

કુલ સમય : ૬૦ મીનીટ

કુલ પ્રશ્નો : ૫૦

વિદ્યાર્થીએ ટીક કરવાના પ્રશ્નો : ૩૫

નોંધ : વિદ્યાર્થીએ માત્ર ૩૫ પ્રશ્નો જ ટીક કરવાના રહેશે. જો વધારે ટીક કરેલ હશે તો પ્રથમ ૩૫ પ્રશ્નો જ ગણતરીમાં લેવામાં આવશે.

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- 1) A table of uniformly distributed random numbers should be read
 - A. from left to right.
 - B. from top to bottom.
 - C. diagonally, starting from the top left corner and moving to the bottom right
 - D. in any consistent sequence.
 - 2) The word "uniform" in the term "uniform random numbers" means
 - A. all the numbers have the same number of digits.
 - B. if one number is, say, 10 units above the mean, the next number will be 10 units below the mean
 - C. all the numbers are odd or all are even.
 - D. each number has an equal probability of being drawn.
 - 3) Which of the following statements is INCORRECT regarding the advantages of simulation?
 - A. Simulation is relatively easy to explain and understand.
 - B. Simulation guarantees an optimal solution.
 - C. Simulation models are flexible.
 - D. A simulation model provides a convenient experimental laboratory for the real system.
 - 4) Which of the following statements is INCORRECT regarding the disadvantages of simulation?
 - A. Each simulation run only provides a sample of how the real system will operate.
 - B. The summary of the simulation data only provides estimates about the real system.
 - C. The process of developing a simulation model of a complex system can be time-consuming.
 - D. The larger the number of probabilistic inputs a system has, the less likely a simulation will provide the best approach for studying the system.
 - 5) Numerical values that appear in the mathematical relationships of a model and are considered known and remain constant over all trials of a simulation are
 - A. parameters.
 - B. probabilistic input.
 - C. controllable input
 - D. events.
 - 6) The process of determining that the computer procedure that performs the simulation calculations is logically correct is called
 - A. implementation.
 - B. validation.
 - C. verification.
 - D. repetition.
 - 7) A simulation model used in situations where the state of the system at one point in time does not affect the state of the system at future points in time is called a
 - A. dynamic simulation model.
 - B. static simulation model.
 - C. steady-state simulation model.
 - D. discrete-event simulation model
 - 8) Simulation
 - A. does not guarantee optimality.
 - B. is flexible and does not require the assumptions of theoretical models.
 - C. allows testing of the system without affecting the real system.
 - D. All of the alternatives are correct
 - 9) In order to verify a simulation model
 - A. compare results from several simulation languages.
 - B. be sure that the procedures for calculations are logically correct.
 - C. confirm that the model accurately represents the real system.
 - D. run the model long enough to overcome initial start-up results.
 - 10) Common features of simulations--generating values from probability distributions, maintaining records, recording data and summarizing results--led to the development of
 - A. Excel and Lotus.
 - B. BASIC, FORTRAN, PASCAL, and C.
 - C. GPSS, SIMSCRIPT, SLAM, and Arena
 - D. LINDO and The Management Scientist
 - 11) If customer 2 has a service time of 1.6, and if customer 3 has an interarrival time of 1.1 and a service time of 2.3, when will customer 3's service be completed?
 - A. 5.0
 - B. 3.9
 - C. 3.4
 - D. There is not enough information to answer.
 - 12) When events occur at discrete points in time
 - A. a simulation clock is required.
 - B. the simulation advances to the next event
 - C. the model is a discrete-event simulation.
 - D. All of the alternatives are correct.
 - 13) The number of units expected to be sold is uniformly distributed between 300 and 500. If r is a random number between 0 and 1, then the proper expression for sales is
 - A. $200(r)$
 - B. $r + 300$
 - C. $300 + 500(r)$
 - D. $300 + r(200)$
 - 14) A value for probabilistic input from a discrete probability distribution
 - A. is the value given by the $RAND()$ function.
 - B. is given by matching the probabilistic input with an interval of random numbers.
 - C. is between 0 and 1.
 - D. must be non-negative.
 - 15) A quantity that is difficult to measure with certainty is called a
 - A. risk analysis.
 - B. project determinant
 - C. probabilistic input
 - D. profit/loss process.
 - 16) Values for the probabilistic inputs to a simulation.
 - A. are selected by the decision maker
 - B. are controlled by the decision maker.
 - C. are randomly generated based on historical information.
 - D. are calculated by fixed mathematical formulas.
 - 17) A simulation model uses the mathematical expressions and logical relationships of the
 - A. real system
 - B. computer model
 - C. performance measures
 - D. estimated inferences
 - 18) State Full name of MTTF options are as above.
 - A. Mean Time To Failure
 - B. Maximum Time To Failure
 - C. Minimum Time To Failure
 - D. Any one of this.
 - 19) Replacement problem is solved under the assumption that the value of _____ doesn't change over a period of time.
 - A. Cost price
 - B. Resale price
 - C. Money
 - D. Maintenance cost
 - 20) The maintenance cost of an equipment mostly _____ with lapse of time in case of replacement problem.
 - A. Increase
 - B. Decrease
 - C. Remains unchanged
 - D. Decrease or remains unchanged

