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

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(CSE) (2011 Onwards) (Sem.–6)

SIMULATION AND MODELING

Subject Code : BTCS-601

M.Code : 71107

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

Answer briefly :

1. How can we offset the disadvantages of simulation?
2. Define "Attribute" and "Activity" in the context of system simulation.
3. Describe Kendal-Lee notation for a queuing system.
4. What is hold and store block GPSS?
5. Mean and variance of Weibull distribution.
6. System capacity in context of queue system.
7. Define Chi-square test.
8. What is confidence interval estimation?
9. How the sample size is decided in simulation.
10. Dynamic mathematical model.

SECTION-B

11. Explain Steady State behaviour of Finite population.

12. Explain auto correlation Test for random numbers.

13. How can you select input model without data? Explain with example.

14. Describe in detail the three step approach for model validation?

15. What do you mean by time advance mechanisms in simulation? Discuss next-event time 5advance approach with flowchart.

SECTION-C

16. What is system simulation? Explain the steps involved in simulation study with flowchart.

17. What is inverse transformation technique? Explain how it is used for producing random variants from exponential distribution.

18. Explain the following :

    a. Disadvantages of simulation.

    b. Monte Carlo Simulation.

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.