

M.B.A.-II (Sem.-III) Examination
Derivatives and Risk Management
May-2017

Time : 3 Hours]

[Max. Marks : 100

Instructions:

1. Q:1 and Q:5 are compulsory.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the following terminology 10
1. Futures
 2. Short Hedge
 3. Maintenance Margin
 4. Open Interest
 5. Speculation

- (b) What happens if the spot price and futures prices do not converge at maturity? What kind of risk is arises when there is difference between spot and futures price on maturity? Discuss in detail. 10

- Q.2** (a) What is Value at Risk? Discuss its advantages and applicability in present context of risk assessment by financial world. 10
- (b) In the context of Derivative financial crisis, present your analysis of nature of crisis and what lessons can Financial Institutions learn. 10

OR

- (a) Discuss the upper and lower bound of calls and puts. 10
- (b) Explain Greek Letters as a measurement of risk. 10

- Q.3** (a) DMart stock price is currently 700. Over each of the next two six month periods it is expected to go up by 10% or down by 10%. The risk free rate is 10% per annum with continuous compounding. What is the value of one year European call option with a strike price of 750? Also draw a binomial tree 10
- (b) What is SWAP? Discuss the different types of risk in SWAP contracts. 10

OR

- Q.3** (a) The BSE Sensex index futures contract has a multiplier of 10. Assume that you enter into a BSE Index futures contract at 16,125 at 11 a.m. on March 1. Assume that the initial margin is 5% of the initial contract value (INR 8,062.50) and the maintenance margin is INR 5,000 at any given time. The following table shows the settlement prices on the days of trading between March 1 and March 12. You close out your position on March 12. Prepare a table showing the

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daily margin balances in your account.

Date	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
Closing	16,140	16,250	15,850	15,740	15,350
Date	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
Closing	15,900	16,850	16,450	17,035	16,438

(b) Explain Caps and Floors with respect to interest rate derivatives 10

Q.4 (a) A stock is trading at INR 1,240 on October 1. Call options and put options with different exercise dates and exercise prices are available, as shown in the following Table. 10

Exercise date	Exercise Price (INR)	Call Price (INR)	Put Price (INR)
November 27	1,300	80	110
November 27	1,250	145	50
November 27	1,350	20	175
December 26	1,300	110	140
December 26	1,250	180	85
December 26	1,350	45	210

The stock price on November 27 is INR 1,280 and on that December 26 is INR 1,340. On November 27, a December 1,300 call option is priced at INR 60, a December 1,250 call is priced at INR 110, and a December 1,350 call is priced at INR 15. A December 1,300 put option is priced at INR 70, a December 1,250 put is priced at INR 40, and a December 1,350 call is priced at INR 120.

What would be the gain or loss if you enter into a butterfly spread using call options with the exercise date of November 27?

What would be the gain or loss if you enter into a butterfly spread using put options with the exercise date of December 26?

(b) Explain Straddle as a option trading strategy. Also explain about strip and strap and its utility. 10

OR

Q.4 (a) What do you mean by Barrier options? Explain any two knock out options of your choice. 10

(b) Discuss BS Model along with its assumptions, formula and implications. 10

Q.5 (a) Discuss the factors affecting the options premium? 10

(b) Explain the concept of cross hedging with an illustration 10
