

S.D.E.

M.C.A. Sem - V : WINTER - 2018

SUBJECT : I.T. Elective – III : SIMULATION MODELING

Day : Friday
Date : 30/11/2018

Time : 10.00 AM TO 1.00 PM
Max. Marks : 80

W-2018-4820

N.B.

- 1) Attempt **ANY FIVE** questions from Section – I and **ANY TWO** questions from Section – II
 - 2) Answer to both sections should be written in **SEPARATE** answer book.
 - 3) Figures to the **RIGHT** indicate **FULL** marks.
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SECTION – I

- Q.1** Explain the properties of random numbers. (10)
- Q.2** Differentiate between discrete and continuous simulation. (10)
- Q.3** Explain the following terms (10)
- 1) Activity
 - 2) System
 - 3) Simulation
 - 4) Delay
 - 5) Model
- Q.4** State various features of simulation software. (10)
- Q.5** Describe queuing system. State conditions that leads to stability. (10)
- Q.6** Explain the techniques for increasing model validity and credibility. (10)
- Q.7** Write short notes on (10)
- a) Network of queues
 - b) Job shop models

SECTION – II

- Q.8** Using Inverse Transform Method derive random variates for exponential distribution. (15)
- Q.9** Give an example of each type of model and state the one that leads to simulation. (15)
- Q.10** Customers arrive at the first class ticket-counter at a theatre at a rate of 12 per hour. There is one clerk serving the customers at a rate of 30 per hour. (15)
- i) What is the probability that there is no customer in the counter.?
 - ii) What is the probability that there are more than 2 customers in the counter.?

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