**Important Questions of Modeling and Simulations (TCS-506)**

1. Define Model, Modeling and Simulation. Also give Examples of each.
2. Define System. What are the components of system? Also give examples of each component.
3. Write a note on deterministic versus stochastic simulation model.
4. Differentiate between Continuous and Discrete System with examples.
5. Differentiate between Physical, Mathematical, Analytical and Numerical Models.
6. What is the difference between analytical methods and simulation?
7. Define model. Why do you model a system?
8. Define simulation. Why do you simulate a model?
9. Explain some application area where simulation is suitable.
10. What is the output of Simulation? Explain with examples.
11. Give example of Multi-server, Single queue system. Also explain its working.
12. What is the difference between static and dynamic system models?
13. Mention various advantages, disadvantages simulation.
14. Explain Single-Server, Single Queue model with example.
15. Discuss various Time Advance Mechanisms with examples.
16. What isEvent Graphics? Explain with taking example of queuing theory..
17. Draw flowchart for simple Arrival and Departure events.
18. What is DES? Explain with example.
19. What is DES? Give examples of DES.
20. Write Event Scheduling Algorithm.
21. What is the disadvantage of Fixed-Increment Time Advance Algorithm? How it is resolved?
22. Discuss the role of Event graphics in Modeling and Simulation.
23. Differentiate between Monte Carlo Simulation and DES.
24. What is GPSS? What are the features of GPSS?
25. Write and explain algorithm for Scheduling Events.
26. What do you mean by Monte Carlo Simulation? Where is Monte Carlo Simulation used? Explain with example.
27. Give a detailed comparison of simulation packages with programming languages.
28. What is difference between Simulation, Monte Carlo Method and Monte Carlo Simulation? Explain with example.
29. Define True Random Number and Pseudo-random Number. Can a computer generate truly random number?