SRN – 06

M.Com. (Semester – IV) Examination, April 2016
COO 4A1 : DERIVATIVES MARKET (OA-18)
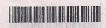
Duration : 3 Hours   Max. Marks : 60

Instructions : 1) This paper consists of **nine** questions carrying **equal** marks.
2) Question No. **1** consists of **5 compulsory** questions of **2** marks **each**.
3) Answer **any five** questions from question **2, 3, 4, 5, 6, 7, 8** and **9**.
4) **Each** question carries **10** marks. Figures to the **right** indicate marks.
5) **Present value** and **logarithm tables** will be supplied on request.

1. Answer the following short questions :   **(5×2=10)**

   a) What is hedging ? How it is differ from Speculation ?

   b) What is Put-Call Parity ?

   c) What is Basis ? How do you compute it ?

   d) What is Rho of Stock Options ?

   e) What is Swap ? How it is differ from Forward Rate Agreement ?

2. What are the different types of Financial Derivatives ? Explain their features in brief.

3. Describe the characteristics of Futures Contracts. Distinguish between Futures and Forwards.

4. Explain when a Call Option and a Put Option are In-the-Money, At-the-Money and Out-the-Money with a suitable example.

5. Explain briefly Commodity Derivatives. Differentiate between Stock Forwards and Commodity Forwards.

P.T.O.

6. A) A Put and Call will expire in 3-months and both have a Strike Price of Rs. 25. The risk less rate is 10 per cent.

   i) Determine the price of the Put under Put-Call Parity, if the Call has a price of Rs. 4 and the Stock price of Rs. 22.

   ii) Determine the price of the Call under Put-Call Parity, if the Put has a price of Rs. 5 and the Stock price is Rs. 20.   **5**

   B) Mr. David paid a premium of Rs. 4 per share for one 6-months Call Option contract of 400 shares of ABC Corporation. At the time of purchase, the shares are selling for Rs. 56 per share, and the exercise price of the call option was Rs. 55. Determine profit or loss if the price of Stock is Rs. 54 or Rs. 62 when the Option is exercised.   **5**

7. A) A stock is currently trading at Rs. 50. Over the next two months, the stock will either move up by 25 per cent or down by 25 per cent. The Risk Free Rate is 1.00 per cent per month. If an investor writes a 1-month Option with an exercise price of Rs. 50, find out the price of Call option using Binomial Option Pricing Model.   **5**

   B) A Stock price is currently Rs. 40. It is known that at the end of 3-months it will be either Rs. 45 or Rs. 35. The Risk Free Rate with quarterly compounding is 8 per cent per annum. Calculate the value of 3-months European Put Option with a Strike price of Rs. 40 under Binomial Option Pricing Model. Use no arbitrage arguments.   **5**

8. Assume that the Stock of X has a Spot Price of Rs. 50 and it pays a Dividend of 2 per cent (to be distributed a year from now) of the Spot price today, also assume that Risk Free Rate is 3 per cent per annum.

   a) What is the Fair Value of the Future Contract in the context of no-arbitrage principle ?   **3**

   b) Suppose that the price in the market is Rs. 3 less than the price found in a). Describe investment strategy that profits from this arbitrage opportunity.   **7**

9. Mr. Ram wants to earn income by writing a Call Option on ABC Corporation's Stock. The Current price of the Stock is Rs. 25 and he wants to write 0.3 year Call Option with a striking price of Rs. 28. The stock's has 30 per cent standard deviation. The Risk Free Rate is 10 per cent per annum.

   i) Determine the value of Call Option with Black and Scholes Model.   **7**

   ii) If the Current price of a Call Option on Stock is Rs. 0.60, what should an investor do to make money ?   **3**