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

Total No. of Questions : 09

B.Tech.(CSE) (Sem.–6)
SIMULATION AND MODELING
Subject Code : BTCS-601
M.Code : 71107
Date of Examination : 24-05-2023

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS 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. **Answer briefly :**

   a) List the various applications of Simulation.

   b) What are the various worldviews in discrete event system modeling?

   c) Give examples of few popular simulation software in industry.

   d) What is statistical model in simulation?

   e) Give the two applications of Queueing models.

   f) Explain the pseudo random numbers.

   g) What is meant by biased and unbiased estimator?

   h) Define output analysis.

   i) What is meant by Metamodeling?

   j) List few simulation languages and environments.

SECTION-B

2. Discuss the Event Scheduling/Time Advanced algorithm in discrete event simulation.

3. Explain the role of exponential distribution and properties in statistical modeling.

4. Suggest a step by step procedure to generate random variates using Inverse transform technique for exponential distribution.

5. What do you understand by verification and validation of Simulation Models?

6. With illustrative examples, describe the Output analysis for Steady state simulation.

SECTION-C

7. What do you mean by discrete-event simulation? With a neat flow diagram, explain the various steps in a simulation study.

8. Explain the characteristics of queuing system. Also, explain the queuing notations in general.

9. a) Discuss the role of simulation in comparing two systems.

   b) Write a note on simulation of Computer Systems.

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.