

Multiple Choice Questions

Chapter 2: Inside Simulation Software

1. Which of the following is a B-event?
 - a. Telephone call arrives at a call centre
 - b. Telephone call answered by an operator
 - c. Supervisor receives a telephone call forwarded by an operator
 - d. None of the above
2. Which of the following is a C-event?
 - a. Telephone call arrives at a call centre
 - b. Telephone call answered by an operator
 - c. Telephone call completed by an operator
 - d. None of the above
3. In the three-phase simulation approach, which of the following best describes the way C-events are handled?
 - a. Attempt to execute each C-event once
 - b. Attempt to execute only C-events that relate to the B-event just executed
 - c. Continue to attempt to execute all C-events until none can be executed
 - d. Stop the simulation once a C-event has been executed
4. Which of the following is not a discrete-event simulation approach?
 - a. Three-phase
 - b. Activity based sampling
 - c. Process-based
 - d. Event scheduling
5. The key properties of random numbers are:
 - a. Uniform and dependent
 - b. Different and independent
 - c. Different and dependent
 - d. Uniform and independent
6. An outcome has a probability of 35% of occurring. To simulate this outcome, which integer random numbers on a scale 00-99 should be associated with it?
 - a. 00-34
 - b. 00-35
 - c. 65-99
 - d. Any set of 35 unique numbers

7. It is beneficial to generate the same sequence of random numbers in each simulation run because:
- It saves generating many different sequences of random numbers
 - It enables the same conditions to be repeated over-and-over again
 - The simulation runs faster
 - It removes any variability from the simulation.
8. When sampling from standard statistical distributions, a random number is used to represent:
- The area under the curve
 - The sample value
 - The height of the curve
 - The skew of the distribution
9. Using the linear congruential random number generator with $Z_0=10$, $a=6$, $c=2$ and $m=80$, what is the next random number in the sequence?
- 52
 - 62
 - 72
 - 82