AFM/SFM Test-8

Mission 80+ in AFM/SFM for Nov/Dec 2024 attempt

Time Allowed – 2 Hours

Maximum Marks - 60

All Questions are Compulsory.

Working Notes should form part of the respective answer.

PART I – Case Scenario based MCQs (18 Marks)

In our CA Final AFM paper / CMA Final SFM Paper conducted by Institute, it is not required to show the working for MCQs. However, for our test series, we highly recommend that students provide detailed workings. This allows us to better evaluate your preparation and understanding of the concepts.

Case Scenario I:

Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 2024 were as follows:

Days	Date	Day	Sensex
1	6	THU	34522
2	7	FRI	34925
3	8	SAT	No Trading
4	9	SUN	No Trading
5	10	MON	35222
6	11	TUE	36000
7	12	WED	36400
8	13	THU	37000
9	14	FRI	No Trading
10	15	SAT	No Trading
11	16	SUN	No Trading
12	17	MON	38,000

The 30 days simple moving average of Sensex can be assumed as 35,000. The value of exponent for 30 days EMA is 0.064. (Calculations should be up to three decimal points.)

(i) Exponential Moving Average (EMA) of Sensex on 7th Jan is **2M**

(a) 34982.914 (b) 34969.408

(c) 34966.566 (d) None of the above

(ii) Exponential Moving Average (EMA) of Sensex on 10th Jan is **2M**

(a) 35048.008 (b) 34982.914

(c) 34966.566 (d) 34969.408

(iii) Which of the following conclusion can be drawn on the basis of EMA of given period **1M**

(a) market is likely to remain bearish
(b) market is likely to remain bullish
(c) market is likely to remain stable
(d) not able to draw any conclusion

(iv) A buy signal provided by moving average analysis of stock prices is when the stock price line **1M**

(a) falls below a flattening moving average line
(b) falls below a falling moving average line
(c) falls below a rising moving average line
(d) rises above a falling moving average line

Case Scenario II:

Mr. X is a Senior Portfolio Manager at ABC Asset Management Company. He expects to purchase a portfolio of shares worth 20 Lakh in 90 days.

However, he is worried about the expected price increase in shares in coming day and to hedge against this potential price increase he decides to take a position on a 90-day future contract on the Index.

The 30 Days Future Contract on index is currently trading at 18000. Assuming that the continuously compounded dividend yield is 2% and risk-free rate of interest is 7%, answer the below MCQ.

Note:

Take 365 days in a year.

Index Future is trading in lot of 50.

Exponential values are rounded to 5 decimal places.

No of contracts are rounded to nearest Whole Number.

(i) Current Value of Index is **2M**

(a) 16,926.14
(b) 17,926.14
(c) 17,114.26
(d) None of the above

(ii) the justified future price on this 90 days' contract is **2M**

(a) 17,926.14
(b) 18,148.60
(c) 18,627.10
(d) 18,500.00

(iii) Suppose after 40 days of the purchase of the contract the index value stands at 18500 then the gain/ loss on the above long position will be **2M**

(a) Loss of 47,850
(b) Gain of 48,750
(c) Gain of 47,850
(d) Gain of 23,925

(iv) If at expiration of 90 days, the Index Value is 17000 then what will be gain on long position **2M**

(a) Loss of 1,14,860
(b) Gain of 1,14,860
(c) Gain of 57,430
(d) Loss of 57,430

MCQ.III Which of the following contract involves the notional principal for the purpose of exchange of liabilities. **1M**

(a) Currency Swap
(b) Plain Vanilla Swap
(c) Forward Contract
(d) None of these

MCQ.IV Which of the following is not an assumption of Black-Scholes Model? **1M**

(a) The risk-free rate of interest is known
(b) Options can be exercised only at expiration
(c) Dividend is paid on the shares
(d) No imperfection exists in writing an option

MCQ.V A stock is currently selling at Rs. 270. The call option to buy the stock at Rs. 265, costs Rs. 12. What is the Time Value of the option? **1M**

(a) 5 (b) 17 (c) 7 (d) -7

MCQ.VI The buying rate is also known as **1M**

(a) Ask Rate (b) Bid rate (c) Offer rate (d) swap

PART II – Descriptive Questions (42 Marks)

1. Bharat Bank entered into a plain vanilla swap through on OIS (Overnight Index swap) on a principal of ₹1 crore and agreed to receive MIBOR overnight floating rate for a fixed payment on the principal. The swap was entered into on Monday, 10th July, 2017 and was to commence on and from 11th July, 2017 and run for a period of 7 days. **7**

Respective MIBOR rates for Tuesday to Friday were:

8.75%, 9.15%, 9.12%, 8.95%

If Bharat bank received ₹417 net on settlement and Fixed rate of interest is 8% p.a., Calculate MIBOR rate on Monday and interest under both legs.

