Paper Id: | 214513 | **Roll No:** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

MCA
(SEM V) THEORY EXAMINATION 2019-20
SIMULATION AND MODELING

Time: 3 Hours   *Total Marks: 70*
Notes:
- *Attempt all Sections. Assume any missing data.*

SECTION A

1. **Attempt *all* questions in brief.**   **2 x 7 = 14**

a.	Define system environment.
b.	Define the system components with example?
c.	Comparison of simulation and analytical method?
d.	Define Monte Carlo method?
e.	What is a testing feature for a random number?
f.	What is probability density function?
g.	Define cumulative distribution function?

SECTION B

2. **Attempt any *three* of the following:**   **7 x 3 = 21**

a.	Define the following: (i) Entity (ii) Activity (iii) Endogenous event
b.	Discuss Cobweb model with example?
c.	` of single queuing system.
d.	What are the steps in the validation of a simulation system?
e.	Explain the Simulation of PERT network.

SECTION C

3. **Attempt any *one* part of the following:**   **7 x 1 = 7**

(a)	What is the simulation of the inventory system? Explain spreadsheet simulation?
(b)	Discuss about a simulation of a automated warehouse system?

4. **Attempt any *one* part of the following:**   **7 x 1 = 7**

(a)	Explain the following terms used in discrete event simulation: (i) List (ii) Event notice (iii) Delay
(b)	What is list processing? Explain the basic operations of list processing.

5. **Attempt any *one* part of the following:**   **7 x 1 = 7**

(a)	Explain simulation in GPSS with block diagram for single server queue simulation.
(b)	What do you mean by numerical computation techniques for continuous and discrete model. Discuss in detail.

6. **Attempt any *one* part of the following:**   **7 x 1 = 7**

(a)	What do you mean by "world view"? Discuss the various types of world views.
(b)	Explain the difference between Analog and hybrid simulation?

7. **Attempt any *one* part of the following:**   **7 x 1 = 7**

(a)	Define critical path. Why the critical path is important? Explain with an example.
(b)	.