Sub Code: NBC903

Paper Id: 206903 Roll No:

MCA DUAL DEGREE
(SEM IX) THEORY EXAMINATION 2019-20
MODELING & SIMULATION

Time: 3 Hours *Total Marks: 100*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a.	What do you mean system components?
b.	Define dynamic mathematical models?
c.	Define hybrid simulation.
d.	What is GPSS?
e.	What do you meant by event scanning?
f.	What is modal Validation and Verification?
g.	Differentiate between physical and mathematical model?
h.	What do you mean by service time?
i.	Define experimental frames.
j.	Define and difference between continuous and discrete systems.

SECTION B

2. Attempt any *three* of the following: 10x3=30

a.	Define entities , attributes and activities to be considered for the simulation of the following system: (i) Railway reservation system (ii) A fast food restaurant
b.	Discuss Cobweb model with example?
c.	Define and differentiate Monte-Carlo computation and stochastic simulation.
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: 10x1=10

a.	Discuss about a simulation of an automated warehouse system?
b.	Explain the inventory system in simulation?

4. Attempt any *one* part of the following: 10x1=10

a.	How analog simulation is different from digital simulation?
b.	Define and discuss distributed lag model in detail.

5. Attempt any *one* part of the following: 10x1=10

a.	Discuss how the performance simulated system is measured an estimated with suitable example?
b.	Define and compare of simulation and analytical methods.

6. Attempt any *one* part of the following: 10x1=10

a.	Describe exponential decay model in detail.
b.	Explain exponential growth model in detail.

7. Attempt any *one* part of the following: 10x1=10

a.	What do you mean by critical path? Explain any algorithm for finding the critical path?
b.	Explain object oriented simulation in detail.

www.aktuonline.com

http://www.aktuonline.com