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Roll No .....

**EI/IC-8301**  
**B.E. VIII Semester**  
 Examination, June 2017  
**Simulation And Modeling**  
 (Elective - III)  
 Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.  
 ii) All questions carry equal marks.

1. a) What do you mean by system modeling? Explain.  
 b) Distinguish between open and closed system with examples.
2. a) Explain continuous and discrete model with suitable example.  
 b) Explain the properties of a poisson process.
3. a) For the M/M/L queue find the probability distribution of the number of arrivals during a service time.  
 b) Explain the characteristics of a queuing system list different queuing notations.

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4. a) Monte Carlo simulation is a special case of stochastic simulation?  
 b) Explain discrete random variables and continuous random variables with examples.
5. a) Explain simulation in GPSS, with a block diagram, for the single server queue simulation.  
 b) Write classification of simulation languages.
6. a) Explain petri net and their types with example.  
 b) Differentiate between stochastic petri net and generalized stochastic petri net.
7. a) Write various application of queuing theory in computer system.  
 b) Write different application of system simulation in operating system.
8. Write short notes on (any three):  
 a) Simulation in Network Architecture.  
 b) GPSS symbol and block.  
 c) Markov chains.  
 d) Probability distribution.  
 e) Digital-Analog simulation.

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