

MCA DEGREE V SEMESTER EXAMINATION NOVEMBER 2013

CAS 2502 SIMULATION AND MODELLING

Time: 3 Hours

Maximum Marks: 50

PART A
(Answer *ALL* questions)

(15 × 2 = 30)

- I. (a) What is system and system environment?
(b) What are the components of a system?
(c) Explain discrete and continuous simulation model.
- II. (a) Explain simlib.
(b) Compare simulation packages with programming languages.
(c) What are the features of SIMULA?
- III. (a) What are the properties of random numbers?
(b) What are the tests for random numbers?
(c) Explain inverse transforms technique in uniform distribution.
- IV. (a) Distinguish discrete random variable with continuous random variable.
(b) Explain cumulative distribution.
(c) What are useful statistical model?
- V. (a) What are the different methods for verification of simulation model.
(b) What is model building? Explain.
(c) What are the different methods for validation of simulation model?

PART B

(5 × 4 = 20)

- VI. A. Write the advantages and disadvantages of simulation.
OR
B. Explain the various steps in simulation study in detail.
- VII. A. What are the features of GPSS? Explain.
OR
B. Explain list processing in simulation in detail.
- VIII. A. Explain the inverse transform technique for exponential distribution.
OR
B. Explain any two methods for random number generation.
- IX. A. Explain the characteristic of queueing system with example.
OR
B. Explain the simulation of single server queue in detail.
- X. A. Explain output analysis for a terminating simulation.
OR
B. What are the different ways to identify the distribution with data?
