

S.D.E.

MCA SEM. – V (OLD COURSE) : **SUMMER-2019**
SUBJECT : I.T. Elective – III : SIMULATION MODELING

Day : **Saturday**
Date : **04-05-2019**

Time : **10:00AM-TO 1:00PM.**
Max. Marks : **80**

S-2019-5279

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 **SAME** answer book.
- 3) Figures to the **RIGHT** indicate **FULL** marks.

SECTION – I

- Q.1** State and explain different types of simulation. (10)
- Q.2** Why random numbers are used in simulation? Explain. (10)
- Q.3** Explain the following terms (10)
 - 1) Activity
 - 2) System
 - 3) Simulation
 - 4) Delay
 - 5) Model
- Q.4** Compare simulation language with programming language. (10)
- Q.5** Discuss various characteristics of queuing system. (10)
- Q.6** Explain the features of simulation software in detail. (10)
- Q.7** Write short notes on (10)
 - a) Simulation packages
 - b) Network of queues

SECTION – II

- Q.8** Customers arrive at the first class ticket-counter at a theatre at a rate of 12 per hour. (15)
There is one clerk serving the customers at a rate of 30 per hour.
 - 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.?
- Q.9** Explain different areas where simulation can be applied. (15)
- Q.10** Using Inverse Transform Method derive random variates for exponential (15)
distribution.

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