- 21) The resale price of an equipment most _____ with lapse of time in case of replacement problem.
A. Increase B. Decrease C. Remains unchanged D. Decrease or remains unchanged
- 22) The time period years for which _____ is minimum is called the best period for the replacement.
A. Maintenance cost B. Resate price C. Average annual cost (TA) D. Total cost
- 23) In usual notation formula of total cost upto t-time in replacement problem is = _____
A. $S(t) + \sum f(t)$ B. $C - S(t) + \sum f(t)$ C. $S(t) - \sum f(t)$ D. $C + s(t) - \sum f(t)$
- 24) If maintenance cost of R^{th} year is more than weighted average of its preceeding $(R - 1)^{th}$ year then replacement may be _____
A. Appropriate B. Not appropriate C. (a)and (b) D. None of these
- 25) If maintance cost of R^{th} year is less than weighted average of its preceeding $(R - 1)^{th}$ year then replacement may be _____
A. Appropriate B. Not appropriate C. (a)and (b) D. None of these
- 26) If $x = 0$ then Reliability = _____
A. 1 B. 0 C. ∞ D. less than 1
- 27) To obtain reliability of a unit up to t-time, the unit being active for _____ time interval.
A. $(-1, t)$ B. $(0, t)$ C. $(-\infty, t)$ D. (t, ∞)
- Systematic arrangement of different units means _____
A. System B. Series C. Distribution D. Given all
- 28) Systematic arrangement of different units means _____
A. System B. Series C. Distribution D. Given all
- 29) State methods for assuring Reliability.
A. Redundancy B. Derating C. Maintainability D. Given all
- 30) State MTTF for Geometric distribution.
A. Q B. $\frac{p}{q}$ C. $\frac{q}{p}$ D. P
- 31) State MTTF for exponential function .
A. Λ B. $\frac{1}{\lambda}$ C. $\lambda + 1$ D. 2λ
- 32) How many methods are there of assuring Reliability ?
A. 3 B. 4 C. 5 D. 6
- 33) The failure rate of system in series system is _____ of the failure rate of it each subgroups.
A. Product B. Reciprocal C. Sum D. Division
- 34) If $x = \infty$ then Reliability = _____
A. 0 B. 1 C. Less than 1 D. Greater than 1
- 35) Reciprocal of hazard rate is expressed as _____ ratio.
A. Intensity B. Mill's C. Mortality D. None of these
- 36) Which new methods are existed by Reliability method ?
A. Renewal method B. Ranking and development method C. Guestimation method D. Given all
- 37) By which name hazard rate is known?
A. Mortality force B. Failure rate C. Intensity function D. All of these
- 38) To test the significance of quality for any unit _____ can be used.
A. Failure B. Reliability C. System D. Estimation
- 39) If $\alpha = 0.6$; $x_1 = 225$ and initial forecast is 200 then find s_1 .
A. 215 B. 210 C. 200 D. 225
- 40) Which is the limitation of graphical method used in Business forecasting ?
A. Different weights are given to each observations B. Draw different curves
C. Equal weights are given to each observation D. Weights are given in geometric sequence to each observation
- 41) In exponential smoothing method, $T_o =$ _____
A. 1 B. 0 C. -1 D. $1 - \alpha$
- 42) From the following which are the popular method of forecasting ?
A. Method of extrapolation B. Exponential smoothing method C. Regression method D. Given all
- 43) Which are of the following factors affecting company sale ?
A. Utility of product of company B. Concessions to customers C. Quality of product D. Given all.
- 44) Which of the following is not a method of demand forecasting?
A. Correlation method B. Trend projection method C. Economic Indicator method D. None of these.
- 45) The value pf coefficient of smoothing & lies between _____ and _____ .
A. $(-1, +1)$ B. $(0, 1)$ C. $(1, 0)$ D. $(1, 2)$
- 46) In which series the weights are given to each observation , in exponential smoothing method?
A. Arithmetic Progression B. Geometric progression C. Harmonic Progression D. Logarithmic progression
- 47) How many types of forecasting on the basis of time duration ?
A. 2 B. 3 C. 4 D. more than 4
- 48) From the following which is not an importance of Business Forecasting?
A. Helps in sales planning B. Comprehensive Control C. For Finanical planning D. For correlation
- 49) _____ is important for businessme , economists and whole society.
A. Business Forecasting B. Interpolation C. Correlation D. Given all
- 50) _____ helps the study of economic variables like population , employment , investment , balance of trade etc.
A. Interpolation B. Forecasing C. Correction D. Given all
