

Exam.Code:0918
Sub. Code: 6221

1058

B.E. (Computer Science and Engineering)
Sixth Semester
CS-615: Modeling and Simulation (OLD)
(May 2017)

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

1. What do you mean by System modeling?
2. Define feedback system & its application
3. Name any five blocks in GPSS?
4. Advantages and disadvantages of simulation
5. What kind of problems are with simulations?
6. Which model use random number? A) Deterministic B) Stochastic
7. What are the three measures of the system performance in a single server queueing system?
8. What is Monte Carlo simulation?
9. What is a random variable?
10. What is a state of the system in the discrete-event simulation?

Section A

- Q2 Which are the major industries where simulation is used? Name any two simulation softwares.
B Explain the components and organization of a Discrete Event Simulation Model in Detail.(5,5)
- Q3 Explain the following queuing system characteristics: (a) calling population (b) system capacity (c) Arrival process (d) Queue behavior and discipline (e) service time and service mechanism.(10)
- Q4 Provide the detailed flow chart of a typical arrival event and a departure event in a single channel queuing system. (10)

SECTION B

- Q5. Use the mid of square method to generate 10 four digit random numbers taking seed a 9876
B Explain the linear congruential method for random number generation? (5,5)
- Q6. What is inverse transform technique? Explain how it is used for producing random variants for exponential distribution and uniform distribution.
B Write a MATLAB program to solve roots of quadratic equation $AX^2 + BX + C=0$ where A, B, C are coefficients and input by user. (5,5)
- Q7. Write short notes on (5,5)
- Poission distribution
 - Chi- Square test.

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