Mock Test Paper - Series II: October, 2024

Date of Paper: 1st October, 2024

Time of Paper: 2 P.M. to 5 P.M.

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

Suppose you are a risk manager at a financial institution, and your company has loaned a significant amount of ₹ 500 crore to a company X Ltd. for a period of 3 years at 6-month at MCLR plus 200 bps. You are concerned about X Ltd.'s ability to repay the debt due to recent market volatility. To protect your institution from potential default, you decide to purchase a Credit Default Swap (CDS) from ABC Bank Ltd. for same notional amount at a premium quoted at 1% per year through cash settlement.

On the respective reset dates for the same period actual MCLR interest rate comes out as follows:

Reset	MCLR
1	9.75%
2	10.00%
3	10.25%
4	10.35%
5	10.50%
6	10.60%

Based on above case scenario answer the following questions:

1. The primary purpose of a Credit Default Swap (CDS) is.....
   (a) to increase the value of bonds.
   (b) to protect against default risk of a debt obligation.
   (c) to provide guaranteed profit to the buyer.
   (d) to create a new form of loan.
2. Which of the following statements is true about CDS contracts?
   (a) CDS contracts cannot be used for speculation.

(b) CDS contracts are governed by government regulations.

(c) CDS contracts are private agreements between two parties.

(d) CDS contracts eliminate all risks for the buyer.

3. Which organization publishes the guidelines and rules for conducting Credit Default Swap transactions?

(a) Federal Reserve

(b) International Swap and Derivative Association (ISDA)

(c) Securities and Exchange Commission (SEC)

(d) World Trade Organization (WTO)

4. Assuming no default occurs the total premium your company will pay during the designated loan period shall be.....

(a) ₹ 5 crore

(b) ₹ 10 crore

(c) ₹ 15 crore

(d) ₹ 30 crore

5. Suppose if the lender defaults somewhere in the beginning of third year of loan (after payment of interest upto 2 years) and the market value of a reference loans falls to 75% of its par value, then ABC Bank will pay your company .....in a cash settlement.

(a) ₹ 15 crore

(b) ₹ 30 crore

(c) ₹ 125 crore

(d) ₹ 500 crore **(5 x 2 = 10 Marks)**

Case Scenario II

XYZ Ltd. is a mid-sized manufacturing company that produces industrial equipment. The company is considering a new investment project—a state-of-the-art automated production line, which is expected to improve production efficiency. The details of the same project are as follows:

	₹
Initial Cost of the project	10,00,000
Sales price/unit	60
Cost/unit	40
Sales volumes	
Year 1	20000 units
Year 2	30000 units
Year 3	30000 units

The applicable discount rate is 10% p.a.

Based on above case scenario answer the following questions:

6. Sensitivity analysis helps to identify……..
   (a) the exact profitability of the project
   (c) the break-even point.
   (c) the degree to which a change in each variable affects the NPV.
   (d) the amount of investment required
7. The sale price per unit so that the project would break even with zero NPV shall be approximately……..
   (a) ₹ 40.00
   (b) ₹ 55.28
   (c) ₹ 60.00.
   (d) ₹ 44.74
8. The cost per unit so that the project would break even with zero NPV shall be approximately……..
   (a) ₹ 40.00
   (b) ₹ 55.28
   (c) ₹ 60.00.
   (d) ₹ 44.74
9. Overall ……in the sale volume will lead to the project to break even with zero NPV.
   (a) increase of 23.68%
   (b) fall of 23.68%
   (c) Increase of 31.03%
   (d) fall of 31.03%
10. A/an ……in the initial outlay will lead to the project to break even with zero NPV.
   (a) increase of 23.68%
   (b) fall of 23.68%
   (c) Increase of 31.03%
   (d) fall of 31.03% **(5 x 2 = 10 Marks)**

Case Scenario III

You are an investment analyst working for a financial advisory firm. You have been asked to analyze the bond market's yield curve to assist your clients in making investment decisions. The yield curve represents the relationship between the

interest rates (yield) and the time to maturity for debt securities, usually government bonds.

