TCS– 506

Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ]

Odd Semester Examination, 2019-20
B.TECH, (Semester-5th)
Modelling & Simulation

Total Marks: 100

Time: 3 Hours

Total no. of printed pages: 1

Note : (i) Attempt ALL questions.
(ii) All Questions carry equal marks.
(iii) Be precise in your answer.

$(5 \times 4 = 20)$

Q1. Attempt *any four* parts of the following:

(a) What do you mean by System modelling? Briefly explain?
(b) Explain random number generation process. Write down the algorithm for congruence generator.
(c) What is the component of the simulation? Briefly explain it?
(d) Write short note on discrete-event simulation and continuous simulation.
(e) Explain advantages and disadvantages of simulation.

$(5 \times 4 = 20)$

Q2. Attempt *any four* parts of the following:

(a) Differentiate between monte-carlo computation and stochastic simulation.
(b) What are the Advantages and Disadvantages of User Define Function? Explain analog computer simulation in details.
(c) Explain briefly the General Purpose Simulation System (GPSS). Discuss any five blocks in GPSS.
(d) Explain LCG.

$(10 \times 2 = 20)$

Q3. Attempt *any two* parts of the following:

(a) Write down the advantages of real time simulations.
(b) What packages are used in the simulation? Describe?
(c) Explain Time Advance Mechanism with the steps involved in it.

$(10 \times 2 = 20)$

Q4. Attempt *any two* parts of the following:

(a) Explain generalization of growth model with example.
(b) Explain the Random Variant Generation. Explain Continuous Probability Distribution and Discrete Probability Distribution for Random Variant Generation.
(c) With example explain the various types of discrete distributions.

$(10 \times 2 = 20)$

Q5. Attempt *any two* parts of the following:

(a) Explain the inverse transformation method.
(b) Describe simulation of inventory system. Briefly explain it?
... ...lation of activity network with example.