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B.Tech. || CSE ||6th Sem
Simulation and Modeling
Subject Code:BTCS-601
Paper ID:

Time allowed: 3 Hrs   Max.Marks:60

Important Instructions:
- All questions are compulsory
- Assume any missing data
- Additional instructions, if any

PART A (10×2marks)

Q. 1.   Short-Answer Questions:
   (a) Define Feedback System & its applications.
   (b) What do you mean by "world view"?
   (c) Differentiate deterministic and stochastic Model.
   (d) Write advantages on usage of simulation software.
   (e) Name any five blocks in GPSS.
   (f) What do you mean by System modeling?
   (g) Write the relationship between L, W, Lq and Wq.
   (h) Why goodness of fit test is used?
   (i) Explain the significance of Histogram &Quantile-Quantile Plots.
   (j) Define Autocorrelation test for random number generation.

PART B (5×8marks)

Q. 2.   Describe simulation and its types? Explain with flow chart, the steps involved   COa
        in simulation study?

                            OR

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

Q. 3.   Which are the major industries where simulation is used? Explain any two   COb
        simulation software.

                            OR

        Explain event scheduling algorithm by generating system snapshots at clock=t
        and clock=t_1.

Q. 4.   Why probability distribution is used in simulation? How exponential   COc
        distribution is different from poison distribution?

                            OR

        Define a discrete random variable. Explain the binomial distribution.

Q. 5.   What do you mean by a verification and validation of simulation models?   COd
        Explain calibration and validation of models with the help of diagram.

                            OR

        Explain the distinction between terminating or transient simulation and steady
        state simulation. Give examples.

Q. 6.   How simulation is done in computer network system? Explain it by using   COe
        network simulator.

                            OR

        Explain simulation of CPU in detail by using any of simulators.

Explain the working of class AB amplifier with suitable diagrams.

CO4

Q. 5.   Discuss the working of Hartley oscillator.

OR

Discuss the working of RC phase shift oscillator.

CO4

Q. 6.   Pin configuration of 555 timer

OR

555 timer as monostable multivibrator