
4. Number of days for which MF 'Y' is held would be.....
- (a) 31 Days
  - (b) 68 Days
  - (c) 103 Days
  - (d) 85 Days

(4 x 2 = 8 Marks)

**Case Scenario II**

ABC Ltd. is planning to expand its business and therefore raising fund by issuing a convertible bond of ₹ 10 crore. An investor "Mr. X" is interested to invest in the bond of ABC Ltd. Mr. X has following data related to the convertible bond.

The data given below relates to a convertible bond:

|                                  |         |
|----------------------------------|---------|
| Face value                       | ₹ 250   |
| Coupon rate                      | 12%     |
| No. of shares per bond           | 20      |
| Market price of share            | ₹ 12    |
| Straight value of bond           | ₹ 235   |
| Market price of convertible bond | ₹ 265   |
| Maturity                         | 5 Years |

You, being an expert of the matter, are required to answer his questions. Select the most appropriate alternative:

5. The percentage of downside risk of the bond is approximately.....
- (a) 10.42%
  - (b) 6.38%
  - (c) 2.13%
  - (d) 12.77%
6. The conversion premium in percentage term of the bond is.....
- (a) 12.77%
  - (b) 10.42%
  - (c) 2.18%
  - (d) 13.45%
7. The conversion parity price of the stock is.....
- (a) ₹ 11.75
  - (b) ₹ 12.00

(c) ₹ 13.25

(d) ₹ 12.50

8. If he wants a yield of 15% the maximum price he should be ready to pay for is.....

(a) 217.41

(b) 224.81

(c) 240.00

(d) 232.32

**(4 x 2 = 8 Marks)**

### **Case Scenario III**

Suppose you are a financial consultant and following 3 clients have approached to you seeking advise on the investment to be made in securities. All these clients have different background and risk appetite as well as perception to the market.

- ❖ Client A wants to invest in Fixed income avenues and therefore he is looking at the credit rating of the securities as well as financial ratios such as interest coverage, earning power etc and the general prospect of the industry.
- ❖ Client B wants to earn a fixed income over a period of time by holding the security till its maturity.
- ❖ Client C wants to earn more by taking more risk. Therefore, he is more interested to invest in stocks. He believes that Price reflects all information found in the record of past prices and volumes.

On the basis of above information, choose the most appropriate answer to the MCQs.

9. The main factor to be considered in selecting fixed income avenue for client A shall be.....

(a) Yield to maturity

(b) Risk of Default

(c) Tax Shield

(d) Liquidity

10. The main factor that have to be evaluated in the selection of Bond for Client B shall be.....

(a) Yield to maturity

(b) Risk of Default

(c) Tax Shield

(d) Liquidity

11. If Weak form efficiency is prevailing in the market then which approach is best for selection of Equity Shares?

(a) Technical Analysis

(b) Fundamental Analysis

(c) Random selection Analysis

(d) None of the above.

**(3 x 2 = 6 Marks)**

#### Case Scenario IV

AES Ltd. wants to acquire DNF Ltd. and has offered a swap ratio of 1:2 (0.5 shares for every one share of DNF Ltd.). Following information is provided:

|                                  | AES Ltd.    | DNF Ltd.   |
|----------------------------------|-------------|------------|
| Profit after tax                 | ₹ 36,00,000 | ₹ 7,20,000 |
| Equity shares outstanding (Nos.) | 12,00,000   | 3,60,000   |
| PE Ratio                         | 10 times    | 7 times    |
| Market price per share           | ₹ 30        | ₹ 14       |

On the basis of above information, choose the most appropriate answer to the following questions:

12. The number of equity shares to be issued by AES Ltd. for acquisition of DNF Ltd. would be.....
- (a) 1,68,000  
(b) 1,80,000  
(c) 2,40,000  
(d) 3,00,000
13. The EPS of AES Ltd. after the acquisition would be.....
- (a) ₹ 2  
(b) ₹ 3  
(c) ₹ 3.13  
(d) ₹ 4.00
14. The equivalent earnings per share of DNF Ltd. would be.....
- (a) ₹ 1  
(b) ₹ 1.50  
(c) ₹ 1.57  
(d) ₹ 2.00
15. If AES Ltd. PE multiple remains unchanged then its expected market price per share after the acquisition would be.....
- (a) ₹ 14  
(b) ₹ 30  
(c) ₹ 31.30  
(d) ₹ 40.00

(4 x 2 = 8 Marks)

## PART – II DESCRIPTIVE QUESTIONS

**Question No.1 is compulsory. Candidates are required to answer any four questions from the remaining five questions.**

*Working notes should form part of the answers.*

**Maximum Marks – 70 Marks**

1. (a) XYZ Ltd. an Indian firm needs to pay JAPANESE YEN (JY) 1 crore on 30<sup>th</sup> June. In order to hedge the risk involved in foreign currency transaction, the firm is considering two alternative methods i.e. forward market cover and currency option contract.

