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BT-8/M-20 **38233**

MODELING AND SIMULATION

Paper–EEN-404-N

Option-I

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT–I

1. (a) Define briefly with a suitable example the Static and Dynamic systems.

   (b) Explain the various steps in simulation study, with the help of a neat flow diagram.

2. (a) Give the comparison of simulation and analytical methods. Draw the flow chart of the process of simulation.

   (b) Explain the terms :

   (i) entity

   (ii) attribute

(iii) activity

(iv) event.

UNIT–II

3. (a) Explain Discrete-event system simulation and steps in a simulation study.

   (b) Generate a sequence of 15 random numbers for which seed is 342, constant multiplier is 20, increment is 45 and modulus is 30.

4. Draw and explain the flow charts for single server and two server queue simulation.

UNIT–III

5. (a) How you will differentiate the simulation languages with simulators?

   (b) With Illustrative examples, explain output analysis of steady-state simulations.

6. (a) Differentiate the transfer function simulator and hybrid simulation.

   (b) Explain briefly the transmission parameters.

UNIT–IV

7. (a) What are the different types of MATLAB programming? Explain.

(b) Explain, how you will do programming with matrices. Explain with example.

8. (a) Explain the dynamic system simulation using simulink.

(b) Describe the general applications of simulink in detail.