

MCA.V/01.21.001

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MCA DEGREE FIFTH SEMESTER EXAMINATION, JANUARY 2021
16-381-0501 SIMULATION AND MODELLING

Time: 3 Hours

Maximum Marks: 50

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

- I a) Using neat diagram explain the steps in simulation study. (6)
b) What are the components of a system. (4)
- II a) Compare simulation package with programming language. (4)
b) Explain GPSS block diagram with example. (6)
- III a) What are the different tests for random numbers? (2)
b) Distinguish between random numbers and random variates. (2)
c) State the properties of random number. Write one method used to generate random number. (6)
- IV a) Name and explain some of the useful statistical model for Queuing system. (6)
b) Explain simulation of single server queuing system. (2)
c) Define discrete random variable. (2)
- V a) Explain how to identify distribution of data. (4)
b) What is the purpose of model verification? Explain different verification methods for a simulation model. (6)
- VI a) Using Inverse transform method, derive random variates for Exponential distribution. (4)
b) Explain cumulative distribution function. (2)
c) Explain steps in input modelling. (4)
- VII a) Explain Monte-Carlo method of simulation. (2)
b) Briefly explain List processing in simulation. (2)
c) Explain the characteristics of Queuing system. (6)
