

B.Sc.CSc.302-2071 ☆

Tribhuvan University
Institute of Science and Technology
2071



Bachelor Level / Third Year/ Fifth Semester/ Science
Computer Science and Information Technology (CSc.302)
(Simulation and Modeling)

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.

Group A

Long Answer Questions:

Attempt any two questions.

(2×10=20)

1. Explain the steps in simulation study. What are the limitations of simulation?
2. Explain the Markovchains with example and its applications.
3. What do you mean by uniformity test? Explain the Poker test with example.

Group B

Short Answer Questions:

Attempt any eight questions.

(8×5=40)

4. When are the types of simulation models?
5. What are the elements of queuing system?
6. What do you mean by Pseudo random numbers?
7. Explain the process of testing for auto-correlation test.
8. Explain with example of calibration and validation of model.
9. Explain the replication of runs.
10. Use the multiplicative congruential method to generate of five digit random integers.
 $x_0 = 118$, $a = 45$ and $m = 1000$.
11. What do you mean by simulation tool?
12. Explain with example verification of simulation models.
13. Write short notes on:
 - a) Discrete systems modeling
 - b) Feedback systems