On 1<sup>st</sup> April, following quotations (JY/INR) are made available:

|                |                  |
|----------------|------------------|
| Spot           | 3 months forward |
| 1.7825/1.8245. | 1.8726./1.8923   |

The prices for forex currency option on purchase are as follows:

|                    |           |
|--------------------|-----------|
| Strike Price       | JY 1.8855 |
| Call option (June) | JY 0.047  |
| Put option (June)  | JY 0.098  |

For excess or balance of JY covered, the firm would use forward rate as future spot rate.

You are required to recommend cheaper hedging alternative for XYZ LTD.

**Note:** Except rates round off other calculations to nearest rupees. **(6 marks)**

- (b) The expected returns and Beta of three stocks are given below

| Stock               | A   | B   | C   |
|---------------------|-----|-----|-----|
| Expected Return (%) | 20  | 13  | 17  |
| Beta Factor         | 1.9 | 0.8 | 1.4 |

If the risk-free rate is 9% and the expected rate of return on the market portfolio is 14%, examine which of the above stocks are over, under or correctly valued in the market? What shall be the strategy? **(4 Marks)**

- (c) What do you mean by the term Unicorn? State the features a Start-up should possess to be referred as a Unicorn? **(4 Marks)**
2. (a) DK Ltd. is considering an investment proposal in Sri Lanka involving an initial investment of LKR 25 billion. The current spot exchange rate is INR/LKR 0.370. The risk free rate in India is 6% and the same in Sri Lanka is 5.02%.

The project will generate a cash flow of LKR 5 billion in the first year. The cash flow will increase by LKR 1 billion each year for the next 4 years. The project will wind up on completion of 5 years with no salvage value. The required rate of return for the project is 8%

- (i) You are required to find out the investment worth of the project by using
- (1) Home Currency Approach
  - (2) Foreign Currency Approach

(ii) Compare the outcome under both the approaches.

Given:

|                     |         |         |         |         |         |
|---------------------|---------|---------|---------|---------|---------|
| <b>PVIF (8%, t)</b> | 0.92593 | 0.85734 | 0.79383 | 0.73503 | 0.68058 |
| <b>PVIF (7%, t)</b> | 0.93457 | 0.87344 | 0.81630 | 0.76290 | 0.71299 |

**Note:** Except rates show all calculations in Billion upto four decimal points. **(6 Marks)**

(b) On the basis of the following information:

Current dividend ( $D_0$ ) = ₹ 5

Discount rate ( $k$ ) = 10.5%

Growth rate ( $g$ ) = 4%

(i) Calculate the present value of stock of ABC Ltd.

(ii) Evaluate whether the stock is overvalued if stock price is ₹ 70, ROE = 18% and EPS ( $E_0$ ) = ₹ 4.50 applying:

(1) PE Multiple Approach and

(2) Earning Growth Model (using discount rate of 10.5%). **(4 Marks)**

(c) Explain the concept of Sustainable Growth Rate and also state assumptions of Sustainable growth model. **(4 Marks)**

3. (a) Mr. X is interested in investing ₹ 4,00,000 for which he is considering following three alternatives:

(i) Invest ₹ 4,00,000 in Security A

(ii) Invest ₹ 4,00,000 in Security B

(iii) Invest ₹ 2,40,000 in Security A and ₹ 1,60,000 in Security B

Average annual return earned on Security A and Security B is 15% and 14% respectively. Risk free rate of return is 10% and Market Rate of Return is 12%.

Covariance of returns of Security A, Security B and Market portfolio are as follows:

|            | Security A | Security B | Market |
|------------|------------|------------|--------|
| Security A | 4.800      | 4.300      | 3.370  |
| Security B | 4.300      | 4.250      | 2.800  |
| Market     | 3.370      | 2.800      | 3.100  |

On the basis of above information evaluate the following:

(i) Expected Return of Security A, B and Portfolio.

(ii) Variance of return of Security A, Security B and Market.

(iii) Variance and Standard Deviation of Portfolio.

(iv) Systematic and Unsystematic Risks of Security A, Security B and Portfolio.

**(10 Marks)**

(b)

Either

Tokenization to some extent resembles the process of Securitization. Explain the term "Tokenization" and also illustrate the similarities between Tokenization and Securitization.

**(4 Marks)**

(b)

Or

While in securitization the securities issued by SPV are backed by the loans and receivables the CDOs are backed by pool of bonds, asset backed securities, REITs, and other CDOs. Describe the main types of risk associated with investment in CDOs.

**(4 Marks)**

4.

(a) ABC Ltd. has ₹ 600 million, 12 per cent bonds outstanding with six years remaining to maturity. Since interest rates are falling, ABC Ltd. is contemplating of refunding these bonds with a ₹ 600 million issue of 6 year bonds carrying a coupon rate of 10 per cent. Issue cost of the new bond will be ₹ 12 million and the call premium is 4 per cent. ₹ 18 million being the unamortized portion of issue cost of old bonds can be written off no sooner the old bonds are called off. Marginal tax rate of ABC Ltd. is 30 per cent. Examine the bond refunding decision.

