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Total No. of Pages : 02

Total No. of Questions : 18

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 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. What is calling population model?
2. Poisson process.
3. How the sample size is decided in simulation?
4. Mean and variance of binomial distribution.
5. Define face validity.
6. Cumulative distribution function.
7. Write any two Properties of pseudo random numbers.
8. Dynamic physical model.
9. Relationship between L , W , L_q , w_q .
10. Name any two simulation languages.

SECTION-B

11. Discuss the applications of network queuing model.
12. What do you mean by time advance mechanisms in simulation? Discuss next-event time advance approach with flowchart.
13. Differentiate between analytical and computational simulation.
14. What is poker test? Explain with suitable example.
15. Discuss the steady state behaviour of infinite calling Population Model.

SECTION-C

16. What do you mean by statistical model in simulation? Discuss any one in detail.
17. Write an algorithm to generate non-uniformly distributed random numbers from the given Weibull distribution.
18. Discuss two application areas each of the following :
 - a. Chi-square with equal probabilities.
 - b. Convolution methods.