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

Bank A is in need of fund for a period of 14 days. To meet this financial need on 20th September 2023 Bank A enters into an agreement with Bank B under which it will sell 10% Government of India Bonds issued on 1st January 2023 @ 5.65% for ₹ 8 crore (Face value is ₹ 10,000 per Bond).

The clean price of same Bond is ₹ 9,942 and the Initial Margin be 2% and the maturity date of Bond is 31st December 2028. Consider 360 days in a year and interest is payable annually.

Based on above Case Scenario, answer the following questions:

1. The arrangement entered between Bank A and Bank B will be called ……….

    (a) Call Money Arrangement

    (b) Commercial Bill Arrangement

    (c) Commercial Paper

    (d) Repurchase Option

2. Dirty Price of the Bond will approximately be……………………….

    (a) ₹ 10,353

    (b) ₹ 10,670

    (c) ₹ 10,499

    (d) ₹ 10,816

3. The start proceeds of the transaction shall be approximately ………………

    (a) ₹ 8,38,36,804

    (b) ₹ 8,36,53,000

    (c) ₹ 8,58,36,804

(d) ₹ 8,48,52,585

4. The second leg of the transaction shall be approximately…………………

(a) ₹ 8,38,36,804

(b) ₹ 8,36,53,000

(c) ₹ 8,58,36,804

(d) ₹ 8,48,52,585

5. The amount of Accrued Interest per Bond shall be approximately ……………

(a) ₹ 728

(b) ₹ 720

(c) ₹ 734

(d) ₹ 714   **(5 x 2 = 10 Marks)**

Case Scenario II

The Asset Management Company of the mutual fund (MF) has declared a dividend of 9.98% on the units under the dividend reinvestment plan for the year ended 31st March 2021. The investors are issued additional units for the dividend at the rate of closing Net Asset Value (NAV) for the year as per the conditions of the scheme.

The closing NAV was ₹ 24.95 as on 31st March 2021. An investor Mr. X who is having 20,800 units at the year-end has made an investment in the units before the declaration of the dividend at the rate of opening NAV plus an entry load of ₹ 0.04. The NAV has appreciated by 25% during the year.

Assume the face value of the unit as ₹ 10.00.

Based on above Case Scenario, answer the following questions:

6. The Opening NAV of the Asset Management Company shall be …………

(a) ₹ 20.24

(b) ₹ 19.96

(c) ₹ 18.75

(d) ₹ 17.65

7. The Number of the units purchased shall be ………………….

(a) 18750

(b) 17500

(c) 20450

(d) 20000

8. Original amount of the investment shall be ………………

    (a) ₹ 4,00,000

    (b) ₹ 6,50,000

    (c) ₹ 3,55,000

    (d) ₹ 5,65,000

9. Which of the following statement about Expense ratio is/ are incorrect:

    (i) It is the percentage of income that were spent to run a mutual fund.

    (ii) It includes advisory fees, travel costs, registrar fees , custodian fees, etc.

    (iii) It includes Brokerage costs for trading of Portfolio.

    (iv) High Expense Ratio can seriously undermine the performance of a mutual fund scheme.

    (a) (i), (ii), (iii)

    (b) (i), (iii)

    (c) only (iii)

    (d) only (i)

10. …………………considers and uses downside deviation instead of total standard deviation in denominator.

    (a) Expense Ratio

    (b) Sharpe Ratio

    (c) Treynor Ratio

    (d) Sortino Ratio   **(5 x 2 = 10 Marks)**

Case Scenario III

You as an investor had purchased a 4-month European Call Option on the equity shares of X Ltd. for ₹ 10, of which the current market price is ₹ 132 per share and the exercise price ₹ 150. You expect the price to range between ₹ 120 to ₹ 190. The expected share price of X Ltd. and related probability is given below:

Expected Price (₹)	120	140	160	180	190
Probability	0.05	0.20	0.50	0.10	0.15

Based on above case scenario answer the following questions:

11. Expected price of share of X Ltd. at the end of 4 months shall be…….

    (a) ₹ 160.00

    (b) ₹ 160.50

    (c) ₹ 158.00

    (d) ₹ 140.00

12. Suppose if the exercise price prevails at the end of 4 months the Value of Call Option shall be…………

   (a) ₹ 0

   (b) ₹ 18

   (c) ₹ 10

   (d) ₹ 14

13. In case the option is held to its maturity, the expected value of the call option shall be……………

   (a) ₹ 0

   (b) ₹ 18

   (c) ₹ 10

   (d) ₹ 14

14. In the given different scenarios of expected prices of share of X Ltd. at the time of maturity the option shall be in-the-money in …………… scenarios.