For simplicity, assume the following yield data for government bonds over various maturities (measured in years):

Yield Curve Table

Maturity (Years)	Yield (%)
1 Year	3.00%
2 Years	4.00%
3 Years	5.00%
5 Years	6.00%
7 Years	6.40%
10 Years	7.00%
15 Years	7.40%
30 Years	7.60%

Based on above case scenario answer the following questions:

11. The main characteristic of a normal yield curve is…….
    (a) Short-term yields are higher than long-term yields.
    (b) Short-term yields are lower than long-term yields.
    (c) Yields remain the same across all maturities.
    (d) Yields fluctuate randomly over different maturities.
12. Based on the revised yield data, what is the yield spread between the 10-year bond and the 1-year bond?
    (a) 2.0%
    (b) 3.5%
    (c) 4.0%
    (d) 5.0%
13. An inverted yield curve typically indicates…….
    (a) Economic growth
    (b) Economic uncertainty
    (c) An upcoming recession
    (d) Inflationary pressure
14. If an investor is looking to invest for 2 years starting 3 years from now, the forward rate he would expect shall be……
    (a) 7.41%

(b) 7.52%

(c) 7.76%

(d) 7.93%

15. If an investor is looking to invest for 2 years starting 5 years from now, the forward rate he would expect shall be……

(a) 7.41%

(b) 7.52%

(c) 7.76%

(d) 7.93% **(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) The ABC Startup has the following expected profits under different scenarios along respective probabilities:

Year	Best Case		Base Case		Worst Case	
	Revenue	Expenses	Revenue	Expenses	Revenue	Expenses
1	₹ 100,00,000	₹ 80,00,000	₹ 100,00,000	₹ 90,00,000	₹ 100,00,000	₹ 95,00,000
2	₹ 120,00,000	₹ 92,40,000	₹ 110,00,000	₹ 95,70,000	₹ 102,00,000	₹ 98,94,000
3	₹ 144,00,000	₹ 108,00,000	₹ 121,00,000	₹ 102,85,000	₹ 104,04,000	₹ 101,95,920
Probability		30%		60%		10%

You are required to suggest the value of ABC Startup using First Chicago Method assuming that:

(i) Applicable discounting rate is 20%.

(ii) Startup is located in Tax-free Zone.

(iii) The multiple for Terminal is 10.

(iv) No depreciable assets are held by the ABC Startup.

Note: 1. Present Value Factor (PVF)

Year	1	2	3
PVF@20%	0.8333	0.6944	0.5787

2. Round off the calculation to whole numbers. **(8 Marks)**

(b) List out the points to be kept in mind while preparing a Pitch Presentation. What are the basic documents that are included in financial projections that make up a business's financial statement.

(6 Marks)

2. (a) Calculate the value of one equity share of X Ltd. from the following Information:

Profit of the company (Before tax)	₹ 8000 crores
Equity share capital of the Company	₹ 19000 crores
No. of Equity Shares	380 crores
Long run growth rate of the company	7%
Risk free Rate of Return	9.50%
Beta of the company	0.1
Market Risk Premium	3.10%
Total Capital expenditure	₹ 20140 crore
Chargeable Depreciation	₹ 17100 crore
Total Increase in working capital	₹ 1755.60 crore
New Debt to be issued for funding	₹ 2062.108 crore
Tax Rate	30%

Note: All calculation to rounded off upto 4 decimal points and final value of equity share to be rounded off upto 2 decimal points.

(6 Marks)

(b) A multinational company is planning to set up a subsidiary company in India (where hitherto it was exporting) in view of growing demand for its product and competition from other MNCs. The initial project cost (consisting of Plant and Machinery including installation) is estimated to be US$ 500 million. The net working capital requirements are estimated at US$ 50 million. The company follows straight line method of depreciation. Presently, the company is exporting two million units every year at a unit price of US$ 80, its variable cost per unit being US$ 40.

The Chief Financial Officer has estimated the following operating cost and other data in respect of proposed project:

(i) Variable operating cost will be US $ 20 per unit of production;

(ii) Additional cash fixed cost will be US $ 30 million p.a. and project's share of allocated fixed cost will be US $ 3 million p.a. based on principle of ability to share;

(iii) Production capacity of the proposed project in India will be 5 million units;

(iv) Expected useful life of the proposed plant is five years with no salvage value;

(v) Existing working capital investment for production & sale of two million units through exports was US $ 15 million;

(vi) Export of the product in the coming year will decrease to 1.5 million units in case the company does not open subsidiary

company in India, in view of the presence of competing MNCs that are in the process of setting up their subsidiaries in India;

(vii) Applicable Corporate Income Tax rate is 35%, and

(viii) Required rate of return for such project is 12%.

Assuming that there will be no variation in the exchange rate of two currencies and all profits will be repatriated, as there will be no withholding tax, estimate Net Present Value (NPV) of the proposed project in India.

