Hall Ticket No | | | | | | | | | | | Question Paper Code: CMB421

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

MBA IV Semester End Examinations (Regular) - May/June, 2018

Regulation: IARE–R16

FINANCIAL DERIVATIVES

Time: 3 Hours **(MBA)** **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Explain the growth and development of derivatives market in India. **[7M]**
   (b) Define derivatives. Write the uses of financial derivatives in detail. **[7M]**
2. (a) Discuss the different players in the derivatives markets with their roles. **[7M]**
   (b) Explain the classification based on linearity and on the basis of financial and non financial derivatives. **[7M]**

UNIT – II

3. (a) Briefly explain about forward rate agreements in forward contract. **[7M]**
   (b) Calculate the price of 100 forward contract using the following information. Price of share Rs 75. Time to expiration 9months. Dividend expected Rs 2.20per share. Time to dividend 4 months. Continuously compounded risk free rate of interest is 12%. **[7M]**
4. (a) Explain about currency rate futures in derivatives market. **[7M]**
   (b) From the following Table 1, prepare the margin account of the trader who has taken the long position: number of contracts- 1; number of units per contract- 50; price per unit on day 1- Rs.700; initial margin- 12%; maintenance margin- 75%. **[7M]**

Table 1

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

UNIT – III

5. (a) Write short notes on American option and European option. **[7M]**
   (b) A butterfly spread is created when large price changes are not expected but instead small changes are anticipated. Consider the data in Table 2 about call options on BHEL for which one contract involves 1100 shares.

Table 2

Strike price(Rs)	Premium(Rs)
170	21.10
180	14.00
190	8.00

Help the investor to build a butterfly spread. Find the pay-off for him at various ranges of stock prices. Illustrate by taking stock prices as Rs 168, Rs 176, Rs 185, Rs 189, and Rs 198. **[7M]**

6. (a) What is a Bull Spread? Explain the payoffs arising out of Bull Spread (Using calls). **[7M]**

   (b) Using the data given below, calculate the theoretical values of
   (i) call
   (ii) put options on futures
   S and P CNX Nifty futures contract price = 1625
   Exercise price of the option = 1632
   Time to expiration of the option = 60 days
   Risk-free interest rate = 7%
   Volatility, $\sigma = 28\%$ **[7M]**

UNIT – IV

7. (a) Discuss about basis risk in commodity trading market. **[7M]**

   (b) Explain briefly about commodity futures contract with a suitable examples. **[7M]**

8. (a) Explain commodity options contract with a suitable examples. **[7M]**

   (b) Explain how swaps commodity works in commodity derivative market. **[7M]**

UNIT – V

9. (a) Define swaps. Explain the features of swaps. **[7M]**

   (b) Discuss about currency swaps as a tool to hedge risk. **[7M]**

10. (a) How do you value interest rate swaps. **[7M]**

    (b) Suppose that zero interest rates with continuous compounding are given in Table 3.

Table 3

Maturity (years)	Rate (% per annum)
1	8.0
2	7.5
3	7.2
4	7.0
5	6.9

Calculate forward interest rates for the second, third, fourth and fifth years.

[7M]