

CAP-III AFM Test-12

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

Write following details on First page of your Answer sheet.

(1) Name, (2) Mobile Number & (3) Mail ID:

Send scan copy of your answer sheet in PDF format at: sfmcertifiedcopy@gmail.com for evaluation.

Time Allowed – 2 Hrs

Maximum Marks - 60

Attempt all questions. Working notes should form part of the answers. Make assumptions wherever necessary.

1. R Ltd. requires a machine for 5 years. There are two alternatives either to take it on lease or buy. The company is reluctant to invest initial amount for the project and approaches their bankers. Bankers are ready to finance 100% of its initial required amount at 15% rate of interest for any of the alternatives. 20

Under lease option, upfront Security deposit of Rs. 5,00,000/- is payable to lessor which is equal to cost of machine. Out of which, 40% shall be adjusted equally against annual lease rent. At the end of life of the machine, expected scrap value will be at book value after providing depreciation @ 20% on written down value basis.

Under buying option, loan repayment is in equal annual instalments of principal amount, which is equal to annual lease rent charges. However, in case of bank finance for lease option, repayment of principal amount equal to lease rent is adjusted every year, and the balance at the end of 5th year.

Assume Income tax rate is 30%, interest is payable at the end of every year and discount rate is @ 15% p.a. The following discounting factors are given:

Year	1	2	3	4	5
Factor	0.8696	0.7562	0.6576	0.5718	0.4972

Which option would you suggest on the basis of net present values?

2. (a) The following are returns in % of securities A, B and the market in excess of the risk-free rate: 8

Security A	Security B	Market
12	16	14
15	18	16
18	20	18

- (i) Determine the characteristic line for securities A and B.
(ii) What would be the beta of a portfolio consisting of 75% investment in A and 25% in B?
(iii) When the market return is 15%, what would be the return on the portfolio?

- (b) X Co. is evaluating an investment proposal which has uncertainty associated with the three important aspects: original cost, useful life and annual net cash flows. The three probability distributions for these variables are shown below: 6

Original Cost		Useful life		Annual net cash inflows	
Value	Probability	Value	Probability	Value	Probability
₹ 60,000	0.30	5 years	0.40	₹10,000	0.10
₹ 70,000	0.60	6 years	0.40	₹ 15,000	0.30
₹ 90,000	0.10	7 years	0.20	₹ 20,000	0.40
				₹ 25,000	0.20

The company wants to perform five simulation runs of this project's life. The firm's cost of capital is 15% and the risk-free rate is 6%; for simplicity it is assumed that these two values are known with certainty and will remain constant over the life of the project.

To simulate the probability distribution of original cost, useful life and annual net cash inflows, are the following are the sets of random numbers:

09, 84, 41, 92, 65; 24, 38, 73, 07, 04; and 07, 48, 57, 64, 72 respectively each of the five simulation runs.

- (c) On 1st September 2023 when BSE Sensex was 60000, future contract on BSE Index with 4 months maturity is used to hedge the value of the portfolio over the next 3 months. One future contract for delivery is 25 times of the index. 6

The following information is available:

Value of the portfolio	₹ 1,51,50,000
BSE Sensex on 1st January 2024 (Anticipated on 1st September 2023)	60600
BSE Sensex on 1st January 2024 (Anticipated on 1st December 2023)	58145
181 days' treasury bills offers a rate of interest	9% p.a.

Required:

- (i) Calculate Dividend Yield of Index
(ii) What is the turned-out value of the Sensex as on 1st December 2023?
(iii) If total 12 contracts were entered for the complete hedge, decide the beta of the portfolio.

3. (a) JKL Ltd., an Indian company has an export exposure of JPY 10,000,000 payable August 31, 2014. Japanese Yen (JPY) is not directly quoted against Indian Rupee. 8

The current spot rates are:

$$\text{INR/US \$} = ₹ 62.22$$

$$\text{JPY/US\$} = \text{JPY } 102.34$$

It is estimated that Japanese Yen will depreciate to 124 level and Indian Rupee to depreciate against US \$ to ₹65.

Forward rates for August 2014 are:

$$\text{INR/US \$} = ₹ 66.50$$

$$\text{JPY/US\$} = \text{JPY } 110.35$$

Required:

- (i) Calculate the expected loss if the hedging is not done. How the position will change, if the firm takes forward cover?
- (ii) If the spot rates on August 31, 2014, are:

$$\text{INR/US \$} = ₹ 66.25$$

$$\text{JPY/US \$} = \text{JPY } 110.85$$

Is the decision to take forward cover justified?

- (b) An investor purchased 300 units of a Mutual fund at ₹12.25 per unit on 31st December, 2009. As on 31st December, 2010 he has received ₹1.25 as dividend and ₹1.00 as capital distribution per unit. 6

Required:

- (i) The return on the investment if the NAV as on 31st December, 2010 is ₹13.00
- (ii) The return on the investment as on 31st December, 2010 if all dividends and capital gains distributions are reinvested into additional units of the fund at ₹12.50 per unit.

- (c) B Ltd. is a highly successful company and wishes to expand by acquiring other firms. Its expected high growth in earnings and dividends is reflected in its PE ratio of 17. 6

The Board of Directors of B Ltd. has been advised that if it were to take over firms with a lower PE ratio than it own, using a share-for-share exchange, then it could increase its reported earnings per share. C Ltd. has been suggested as a possible target for a takeover, which has a PE ratio of 10 and 1,00,000 shares in issue with a share price of ₹15.

B Ltd. has 5,00,000 shares in issue with a share price of ₹12.

Calculate the change in earnings per share of B Ltd. if it acquires the whole of C Ltd. by issuing shares at its market price of ₹12. Assume the price of B Ltd. shares remains constant.