Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

BTech.(IT) (2011 Onwards E-III) (Sem.–7,8)
# MODELLING AND SIMULATION
Subject Code :BTIT-905
M.Code : 71989

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 have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Write briefly :**

    a. What are application areas of modelling?

    b. What is discrete event simulation?

    c. Write about time advance mechanism in simulation.

    d. Discuss inventory model.

    e. Write importance of random numbers.

    f. What is a binomial distribution in simulation?

    g. Give the introduction of GPSS.

    h. Differentiate optimization *vs.* simulation.

    i. What is a stochastic computer simulation?

    j. Write the uses of MATLAB.

SECTION-B

2. Explain the mid-square random number generator and its use.

3. What is the difference between discrete and continuous probability distributions?

4. Draw the flowchart of next-event time advance approach.

5. List out some of the common toolboxes present in MATLAB.

6. Write a short note on Monte Carlo method of simulation.

SECTION-C

7. How do you do a chi-square test? Write the steps to interpret the p value in a chi square test.

8. What is simulation of queuing system? Discuss the event graphs of queuing model.

9. Explain the use of Network Simulator in Simulation? Which simulator will best suited for the modeling of communication networks?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.