Quiz 1

Introduction to Simulation & Modeling

Max Marks: 20 Time: 50 min

1. Discuss the algorithm to generate uniformly distributed random numbers. Write a scheme to generate uniformly distributed random number between M and N. [4 Marks]

2. Write a scheme to generate Binomial distributed random number X, where X is number of success in N trials. Probability of success in each trial is p. [4 Marks]

3. Write a scheme to simulate the differential equations

$$\frac{d^3x}{dt^3} = 10x^2t^3 + sin(\alpha t)$$ [6 Marks]

4. Draw flow chart for step of simulation study and discuss its each component. [6 Marks]

$^{N}C_0 + {}^{N}C_1 + {}^{N}C_2 + \cdots + {}^{N}C_{x-1}$

$^{3}C_0 + {}^{3}C_1 + {}^{3}C_2 + {}^{3}C_3$

$1 + 3 + 3 + 1$

(8)