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IV Semester M.B.A. Degree Examination, October - 2021

MANAGEMENT

Derivatives and Risk Management

(CBCS Scheme 2019-20)

Paper : 4.2.3

Time : 3 Hours

Maximum Marks : 70

SECTION - A

Answer any FIVE questions each carries 5 marks.

(5×5=25)

- Discuss the factors contribute for the growth of derivative market in India.
- Write a short note on:
 - Sensitivity Analysis.
 - Scenario Analysis.
 - Simulation Analysis.
- From the following information prepare the margin account of the trader who had taken a long position, number of contract is equal to 1, number of units per contract is 50, price per unit on day one is Rs 700 Initial margin being 12% and maintenance margin is 75%.

Day	1	2	3	4	5	6	7	8	9
Price	693	682	663	648	623	610	633	638	621

- Mr. Rohan decides to create a 'Bull Spead' by way of buying a August 2021 call option on stock, with an exercise price of Rs 100 for Rs 5 and selling a call option on it involving an exercise price of Rs 110 for Rs2 . Find out how much profit/loss he makes in each of the following conditions.
 - On settlement day, the price of the underlying stock is Rs 95 per share.
 - On settlement day, the price of the underlying stock is Rs106 per share.
 - On settlement day, the price of the underlying stock is Rs113 per share.
- Mention the deference between commodity futures and stock futures.
- Consider a call option on a certain share, say ABC. Suppose the contract is made between 2 investors X and Y who take respectively the short ans long position. The other details are given below.

Exercise price:Rs120

Expiry month: March2021

Size of the contract: 100 shares.

Date of entering in to contract: JAN 5, 2021

Price of share on date of contract: 24.50

Price of call option on date of contract:Rs 10.00

Calculate the profit/Loss profile for both the investor. Assume 8 days price expected of ABC Company is 90,100,110,120,130,140,150, and 160.

[P.T.O.]



7. Explain the SEBI Guidelines on derivatives market.

SECTION - B

Answer any **THREE** question, each carries **10** marks.

(3×10=30)

8. The current price of a share is Rs50 and it is believed that at end of one month the price will be either Rs55 or Rs45. What will a European call option with an exercise price Rs53 on this share be valued at, if the risk free rate of interest is 15% per annum? Also calculate the hedge ratio. applying binomial formulation.
9. Discuss the various factors affecting the option prices.
10. Assume that a market capitalization weighted index consist of 5 stocks. Currently the index stands @ 970. Obtain the price of a future contract with expiration in 115 days on this index having reference to the following additional information.

- a) Dividend of Rs6/share expected on share B, 20 days from now.
b) Dividend of Rs3/share expected on share E, 28 days from now.

Ccrf is 8% Size of the contract is 300 units and other information's below

Company	Share price	Market Cap(crore)
A	22	110
B	85	170
C	54	216
D	25	200

11. Write a short note on i) Put Call parity theory, ii) Risk Neutralization Method, iii) Binomial Model

SECTION - C

12. **Compulsory Question.**

(1×15=15)

The following information is available:

- * Current stock price: Rs. 225.
- * Strike price: Rs. 245.
- * The ccrf: 13% per annum.
- * Volatility of interest rate: 4%.
- * Duration of option: 5 months.

Using black Scholes model determine:

- i) Value of call and put option.
ii) Option Delta, Gamma, Vega, Theta and Rho.