

FACULTY OF ENGINEERING

B.E. 4/4 (CSE) II – Semester (Main & Backlog) Examination, May / June 2019

Subject: Simulation & Modeling (Elective – II)

Time: 3 Hours

Max.Marks: 75

Note: Answer all questions from Part A. Answer any five questions from Part B.

PART – A (25 Marks)

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|----|--|---|
| 1 | Define discrete systems. | 2 |
| 2 | Define simulation. Give an example. | 3 |
| 3 | Define queuing systems. | 2 |
| 4 | What is statistical model? | 3 |
| 5 | Define uniform distribution. | 2 |
| 6 | What are pseudo-random numbers? | 2 |
| 7 | Define chi-square test. | 3 |
| 8 | What is KS test? | 2 |
| 9 | What is Output Data Analysis? | 3 |
| 10 | Define stochastic nature of output data. | 3 |

PART – B (5x10 = 50 Marks)

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|----|--|---|
| 11 | Discuss: | |
| | a) Advantages and disadvantages of simulation. | 5 |
| | b) Steps in simulation study. | 5 |
| 12 | Explain: | |
| | a) GPSS | 5 |
| | b) SLAM | 5 |
| 13 | Explain: | |
| | a) Properties of random numbers. | 5 |
| | b) Poisson distribution. | 5 |
| 14 | Discuss: | |
| | a) Time series input models. | 5 |
| | b) Input validation using tuning test. | 5 |
| 15 | Explain: | |
| | a) Measures of performance and their estimation. | 5 |
| | b) Output analysis for steady state simulations. | 5 |
| 16 | Discuss: | |
| | a) Areas of application | 5 |
| | b) Gamma distribution | 5 |
| 17 | Write short notes on: | |
| | a) Weibulfs distribution | 5 |
| | b) Verification and validation. | 5 |