   (a) two

   (b) three

   (c) five

   (d) In none of the scenario

15. In the given different scenarios of expected prices of share of X Ltd. at the time of maturity the option shall be at-the-money in …………… scenarios.

   (a) two

   (b) three

   (c) five

   (d) In none of the scenario   **(5 x 2 = 10 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) On Tuesday morning (before opening of the capital market) an investor, while going through his bank statement, has observed that an amount of ₹ 7 lakhs is lying in his bank account. This amount is available for use from Tuesday till Friday. The Bank requires a minimum balance of ₹ 1000 all the time. The investor desires to take a maximum possible exposure in the market where Value at Risk (VaR) should not exceed the balance lying in his bank account. The standard deviation of index of the same market is 1.5 per cent per day. The required confidence level is 99 per cent.

Given

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
				Standard Normal Probabilities						
2.2	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
2.3	.9893	.9896	.9998	.9901	.9904	.9906	.9909	.9911	.9913	.9916
2.4	.9918	.9920	.9922	.9923	.9925	.9929	.9931	.9932	.9934	.9936

You are required to determine the maximum possible exposure investor can take in the market. **(8 Marks)**

(b) MNP Ltd. has declared and paid annual dividend of ₹ 4 per share. It is expected to grow @ 20% for the next two years and 10% thereafter. The required rate of return of equity investors is 15%.

Compute the current price at which equity shares should sell.

Note: Use PVF upto 4 decimal points and round off calculation upto 2 decimal points. **(2 Marks)**

(c) Explain the concept of Unicorn. **(4 Marks)**

2. (a) Mr. H as Treasure for your bank working under you sold HK$ 10 million value Spot to your customer at ₹ 10.53/ HK$ and covered yourself in the London market on the same day when the exchange rates were:

US$ 1 = H.K.$ 7.8880 / 7.8920

Local interbank market rates for US$ were:

Spot US$ 1 = ₹ 82.70 / 82.85

Required:

(i) Calculate Cover Rate

(ii) Calculate Profit or loss in the transaction

(iii) Do you agree with the views of the Internal Auditor that Mr. H has a speculative nature?

Note: Ignore brokerage. **(6 Marks)**

(b) PFL is already in production of Fertilizer is considering a proposal of building a new plant to produce pesticides. The Net Present Value of proposal is ₹ 200 crore without the abandonment option.

However, if market conditions for pesticide turns out to be favourable the NPV of proposal shall increase by 30%. On the other hand, market conditions remain sluggish the NPV of the proposal shall be reduced by 40%. In case company is not interested in continuation of the project it can be disposed of for ₹ 160 crore.

If the risk-free rate of interest is 8% then what will be value of abandonment option. **(4 Marks)**

(c) Explain the various Qualitative factors that need to be taken into account in addition to Quantitative Factors to evaluate the performance of any Mutual Fund. **(4 Marks)**

3. (a) Mr. A owns a portfolio with the following characteristics:

	Security X	Security Y	Risk Free security
Factor 1 sensitivity (λ_1)	0.80	1.50	0
Factor 2 sensitivity (λ_2)	0.60	1.20	0
Expected Return*	15%	20%	10%

* Generated by a two-factor model.

Required:

(i) Compute the sensitivity of Mr. A's portfolio to the two factors if Mr. A has ₹ 3,00,000 to invest and sells short ₹ 1,50,000 of security Y and purchases ₹ 4,50,000 of security X.

(ii) Compute the sensitivity of the portfolio to the two factors if Mr. A borrows ₹ 3,00,000 at the risk free rate and invests the amount he borrows along with the original amount of ₹ 3,00,000 in security X and Y in the same proportion as described in part (i).

(iii) Suppose Mr. D, one of the friend of Mr. A says the expected return premium of factor 2 is zero. Do you agree with this statement. Substantiate your answer with required calculations.

(**6 Marks**)

(b) There is a privately held company X Pvt. Ltd that is operating into the retail space, and is now scouting for angel investors. The unleveraged beta based on the industry in which it operates is 1.8, and the average debt to equity ratio of X Pvt. Ltd. is hovering at 40:60. The rate of return provided by risk free GOI Bonds is 5%. The rate of market return for the industry is 11%. The FCFs for the next 3 years are as follows:

	Year 1	Year 2	Year 3
Free Cash Flows (₹ Crore)	10	12	15

The pre-tax cost of debt is 12%. Assume a tax regime of 30%.

Determine the potential value to be placed for X Pvt. Ltd, based on above-mentioned FCFs.

Note: Use PVF and round off calculations upto 3 decimal points.

