

16201(D) - 0 DEC 2016

B. Tech 7th Semester Examination

Simulation & Modelling (NS)

IT-413

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt total five questions in all, selecting one question each from the section A, B, C & D. Section E is compulsory. Each question carries 20 marks.

SECTION - A

1. Discuss in detail the general steps followed in simulation study. Draw flowchart also. (20)
2. What is simulation? Explain in detail the difference between Monte Carlo Simulation and Stochastic Simulation. (20)

SECTION - B

3. Discuss the methods of simulating a discrete system. Illustrate the difference between them. (20)
4. Discuss in detail the method of generating random numbers and its testing. (20)

SECTION - C

5. Explain in detail the simulation of a PERT Network. Draw diagrams wherever necessary. (20)
6. Discuss the simulation of single server queueing system. (20)

SECTION - D

7. Discuss in detail the factors in selection of a discrete simulation language. (20)
8. Write short notes on the following:
 - (a) Discrete Event simulation tools.
 - (b) Continuous system simulation languages. (20)

SECTION - E

9. Answer all questions:
 - (i) What is Discrete System?
 - (ii) What do you mean by System Modelling?
 - (iii) What is a continuous random variable?
 - (iv) What is the density function of normal distribution?
 - (v) Why do we need random numbers in simulation experiment?
 - (vi) What is criticality index?
 - (vii) Explain the simplest form of kendall's notation.
 - (viii) What are the components of a waiting line system?
 - (ix) What is a block structured continuous system simulation language?
 - (x) Explain any two blocks of GPSS. (10×2=20)