Present Value Interest Factors (PVIF) @ 12% for five years are as below:

Year	1	2	3	4	5
PVIF	0.8929	0.7972	0.7118	0.6355	0.5674

(8 Marks)

3. (a) Following are the details of a portfolio consisting of three shares:

Share	Portfolio weight	Beta	Expected return in %	Total variance
A	0.20	0.40	14	0.015
B	0.50	0.50	15	0.025
C	0.30	1.10	21	0.100

Standard Deviation of Market Portfolio Returns = 10%

You are given the following additional data:

Covariance (A, B) = 0.030

Covariance (A, C) = 0.020

Covariance (B, C) = 0.040

Calculate the following:

(i) The Portfolio Beta

(ii) Residual variance of each of the three shares

(iii) Portfolio variance using Sharpe Index Model

(iv) Portfolio variance (on the basis of modern portfolio theory given by Markowitz) **(10 Marks)**

(b) **Either**

Explain briefly various types of interest rate risk faced by companies/ banks. **(4 Marks)**

(b) **Or**

Explain the various areas where Blockchain can be applied. (**4 Marks)**

4. (a) On 1st April, an open ended scheme of mutual fund had 300 lakh units outstanding with Net Assets Value (NAV) of ₹ 18.75. At the end of April, it issued 6 lakh units at opening NAV plus 2% load, adjusted for dividend equalization. At the end of May, 3 Lakh units were repurchased at opening NAV less 2% exit load adjusted for dividend equalization. At the end of June, 70% of its available income was distributed.

In respect of April-June quarter, the following additional information are available:

	₹ in lakh
Portfolio value appreciation	425.47
Income of April	22.950
Income for May	34.425
Income for June	45.450

You are required to calculate

(i) Income available for distribution;

(ii) Issue price at the end of April;

(iii) repurchase price at the end of May; and

(iv) net asset value (NAV) as on 30th June. **(10 Marks)**

(b) Followings are the spot exchange rates quoted at three different forex markets:

USD/INR	48.30 in Mumbai
GBP/INR	77.52 in London
GBP/USD	1.6231 in New York

The arbitrageur has USD1,00,00,000. Assuming that there are no transaction costs, explain whether there is any arbitrage gain possible from the quoted spot exchange rates. **(4 Marks)**

5. (a) ICL is proposing to take over SVL with an objective to diversify. While ICL growth rate is 18%, the SVL growth rate is 15%. Both the companies pay dividend regularly. The summarized Profit & Loss Account of both the companies are as follows:

₹ in Crores

Particulars	**ICL**	**SVL**
Net Sales	9090	3000
PBIT	5960	1440
Interest	1500	50
Provision for Tax	2880	890
PAT	1580	500
Dividends	470	304.35

	ICL		SVL	
Fixed Assets				
Land & Building (Net)	1440		380	
Plant & Machinery (Net)	1800		700	
Furniture & Fixtures (Net)	60	3300	20	1100
Current Assets		1550		1160
Less: Current Liabilities				
Creditors	460		260	
Overdrafts	70		20	
Provision for Tax	290		100	
Provision for dividends	120	940	100	480
Net Assets		3910		1780
Paid up Share Capital (₹ 10 per share)	500		250	
Reserves and Surplus	2100	2600	1320	1570
Borrowing		1310		210
Capital Employed		3910		1780

Market Price Share (₹)	175	98
Cost of Equity	25%	20%

ICL's Land & Buildings are stated at current prices. SVL's Land & Buildings are revalued three years ago. There has been an increase of 7.65 per cent per year in the value of Land & Buildings.

SVL is expected to grow @ 18 per cent each year, after merger.

ICL is interested to do justice to the shareholders of both the Companies. For the swap ratio weights are assigned to different parameters by the Board of Directors as follows:

Net Worth Per Share*	25%
EPS (Earning per share)	30%
Share price as per Dividend Growth Model	20%
Market Price per share	25%

* After required adjustment.

You are required to suggest the swap ratio based on above weights and total number of shares.

Note: Round off calculations upto two decimal points. **(10 Marks)**

(b) Explain the characteristics of Global Depository Receipts (GDRs).

(4 Marks)

6. (a) Sensex futures are traded at a multiple of 50. Consider the following quotations of Sensex futures in the 10 trading days during February, 2009:

Day	High	Low	Closing
4-2-09	3306.4	3290.00	3296.50
5-2-09	3298.00	3262.50	3294.40
6-2-09	3256.20	3227.00	3230.40
7-2-09	3233.00	3201.50	3212.30
10-2-09	3281.50	3256.00	3267.50
11-2-09	3283.50	3260.00	3263.80
12-2-09	3315.00	3286.30	3292.00
14-2-09	3315.00	3257.10	3309.30
17-2-09	3278.00	3249.50	3257.80
18-2-09	3118.00	3091.40	3102.60

Abshishek bought one Sensex Futures contract on February, 04. The average daily absolute change in the value of contract is ₹ 10,000 and standard deviation of these changes is ₹ 2,000. The maintenance margin is 75% of initial margin.

You are required to determine the daily balances in the margin account and payment on margin calls, if any. **(8 Marks)**

(b) "Technical Analysis has several supporters as well several critics." Explain this statement. **(6 Marks)**