Program: BE -SEM-VII-Computer- Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: _ CPE7022____and Course Name: __ Computer Simulation and Modeling__

Time: 1hour   Max. Marks: 50

===
1410_R12_Comp_VII_CPE7022_**QP4**
===

Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	The first step in simulation is to
Option A:	set up possible courses of action for testing.
Option B:	construct a numerical model.
Option C:	validate the model.
Option D:	define the problem.
Q2.	If we are going to simulate an inventory problem, we must
Option A:	run the simulation for many days.
Option B:	run the simulation for many days many times, i.e., using multiple sets of random numbers.
Option C:	run the simulation many times, i.e., using multiple sets of random numbers.
Option D:	run the simulation once, for a relative short period of time.
Q3.	Which of the following are disadvantages of simulation?
Option A:	inability to analyze large and complex real-world situations
Option B:	"time compression" capability
Option C:	could be disruptive by interfering with the real-world system
Option D:	is not usually easily transferable to other problems
Q4.	Let X ~N (3, 22). What does this tell us about the distribution of X ?
Option A:	X is binomial with n = 3 and p = 2.
Option B:	X is normal with mean 3 and variance 4.
Option C:	X is normal with mean 3 and variance 2.
Option D:	X is binomial with mean 2 and variance 9.
Q5.	Verification is:
Option A:	The process of checking the random sampling is correct in the model
Option B:	The process of ensuring that the conceptual model has been satisfactorily

	transformed into a computer model
Option C:	The process of ensuring that the model is sufficiently accurate for the purpose at hand
Option D:	The process of ensuring the findings are implemented properly
Q6.	Which of the following statistical methods are commonly used to analyze simulation results?
Option A:	Recursion
Option B:	Regression analysis, t-tests, Analysis of variance
Option C:	P-mean
Option D:	Q-test
Q7.	Normal Distribution is applied for _____
Option A:	Continuous Random Distribution
Option B:	Discrete Random Variable
Option C:	Irregular Random Variable
Option D:	Uncertain Random Variable
Q8.	If 'm' is the mean of Poisson Distribution, the P(0) is given by ____
Option A:	e^{-m}
Option B:	e^{m}
Option C:	e
Option D:	m^{-e}
Q9.	When a model is developed and used in a group, with a view to promoting discussion around a real world problem, this is described as:
Option A:	Simulation as software engineering
Option B:	Simulation as a process of organisational change
Option C:	Simulation as facilitation
Option D:	Simulation as animation
Q10.	In a randomized complete block design analysis of variance, which of the following correctly describes the number of degrees of freedom associated with the between sum of squares?
Option A:	One less than the number of populations involved
Option B:	One less than the number of blocks
Option C:	One less than the combined sample size in the experiment
Option D:	One less than the total number of observations
Q11.	A repeated measures t-test can be used to assess which of the following?
Option A:	It assesses differences between two groups of participants
Option B:	It assesses differences between scores obtained on two separate occasions from the same participants
Option C:	It assesses how many factors there are in questionnaire data
Option D:	It assesses goodness of fit

Q12.	Normal Distribution is also known as _____
Option A:	Cauchy's Distribution
Option B:	Laplacian Distribution
Option C:	Gaussian Distribution
Option D:	Lagrangian Distribution
Q13.	For a Poisson Distribution, if mean(m) = 1, then P(1) is?
Option A:	1/e
Option B:	e
Option C:	e/2
Option D:	Indeterminate
Q14.	In a restaurant, customer arrival is Poisson at 10 per hour. In this restaurant, the customers do self-service. Exponentially distributed service time 3 minutes per customer. Find the average waiting time of a customer in the restaurant.
Option A:	3 minutes
Option B:	6 minutes
Option C:	9 minutes
Option D:	12 minutes
Q15.	In a single server tool-crib, mechanics come to take spares at 4/hour on the average. Waiting for them costs Rs. 8/- per hour. Average Waiting time for a mechanic in the system is W. What will be total waiting cost of the mechanics in a day for a 8 hour day?
Option A:	8W
Option B:	48W
Option C:	64W
Option D:	256W
Q16.	When sampling from standard statistical distributions, a random number is used to represent:
Option A:	The area under the curve
Option B:	The sample value
Option C:	The height of the curve
Option D:	The skew of the distribution
Q17.	In a situation where the population standard deviation is known and we wish to estimate the population mean with 90 percent confidence, what is the appropriate critical value to use?
Option A:	z = 1.96
Option B:	z = 2.33
Option C:	z = 1.645
Option D:	Can't be determined without knowing the degrees of freedom

Q18.	What do the letter 'D' and 'I' stand for in Deming's cycle of improvement?
Option A:	Define and improve
Option B:	Design and implement
Option C:	Design and improve
Option D:	Develop and implement
Q19.	The principles of the business process re-engineering (BPR) approach do NOT include:
Option A:	Rethinking business processes cross-functionally to organise work around natural information flows.
Option B:	Checking that all internal customers act as their own suppliers to identify problems.
Option C:	Scrapping any process line over two years old and starting again from scratch.
Option D:	Striving for improvements in performance by radical rethinking and redesigning the process.
Q20.	In a small barber shop, only one customer can get hair cut while another customer can wait in a chair. Any other arriving customer has to wait outside as there is only one chair available. The customers arrive randomly at 6 per hour. The service is exponential and takes 6 minutes on the average. Find the probability that an arriving customer will have to wait outside.
Option A:	36%
Option B:	40%
Option C:	60%
Option D:	64%
Q21.	What approach is used to compare organisation operations with those of other companies?
Option A:	Competitor performance assessment
Option B:	Benchmarking
Option C:	PERT analysis
Option D:	SWOT analysis
Q22.	Which kind of standards are those that are set arbitrarily to reflect some level of performance that is regarded as appropriate or reasonable?
Option A:	Competitor performance standards
Option B:	Historical standards
Option C:	Absolute performance standards
Option D:	Target performance standards
Q23.	A popular restaurant takes a random sample n=25 customers and records how long each occupied a table. The found a sample mean of 1.2 hours and a sample standard deviation of 0.3 hours. Find the 95% confidence interval for the mean.
Option A:	1.2 ±.118

Option B:	1.2 ±.124
Option C:	1.2 ±.588
Option D:	1.2 ±.609
Q24.	If 'm' is the mean of a Poisson Distribution, the standard deviation is given by _____
Option A:	√m
Option B:	m^2
Option C:	m
Option D:	m⁄2
Q25.	It is important to have a model independently verified and validated:
Option A:	Always
Option B:	Only if it is a very large scale military model
Option C:	On some occasions to help determine if a model is suitable for a particular use
Option D:	Never

Program: BE Sem--VII-Computer- Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: _ CPE7022___ and Course Name: Computer Simulation and Modeling __ __

Time: 1hour   Max. Marks: 50

===

1410_R12_Comp_VII_CPE7022_AK4

==

Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	B
Q3.	D
Q4	B
Q5	C
Q6	B
Q7	A
Q8.	A
Q9.	A
Q10.	A
Q11.	B
Q12.	B
Q13.	A
Q14.	A
Q15.	C

Q16.	B
Q17.	C
Q18.	A
Q19.	C
Q20.	A
Q21.	B
Q22.	D
Q23.	B
Q24.	A
Q25.	C