(4 Marks)

(c) **Either**

Explain various types of Swaps. **(4 Marks)**

(c) **Or**

Explain briefly principles of an Active Portfolio Strategy (APS). (**4 Marks**)

4. (a) BDR Ltd. is an Indian export business house. The company prepares invoice in customers' currency. It has debtors amounting US$ 10 Million which are due to be received on April 1, 2023.

Market information as at January 1, 2023 is:

Exchange rates US$/INR		Currency Futures US$/INR	
Spot	0.012500	Contract size: ₹ 32,816,474	
1-month forward	0.012422	1-month	0.012417
3-months forward	0.012195	3-month	0.012189
	Initial Margin	**Interest rates in India**	
1-Month	₹ 22,500	6.5%	
3-Months	₹ 27,500	7%	

On April 1, 2023, the spot rate US$/INR is 0.012199 and Currency Futures rate is 0.012198.

Advise which of the following methods would be most advantageous to BDR Ltd. or keep the exposure unhedged.

(i) Using forward contract

(ii) Using currency futures. **(8 Marks)**

(b) A convertible bond with a face value of ₹ 5,000 is issued at ₹ 6,750 with a coupon rate of 10.5%. The conversion rate is 14 shares per bond. The current market price of the bond and share is ₹ 7,375 and ₹ 400 respectively.

Determine:

(i) Stock Value of Bond.

(ii) The premium over conversion value. **(2 Marks)**

(c) Although rating agency is secondary to the process of securitization but it plays a vital role. Explain. **(4 Marks)**

5. (a) During the audit of the Weak Bank (W), RBI suggested that the Bank should either merge with another bank or may close down. Strong Bank (S) has submitted a proposal for the merger of Weak Bank with itself. The relevant information and Balance Sheets of both the companies are as follows:

Particulars	Weak Bank (W)	Strong Bank (S)	Assigned Weights (%)
Gross NPA (%)	8	1	30%
Capital Adequacy Ratio (CAR)	5	16	28%
Market price per Share (MPS) (₹)	12	96	32%

Book value			10%
Trading on Stock Exchange	Irregular	Frequent	

Balance Sheets   **(₹ in Lakhs)**

Particulars	Weak Bank (W)	Strong Bank (S)
Paid-up Share Capital (₹ 10/share)	300	1000
Reserves & Surplus	160	11000
Deposits	8000	88000
Other Liabilities	1780	5000
Total Liabilities	10240	105000
Cash in Hand & with RBI	800	5000
Balance with Other Banks	-	4000
Investments	2200	38000
Advances	7000	54000
Other Assets	140	4000
Preliminary Expenses	100	-
Total Assets	10240	105000

You are required to prepare the Balance Sheet after the merger duly supported by adequate workings. **(10 Marks)**

(b) The SWIFT plays an important role in Foreign Exchange dealings. Explain. **(4 Marks)**

6. (a) XYZ Ltd. is considering taking up one of the two projects-Project-X and Project-Y. Both the projects having same life require equal investment of ₹ 1600 lakhs each. Both are estimated to have almost the same yield. As the company is new to this type of business, the cash flow arising from the projects cannot be estimated with certainty. An attempt was therefore, made to use probability to analyse the pattern of cash flow from other projects during the first year of operations. This pattern is likely to continue during the life of these projects. The results of the analysis are as follows:

Project X

Cash Flow (in ₹ Lakh)	Probability
220	0.10
260	0.20
300	0.40
340	0.20
380	0.10

Project Y

Cash Flow (in ₹ Lakh)	Probability
180	0.10
260	0.25
340	0.30
420	0.25
500	0.10

Required:

Evaluate which of the two projects bears more risk for every percent of expected return. **(6 Marks)**

(b) The following data pertains to HPS Inc. engaged in software consultancy business as on 31 December 2023:

($ Million)

Income from consultancy	1870.00
EBIT	360.00
Less: Interest on Loan	36.00
EBT	324.00
Tax @ 35%	113.40
	210.60

Balance Sheet   ($ Million)

Liabilities	Amount	Assets		Amount
Equity Stock (20 million share @ $ 10 each)	200	Land and Building		400
		Computers & Softwares		590
Reserves & Surplus	650	Current Assets:		
Loans	360	Debtors	300	
Current Liabilities	360	Bank	200	
		Cash	80	580
	1570			1570

With the above information and following assumption you are required to compute

(i)   Economic Value Added

(ii) Market Value Added.

Assuming that:

(1)   WACC is 12%.

(2)   The share of company currently quoted at $ 50 each.   **(4 Marks)**

(c) Explain Venture Capital Method of valuing Startups.   **(4 Marks)**