

B.E. sem 7 (Rev.)  
Comp & I.T.

computer simulation and  
modeling.

04/6/08

Con. 2913-08.

CO-3418

(REVISED COURSE)

(3 Hours)

[Total Marks : 100

**N.B.**(1) Question No. 1 is **compulsory**.

(2) Attempt any **four** questions out of remaining **six** questions.

1. (a) Define simulation. When can you simulate ? When simulation is not appropriate ? 10  
(b) Describe queuing and inventory system stating its inputs and output. 10
2. (a) Write event scheduling algorithm. Give system snapshots. 10  
(b) How would you select a simulation software ? Mention the features of any one simulation software. 10
3. (a) State the properties of random numbers. How are random numbers generated ? 10  
(b) What do you understand by "Goodness of fit test" ? Write the procedure for the same. 10
4. (a) How are random numbers generated from a probability distribution ? What are the other methods of getting input ? 10  
(b) Explain the distributions that are used to simulate reliability system. 10
5. (a) Mention the steps in input modelling. How would you collect input data ? 10  
(b) When will you use AR(1) and EAR(1) model ? What do you understand by covariance and correlation ? 10
6. (a) Explain verification and validation process. 10  
(b) How can the initialization bias be reduced in steady state simulation ? 10
7. Write short notes on any **two** :— 20
  - (a) M/M/1 Queue
  - (b) Acceptance—Rejection technique
  - (c) Simulation of manufacturing system.