ग्तद = 9

ROLL NO :                                                          Total number of pages:|01|

Total number of questions:06

## B.Tech. -CSE/ 6ᵗʰ Sem

# Simulation and Modeling

### Subject Code: BTCS-601    (RP)

### Paper ID : M\18

Time allowed: 3 Hrs

(2011- 2014 batch)

Max Marks:60

Important Instructions:

- All questions are compulsory

## PART A (10 x 2 marks)

Q. 1.   Answer in brief:

(a) Write any two advantages of simulations.

(b) What is dynamic allocation?

(c) Differentiate between event and activity.

(d) What is the multiple linear regression?

(e) Differentiate between verification and validation in simulation.

(f) Briefly explain applications of queuing model.

(g) Differentiate process orientation with event orientation.

(h) What is meant by convolution model?

(i) Differentiate discrete vs continuous distribution.

(j) What is testing of random number?

## PART B (5 × 8 marks)

Q2.   What is system and system environment? Explain the components of system with an example.

OR

How simulation model is compared with real world system? What are various phase required in study of simulation?                                                                CO1

Q3.   Which are the main industries where simulation is used? Explain any tool used by them.

OR

Explain queuing models having non-exponential distributions.                    CO2

Q4.   What are the tests for testing the randomness of numbers generated? Explain.

OR

Explain finite and infinite calling population model. Demonstrate their use.       CO3

Q5.   Discuss chi-square and chi-square with equal probabilities.

OR

What do you mean by "model validation and verification"? Explain.              CO4

Q6.   How can we ensure optimization using simulation? Justify with an example.

OR

Write short note on a) Simulation of token passing protocols b) Traffic modelling   CO5