

C 5294

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Name.....

Reg. No.....

**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2010**

IT 04. 804 (E)—SIMULATION AND MODELLING

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

1. (a) Brief on the need for system simulation.
- (b) Write notes on Poisson distribution.
- (c) Enumerate the special features of SIMSCRIPT.
- (d) What do you understand by evaluation of simulation experiments.
- (e) Briefly compare single server and multiserver queues.
- (f) Discuss about generation of service pattern.
- (g) Elaborate on simulation of complete network.
- (h) What is a stochastic network ? Explain.



(8 × 5 = 40 marks)

Part B

2. (a) Discuss in detail about modeling and simulation of continuous system. (15 marks)
Or
(b) Discuss about :
 - (i) M-Erlang distribution. (8 marks)
 - (ii) Beta distribution. (7 marks)
3. (a) Explain in detail the features of GPSS and brief on program considerations. (15 marks)
Or
(b) (i) Explain the confidence intervals for terminating simulation runs. (8 marks)
(ii) Compare verification and validation of simulation experiments. (7 marks)
4. (a) Discuss about :
 - (i) Generation of arrival pattern. (8 marks)
 - (ii) Simulation of Tandom queues. (7 marks)

Or

Turn over

- (b) Explain in detail about simulation of queueing systems, parameters of queues and formulation of queueing problems.

(15 marks)

5. (a) Explain in detail the backward pass algorithm.

Or

- (b) Explain the simulation of PERT network, its merits and demerits. List a few applications.

(15 marks)

[4 × 15 = 60 marks]

(2 × 5 = 10 marks)

(15 marks)

(5 marks)

(7 marks)

(15 marks)

(8 marks)

(7 marks)

(8 marks)

(7 marks)

Turn over