

MCA.V/04.21.001(Re -exam)

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**MCA DEGREE FIFTH SEMESTER RE-EXAMINATION, APRIL 2021**  
**16-381-0501 SIMULATION AND MODELLING**

Time: 3 Hours

Maximum Marks: 50

**(Answer ANY FIVE questions)**  
**(All questions carry EQUAL marks)**

1. (a) Give an instance where Monte Carlo Simulation method is used. Show how Monte Carlo method is applied to solve the problem.  
(b) Describe the different components of system with the help of an example.
2. Explain the desirable features of a simulation software.
3. (a) Discuss the tests for uniformity of random numbers.  
(b) Explain the inverse transform technique for any one of the distribution.
4. Briefly Explain the Characteristics of a Queuing Systems.
5. Write a detailed not on the verification and validation of simulation models.
6. Explain the steps in a simulation study with the help of a neat diagram.
- 7 (a) Explain any two statistical models in simulation.  
(b) Consider the experiment of throwing a fair dice. Random variable X is defined as the number appearing on the dice. Calculate the value of Variance (X)?

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