

**B.Tech Sem – VIII (2007 Course) (Computer Engg.) : WINTER  
- 2017**

**SUBJECT: ELECTIVE-II: d) SIMULATION AND MODELING**

Day : **Wednesday**  
Date : **22/11/2017**

Time : **02.30 PM TO 05.30 PM**  
Max. Marks: 80

**W-2017-2664**

**N. B. :**

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer the both sections in **SEPARATE** answer books.
- 4) Assume suitable data, if necessary.
- 5) Draw neat and labeled diagrams **WHEREVER** necessary.

**SECTION-I**

- Q.1**
- a) Classify the following systems in Static and Dynamic system. **(05)**
    - i) A college
    - ii) Flight of an aircraft
  - b) Explain linear conceptual method for random number generation? **(05)**
  - c) Explain the term Hybrid Simulation? **(04)**
- Q.2**
- a) Define Simulation. Describe when a Simulation is not an appropriate tool. **(07)**
  - b) List advantages and disadvantages of Simulation. **(06)**
- Q.3**
- a) Explain in detail Queuing System in Simulation. **(07)**
  - b) Explain Discrete Probability function and Continuous Probability function. **(06)**
- Q.4**
- a) Explain in detail continuous system models. **(07)**
  - b) Explain with suitable example the concept of Real Time Simulation. **(06)**

**SECTION-II**

- Q.5**
- a) What are the different techniques of Simulation? Explain any one. **(05)**
  - b) Write a short note on Stochastic Petrinets (SPN) **(05)**
  - c) Give the equation for steady state parameters of M/G/1 Queue. **(04)**
- Q.6**
- a) Explain the Simulation of telephone system. **(07)**
  - b) Compare and contrast the Simulation methods and analytical methods. **(06)**
- Q.7**
- a) List and explain the features of Simpack Simulation language. **(07)**
  - b) Write a short note on GSPN? **(06)**
- Q.8**
- a) Explain G/G/C correlated queues in detail. **(07)**
  - b) Explain in detail regenerative Simulation. **(06)**

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