

Tribhuvan University
Institute of Science and Technology
2082
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Bachelor Level / Third Year /Fifth Semester/Science
Computer Science and Information Technology (CSC317)
(Simulation and Modeling)
(OLD COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.

Section A

Attempt any TWO questions.

(2 × 10 = 20)

1. Why do we need system simulation? Explain the different types of system models for simulation. [2 + 8]
2. List the characteristics of queuing system. Describe the Kendall's notation for queuing system. [4 + 6]
3. What are the applications of Markov chains? Discuss about estimation methods with example. [3 + 7]

Section B

Attempt any EIGHT questions.

(8 × 5 = 40)

4. Define verification. Describe about accreditation models. [2 + 3]
5. Explain the different arrival processes. [5]
6. List the types of random number. Discuss about uniformity testing. [1 + 4]
7. Define continuous system model. Describe about gap test and poker test. [1 + 4]
8. Explain about some GPSS blocks. [5]
9. Describe about the use of Monte Carlo with an example. [5]
10. How do you use GPSS for discrete event simulations? Illustrate with an example. [5]
11. Explain the random variate generation using inverse transform technique. [5]
12. Discuss about multi-server queue and decision making in GPSS. [5]