MFE 32

III Semester M.B.A. (F.E.) Examination, June/July 2010
COMPUTATIONAL FINANCE AND STOCHASTIC CALCULUS (OS)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer the following. **Each** question carries **2** marks : **(2×5=10)**

1. a) Define warrant pricing.

   b) What do you mean by Martingale ?

   c) What is Gaussian process ?

   d) What is Dependent Event ?

   e) What is simulation ?

SECTION – B

Answer **any five** questions. **Each** question carries **seven** marks : **(7×5=35)**

2. Illustrate probability distribution.

3. Explain Baye's theorem.

4. Write a note on spatial Poisson process.

5. Explain valuation of real options and option games.

6. Describe hitting time formulas for fixed barrier.

7. Explain Risk-Neutral simulations.

8. Describe briefly Dutch auction.

P.T.O.

SECTION – C

Answer **any two** question. **Each** carries **10** marks : **(2×10=20)**

9. Describe expected discount factor.

10. Explain Monte Carlo simulation of mean Reversion Model I.

11. Explain Arithmetic Brownian model for the logarithm of the prices.

12. Explain the concept of sensitivity analysis.

SECTION – D

Answer **any one**, carrying **15** marks : **(1×15=15)**

13. Illustrater the application of X = {x(t), t, T}.

14. Explain Poisson process as limit of Bernoulli process.