D 23222

Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2011

CS 04 705 (C)—SIMULATION AND MODELING

(2004 Admissions)

Time : Three Hours | Maximum : 100 Marks

Answer **all** *questions.*

Part A

I. (a) List and explain some areas of applications for system simulation.

(b) How to test the numbers for randomness ?

(c) Explain the general features of GPSS.

(d) Explain the length of simulation runs.

(e) What is a multi-server queue ? Explain.

(f) Explain about the formulation of queueing problems.

(g) What is backward pass computation ?

(h) Explain the merits of stochastic networks. (8 × 5 = 40 marks)

Part B

II. (a) Explain the Erlang distribution. Write a computer program in C language for generating Erlang variates. (15 marks)

Or

(b) Explain about the following :

(i) Modeling continuous systems. (7 marks)

(ii) Event scheduling. (8 marks)

III. (a) What is SIMULA ? Explain its features. (15 marks)

Or

(b) Explain about the Statistical reliability in evaluating simulation experiments. (15 marks)

IV. (a) What is a tandom queue ? Explain the simulation of tandom queues. (15 marks)

Or

(b) Explain the generation of arrival and service pattern in queueing system. (15 marks)

V. (a) Describe in detail the simulation of complete network. (15 marks)

Or

(b) (i) What is network model of a project ? (5 marks)

(ii) Define dummy activity. How to analyse the activity network ? (10 marks)

[4 × 15 = 60 marks]