University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Information technology
Curriculum Scheme: R2012
Examination: Fourth Year Semester VIII
Course Code: ITC803 and Course Name: Computer Simulation and Modelling

Time: 1 hour   Max. Marks: 50

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

Q1.	Which of these is a disadvantage of simulation
Option A:	Simulation is used in some cases when an analytical solution is possible
Option B:	New hardware designs, physical layouts, transportation systems
Option C:	"What if" questions can be answered
Option D:	it helps to understand how system operates
Q2.	Which system/model applies computational procedures to solve equations
Option A:	Dynamic Model
Option B:	Static Model
Option C:	Analytical Model
Option D:	Numerical Model
Q3.	The system in which the state variable changes only at different set of time in a system is called as
Option A:	Point in time simulation
Option B:	Discrete event system
Option C:	Continuous system
Option D:	Static simulation system
Q4.	Which of the following is not a step of Simulation
Option A:	Verification and Validation
Option B:	Setting of objectives and overall project plan
Option C:	Model conceptualization
Option D:	Cost Prediction
Q5.	When Simulation Is the Appropriate Tool
Option A:	if the problem can be solved analytically
Option B:	if it is less expensive to perform direct experiments
Option C:	can be solved by common sense
Option D:	can be used to experiment with new designs
Q6.	A simulation model having one or more random variable as input leading to random outputs is called
Option A:	Deterministic model
Option B:	Stochastic model
Option C:	Mathematical model
Option D:	Physical model
Q7.	Simulation is defined

Option A:	Imitation of operation of a real world process over time
Option B:	Calculation of future state done by hand
Option C:	Finding the defects in system by computer
Option D:	process of varying one or more properties
Q8.	In a bank system, the arrival of a customer in a bank is an
Option A:	Pre event
Option B:	Endogenous event
Option C:	Exogenous event
Option D:	End event
Q9.	The time to failure for a flat panel screen is known to have Weibull distribution with **v**=0, **β**=1/3 and **α**=200 hours. Find the mean time to failure and probability that a unit fails before 2000 hours
Option A:	0.884
Option B:	0.765
Option C:	0.123
Option D:	0.456
Q10.	The Long run time-average number of customers in a system is represented by
Option A:	Lq
Option B:	L
Option C:	W
Option D:	Wq
Q11.	For a single server queue to be stable in queuing system_____ is required
Option A:	$\lambda < \mu$
Option B:	$\lambda > \mu$
Option C:	$\lambda = \mu$
Option D:	$\lambda < 1/\mu$
Q12.	A computer repair person is called each time there is a call for service the number beeps know to occur in accordance with a poison distribution with a mean of α=2 per hour find the probability of 3 beeps in next hour
Option A:	0.56
Option B:	0.123
Option C:	0.18
Option D:	0.9
Q13.	When v=0 α=1 β=1 the Weibull distribution is reduced to-------
Option A:	Poisson distribution
Option B:	Exponential distribution
Option C:	Normal distribution
Option D:	Erlang distribution
Q14.	Which is used to determine the significance of the interval between recurrences of the same digit.
Option A:	Poker Test

Option B:	Gap Test
Option C:	Autocorrelation Test
Option D:	Frequency Test
Q15.	Inverse Transform Techniques are based on _____ to calculate inverse of any distribution
Option A:	Pdf
Option B:	Pmf
Option C:	Cdf
Option D:	Cmf
Q16.	The convolution of a discrete signal with itself is _____
Option A:	Squaring the signal
Option B:	Doubling the signal
Option C:	Adding two signals
Option D:	is not possible
Q17.	Two types of errors associated with hypothesis testing are Type I and Type II. Type II error is committed when
Option A:	Reject the null hypothesis whilst the alternative hypothesis is true
Option B:	Reject a null hypothesis when it is true
Option C:	Accept a null hypothesis when it is not true
Option D:	Accept a null hypothesis when it is true
Q18.	The mechanism for advancing simulation time and guaranteeing that all events occur in correct chronological order is based on the future event list (FEL) is called
Option A:	Event Distribution algorithm
Option B:	Event Management algorithm
Option C:	Event Scheduling algorithm
Option D:	Event Synchronizing algorithm
Q19.	What type of validation is a detailed check of every part of the model?
Option A:	Conceptual model validation
Option B:	White-box validation
Option C:	Black-box validation
Option D:	Solution validation
Q20.	Face validity refers to which of the following:
Option A:	Facial expression is used to make a diagnosis.
Option B:	The scale of emotional responding.
Option C:	Constructing a model that appears reasonable to the model user
Option D:	A construct is a hypothetical or inferred attribute that may not be directly observable or directly measurable
Q21.	Are we building the product right represents
Option A:	Maintenance
Option B:	Verification

Option C:	Testing
Option D:	Validation
Q22.	A quantile-quantile plot is useful for
Option A:	generating random number
Option B:	generating random variate
Option C:	for evaluating distribution fit of a chosen distribution
Option D:	Uniformity
Q23.	What does the cobweb model shows?
Option A:	Demand and supply
Option B:	Throughput
Option C:	Time
Option D:	Turnaround time
Q24.	Which of these is not a way to obtain information about a process even if data is not available
Option A:	Engineering data
Option B:	Expert option
Option C:	Physical or conventional limitations
Option D:	Make random assumptions of the process
Q25.	Performance evaluation includes--------
Option A:	throughput analysis
Option B:	inventory policies
Option C:	quality control policies
Option D:	production scheduling

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	D
Q3.	B
Q4	D
Q5	D
Q6	B
Q7	A
Q8.	C
Q9.	A
Q10.	B
Q11.	A
Q12.	C
Q13.	B
Q14.	B
Q15.	C
Q16.	A
Q17.	C
Q18.	C
Q19.	B
Q20.	C
Q21.	B
Q22.	C
Q23.	A
Q24.	D
Q25.	A