Notes: (i) Saturday and Sunday is holiday.

(ii) Work in rounded rupees and avoid decimal working.

(iii) Consider 365 days in a year.

2. Cash Rich Ltd (CRL) has invested ₹50 crore in market linked securities providing it a current return of 8% with current MIBOR of 7.5%. Of late, yield in the market have started falling adversely affecting the income of CRL. **7**

It needs to protect the same. Professional Bank Ltd, CRL's banker has offered a 3-year MIBOR based swap with rates at 7.30% - 7.40%.

(i) Depict the Swap Arrangement

(ii) What income can it lock-in for next 3 Years?

(iii) What would be the advantage of the Swap?

(iv) Should CRL accept the Swap?

3. Mr. A is holding 1000 shares of face value of 100 each of M/s. ABC Ltd. He wants to hold these shares for long term and have no intention to sell. **7**

On 1st January 2023, M/s. XYZ Ltd. has made short sales of M/s. ABC Ltd.'s shares and approached Mr. A to lend his shares under Stock Lending Scheme with following terms:

(i) Shares to be borrowed for 3 months from 01-01-2023 to 31-03-2023,

(ii) Lending Charges/Fees of 1% to be paid every month on the closing price of the stock quoted in Stock Exchange and

(iii) Bank Guarantee will be provided as collateral for the value 01-01-2023.

Other Information:

(a) Cost of Bank Guarantee is 8% per annum,

(b) On 29-02-2023 M/s. ABC Ltd., declared dividend of 25%,

Closing price of M/s. ABC Ltd.'s share quoted in Stock Exchange on various dates are as follows:

Date	Share Price in Scenario -I Bullish	Share Price in Scenario-II Bearish
01-01-2023	500	500
31-01-2023	520	480
29-02-2023	540	460
31-03-2023	550	440

You are required to find out:

(i) Earnings of Mr. A through Stock Lending Scheme in both the scenarios,

(ii) Total Earnings of Mr. A during 01-01-2023 to 31-03-2023 in both the scenarios,

(iii) What is the Profit or loss to M/s. XYZ by shorting the shares using through Stock Lending Scheme in both the scenarios?

4. The following market data is available: **7**

Spot USD/ JPY **116.00**

Deposit rates P. a.	**USD**	**JPY**
3 months	4.50%	0.25%
6 months	5.00%	0.25%

Forward rate agreement (FRA) for YEN is NIL.

1. What should be 3 months FRA rate at 3 months forward?
2. The 6 & 12 months LIBORS are 5% & 6.5% respectively. A bank is quoting 6/12 USD FRA at 6.50 – 6.75%. Is any arbitrage opportunity available?

Calculate profit in such cases.

5. Shrinidhi is learning the portfolio management techniques and wants to test one of the techniques she has developed on KGF Equity Fund and compare the gains and losses from the technique with those from a passive buy and hold strategy. **7**

The KGF Equity Fund consists of equities only and the ending NAVs of the fund she constructed for the last 10 months are given below:

	Month Ending	NAV (₹/unit)		Month Ending	NAV (₹/unit)
(i)	Jan-23	100	**(vi)**	Jun-23	98
(ii)	Feb-23	78	**(vii)**	Jul-23	100
(iii)	Mar-23	92	**(viii)**	Aug-23	102
(iv)	Apr-23	86	**(ix)**	Sep-23	118
(v)	May-23	102	**(x)**	Oct-23	120

Assume:

(i) Shrinidhi had invested a notional amount of ₹ 5 lakhs equally in the equity fund and a conservative portfolio (of bonds) in the beginning of January 2023 and the total portfolio was being rebalanced each time the NAV of the fund increased or decreased by 15% compared to the NAV of previous month.

(ii) There is no income earned from the conservative portfolio during the period.

(iii) There is no taxation and entry/exit loads.

You are required to determine.

a) The value of the portfolio for each level of NAV following the Constant Ratio Plan.

b) Which strategy (whether *constant ratio plan* or *buy-hold strategy*) would have provided better position as on Oct-23? Assume equal fund invested in equity & bond at the beginning under both strategies.

6. JKL Ltd. is an export business house. The company prepares invoice in customers' currency. **7**

Its debtors of US $ 2million is due on April 1, 2017.

Market information as at January 1, 2017 is:

Exchange rates US$/INR		**Currency Futures US $/INR**	
Spot	0.016667	Contract size: 23,41,224	
1- month forward	0.016529	1- month	0.016519
3- month forward	0.016129	3- month	0.016118

	Initial Margin	**Interest rates in India**
1- month	₹ 32,500	7%
3- month	₹ 50,000	8%

On April 1, 2017 the spot rate US$/INR is 0.016136 and currency future rate is 0.016134.

Which of the following methods would be most advantageous to JKL Ltd.?

(i) Using forward contract

(ii) Using currency futures

(iii) Not hedging the currency risk