

IV B.Tech I Semester Supplementary Examinations, April/May 2005
SIMULATION & MODELLING
(Common to Computer Science & Systems Engineering and Electronics & Computer Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are the major segments used in corporate model? Explain each segment.
(b) What are different types of system study? Explain each.
2. (a) Explain the distributed lag model with an example.
(b) Give the advantages of distributed lag model compared to other models.
3. (a) Define hybrid simulation.
(b) Explain simulation of an autopilot.
(c) Explain Real time simulation
4. (a) What is the purpose of using congruence method? How to generate random numbers by using this method?
(b) What are the types of congruence methods? Explain multiplicative congruence method.
(c) How random numbers are used to generate sequences of numbers from discrete distribution.
5. (a) Explain any two types of distributions used in statistical models.
(b) Explain the simulation of a single server queue.
6. (a) List the steps used to measure utilization.
(b) Write the step used to measure occupancy and its purpose.
7. Parts are produced by a machine tool at the rate of one every five minutes. Each part is inspected for 4 ± 3 minutes and 10 % are rejected. Write a SIMSCRIPT program to simulate the system.
8. What are simultaneous events? How are they represented? Explain with the help of an illustrative case Situation.
