Subject Code: NBC903

PAPER ID-310234

Roll No: | | | | | | | | | | | | | |

MCA
(SEM IX) THEORY EXAMINATION 2020-21
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.	Describe the areas of application of simulation.
b.	Define MAIN Routine.
c.	What are the types of Simulation with respect to output analysis?
d.	What is Hold and Store block GPSS?
e.	Define Mean and Variance of Weibull distributions.
f.	Define Mean and Variance Exponential Distribution.
g.	What is Probability Density Function?
h.	Define Cumulative Distribution function.
i.	What do you mean by reliability estimation?
j.	Define Object Oriented Simulation.

SECTION B

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

a.	What is Model? Explain all the types of Models.
b.	Explain mid-square method for generating pseudo random numbers.
c.	What are the steps in the validation of a simulation system?
d.	What do you understand by SIMSCRIPT? Explain Test of Randomness with examples?
e.	Explain the following in brief: (i) GPSS (ii) CSMP-III

SECTION C

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

a.	Define simulation. What are the need , advantages and disadvantages of simulation and modeling?
b.	Discuss principle and steps in creating system models.

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

a.	Discuss in detail of multivariate and time series input model.
b.	What do you mean by event and data modeling. Explain in detail.

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

a.	Describe numerical computation techniques for continuous model in detail.
b.	Discuss service delay and transit times estimator.

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

a.	Write short notes on simulation of token passing protocols?
b.	Explain the difference between analog and hybrid simulation?

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

a.	What do you meant by CPM networks? Explain the construction rules for network?
b.	Explain the Critical path computation with example.