Roll No. | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CSE) (2011 Onwards) (Sem.–6)

SIMULATION AND MODELING

Subject Code : BTCS-601

Paper ID : [A2306]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Write briefly :

   a. Probability density function.

   b. Advantages of Poisson distribution.

   c. Stochastic activities.

   d. What is hold and store block GPSS?

   e. Mean and variance of exponential distribution.

   f. Cumulative distribution function.

   g. Write any two Properties of pseudo random numbers.

   h. Dynamic mathematical model.

   i. Sample size.

   j. List any two simulation software.

SECTION-B

2. Discuss the mid square random number generator. Give suitable example.

3. What do you mean by time advance mechanisms in simulation? Discuss next-event time advance approach with flowchart.

4. Suppose that arrivals to a Post Office occur at a rate of 2 per minute from 8 A.M. until 12 P.M., then drop to 1 every 2 minutes until the day ends at 4 P.M. What is the probability distribution of the number of arrivals between 11 A.M. and 2 P.M.?

5. What is poker test? Explain with suitable example.

6. Explain the Empirical distribution with suitable example.

SECTION-C

7. Describe an algorithm for simulating the behaviour of Token passing protocol by using a simulation language of your choice.

8. Explain Model Validation and Verification in detail.

9. Write the short notes on followings :

   a. Lognormal distribution.

   b. Calibration & Validation.