Roll No ....

MEMT-201

M.E./M.Tech., II Semester

Examination, December 2015

Modeling and Simulation

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions. All questions carry equal marks.
ii) Assume data/valve if required.

1. a) Write comparison between continuous and discrete systems?　　7
   b) Write about principle used in modeling.　　7

2. a) How we are generate Random Number? Explain any method.　　7
   b) Explain the simulation of a style channel queuing system with the help of a flow diagram.　　7

3. a) Explain chi-square goodness of fit test. Apply it to poisson assumption with $\alpha = 3.64$ Data size = 100 and observed frequency 0_i = 12, 10, 19, 17, 10, 8, 7, 5, 5, 3, 3, 1.　　7
   b) Describe about Arena.　　7

4. a) Explain about multivariate and time series input models.　　7
   b) How do you measure the performance of a simulation model and discuss their estimations.　　7

5. a) Write the Pseudo-code of the algorithm for estimating the demand of a product.　　7
   b) Give an example of dynamic physical model and explain it.　　7

6. a) Give a schematic model of a simple queuing system and explain its components and terminologies.　　7
   b) Draw a logical flow chart for simulation season ticket issue counter.　　7

7. a) Describe single server queuing system with single queue.　　7
   b) What are the data types used in SIMSCRIPT?　　7

8. Write short note on:　　14
   a) Normal distribution
   b) Deterministic and stochastic activities
   c) Mid-square method

******