[PVIFA (7%, 6 years) = 4.766]

Note: Carry out calculations in ₹ Million and round off calculations upto 4 decimal points.

**(6 Marks)**

(b) Mr. A established the following strategy on the stock of D Ltd. which is currently trading at ₹ 1000 per share:

- (1) Purchased one 3-month call option with a premium of ₹ 60 at an exercise price of ₹ 1100 per share.
- (2) Purchased one 3-month put option with a premium of ₹ 10 at an exercise price of ₹ 900 per share.

Appraise the position of Mr. A if after 3-months the price of D Ltd. stock:

- (i) remains at ₹ 1000.
- (ii) falls at ₹ 700.
- (iii) rises to ₹ 1300.

Assume the option size is 100 shares of D Ltd.

**(4 Marks)**

(c) List out the areas where the concept of Value at Risk (VAR) can be applied? **(4 Marks)**

5.

(a) Following information is given in respect of Alpha Ltd., which is expected to grow at a rate of 20% p.a. for the next three years, after which the growth rate will stabilize at 8% p.a. normal level, in perpetuity.

|   | For the year ended March 31, 2023 |
|---|-----------------------------------|
| Revenues                                      | ₹ 15,000 Crores                   |
| Cost of Goods Sold (COGS)                     | ₹ 6,000 Crores                    |
| Operating Expenses                            | ₹ 4,500 Crores                    |
| Capital Expenditure                           | ₹ 1,500 Crores                    |
| Depreciation (included in Operating Expenses) | ₹ 1,200 Crores                    |

During high growth period, Revenues & Earnings before Interest & Tax (EBIT) will grow at 20% p.a. and capital expenditure net of depreciation will grow at 15% p.a.

From year 4 onwards, i.e. normal growth period revenues and EBIT will grow at 8% p.a. and incremental capital expenditure will be offset by the depreciation. During both high growth & normal growth period, net working capital requirement will be 25% of revenues.

Out of total capital, 60% constitute Equity and rest is Debt. The cost of equity is 17.53% and pre-tax cost of debt is 16%.

Corporate Income Tax rate is 30%.

Required:

Estimate the value of Alpha Ltd. using Free Cash Flows to the Firm (FCFF).

The PVIF @ 15 % for the three years are as below:

| Year | $t_1$  | $t_2$  | $t_3$  |
|------|--------|--------|--------|
| PVIF | 0.8696 | 0.7561 | 0.6575 |

**Note:** Carry out calculation in ₹ Crore and round off figures upto two decimal points.

**(8 Marks)**

- (b) A trader is having in its portfolio shares worth ₹ 170 lakhs at current price and cash ₹ 30 lakhs. The beta of share portfolio is 1.6.

Evaluate:

- (i) Current portfolio beta  
(ii) Portfolio beta after 3 months if the trader on current date goes for long position on ₹ 200 lakhs Nifty futures and after 3 months the price of shares dropped by 3.2%.

**(6 Marks)**

6. (a) Suppose a dealer quotes 'All-in-cost' for a generic swap at 8% against six-month MIBOR flat. If the notional principal amount of swap is ₹ 10,00,000.

- (i) Calculate semi-annual fixed payment.  
(ii) Produce the first floating rate payment for (i) above if the six month period from the effective date of swap to the settlement date comprises 181 days and that the corresponding MIBOR was 6% on the effective date of swap.

In (ii) above, if the settlement is on 'Net' basis, how much the fixed rate payer would pay to the floating rate payer?

Generic swap is based on 30/360 days basis.

**(6 Marks)**

- (b) The Textile Manufacturing Company Ltd. is considering one of two mutually exclusive proposals, Projects M and N, which require cash outlays of ₹ 17,00,000 and ₹ 16,50,000 respectively. The certainty-equivalent (C.E) approach is used in incorporating risk in capital budgeting decisions. The current yield on Treasury bond is 6%. The expected net cash flows and their respective certainty equivalents are as follows:

| Project M |             |      | Project N   |      |
|-----------|-------------|------|-------------|------|
| Year-end  | Cash Flow ₹ | C.E. | Cash Flow ₹ | C.E. |
| 1         | 9,00,000    | 0.8  | 9,00,000    | 0.9  |
| 2         | 10,00,000   | 0.7  | 9,00,000    | 0.8  |
| 3         | 10,00,000   | 0.5  | 10,00,000   | 0.7  |

Present value factors of ₹ 1 discounted at 6% at the end of year 1, 2 and 3 are 0.943, 0.890 and 0.840 respectively.

Required:

- (i) Recommend which project should be accepted?
- (ii) Suppose if risk adjusted discount rate method is to be used for evaluation then which project would be appraised with a higher discount rate and why? **(8 Marks)**