Code No: **RT41055**          **R13**          Set No. 1

**IV B.Tech I Semester Supplementary Examinations, February/March - 2018**
**SIMULATION MODELING**
(Computer Science and Engineering)

Time: 3 hours                                                          Max. Marks: 70

*Question paper consists of Part-A and Part-B*
*Answer ALL sub questions from Part-A*
*Answer any THREE questions from Part-B*
\*\*\*\*\*

## PART–A *(22 Marks)*

1.  a) Define entity, attribute and activity.                                [3]
    b) Mention the different types of system simulation.                     [4]
    c) Write about the system simulation language.                          [4]
    d) Write short notes on system dynamics.                                [4]
    e) List out the types of simulation queues.                            [3]
    f) What do you mean by event scanning? Explain.                        [4]

## PART–B *(3x16 = 48 Marks)*

2.  a) Briefly describe the concept of a system and models used in the system.   [8]
    b) Describe the simulation of an inventory system with a neat diagram.       [8]

3.  a) Mention the guide lines for determining the various levels of model in detail.   [8]
    b) Compare the simulation and analytical method of system simulation.               [8]

4.  a) Write short notes on system dynamic growth models.                               [8]
    b) Simulate a queue with single queue, single server. Make your own assumption
       about the arrival patterns of customers.                                         [8]

5.  a) Explain Monte Carlo technique for simulation.                                    [8]
    b) Write short notes on logistics curves.                                           [8]

6.  a) Explain the queueing theory and types of queues.                                 [8]
    b) Write short notes on numerical experimentation.                                  [8]

7.     Write short notes on
    a) Data structures used in GPSS and SIMSCRIPT                                       [8]
    b) Simulation algorithms in GPSS and SIMSCRIPT                                      [8]