# Statistics Quiz (II)

**by Dhruba Das - Thursday, May 29, 2014**

https://gonitsora.com/statistics-quiz-ii/

Statistics Quiz (I)

11) For random error $$varepsilon_i,$$ which of the following constitutes the Gauss-Markov conditions?

A) (i) $$E(varepsilon_i)=0$$ (ii) $$E(varepsilon_i ^2)=sigma^2$$ (iii) $$E(varepsilon_i,varepsilon_j)=0, ineq j$$

B) (i) $$E(varepsilon_i)=0$$ (ii) $$E(varepsilon_i ^2)=sigma_i ^2$$ (iii) $$E(varepsilon_i,varepsilon_j)=0, ineq j$$

C) (i) $$E(varepsilon_i)=0$$ (ii) $$E(varepsilon_i ^2)=sigma^2$$ (iii) $$E(varepsilon_i,varepsilon_j)=0, ineq j$$ (iv) $$varepsilon_isim N(0,sigma^2)$$

D) None of the above

12) The sample variance is an unbiased estimate of the population variance under the

A) Maxwell-Boltzmann model of *with replacement*

B) Bose-Einstein model of *with replacement*

C) Fermi-Dirac model of *without replacement*

D) none of the above.

13) For a queuing process, let $$P_n(t)$$ be the probability that there are $$n$$ customers in the queue at time $$t,$$ we have

$$P' _n(t)=lim_{Delta trightarrow 0^{+}} frac{P_n(t+Delta t)-P_n(t)}{Delta t}.$$

Who was the originator of the calculus dealing in this equality?

A) Isaac Newton

B) Gottfried Wilhelm Leibnitz

C) Kiyoshi Ito

D) none of the above.

14) In the construction of random number table, what is the underlying probability law?

A) Normal probability law

B) Exponential probability law

C) Bernoulli probability law

D) Uniform probability law.

15) How many times a random number should be generated to get a value of approximately standard normal variate?

A) 12

B) 24

C) 36

D) 48

16) To test

$$H_0:rho =0$$

against $$H_1:rhoneq 0$$

where $$rho$$ is the population correlation co-efficient, what technique is applied?

A) Chi-square Test

B) Analysis of variance

C) Mann-Whitney U test

D) none of the above

17) The sample median is an estimator of the population location parameter. What type of an estimator is it?

A) BLUE

B) not BLUE

C) MVUE

D) Minimum Chi-square estimator.

18) The O.C. function in SPRT, when the null hypothesis is acceptable, is given by

A) $$alpha$$

B) $$1-alpha$$

C) $$1-beta$$

D) $$beta.$$

Where $$alpha$$ and $$beta$$ are the first and the second types of error.

19) A statement of Assertion (Ass) is given and a statement (R) is given bellow it. Select your answer from the codes given bellow.

Assertion (Ass): In the case of linear programming problem, the standard optimization methods of calculus can not applied.

Reason (R): The first order partial derivatives of the objective function are never equal to zero.

A) Both Ass and R are true and R is the correct explanation of Ass.

B) Ass is true, but R is false.

C) Both Ass and R are false.

D) Ass is false, but R is true.

20) The Markovian property is associated with which of the probability laws mentioned bellow:

A) normal probability law

B) negative exponential probability law

C) chi-square probability law

D) none of the above

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Answers:

11) A , 12) A , 13) C , 14) D , 15) A , 16) B , 17) B , 18) B , 19) A , 20) B.

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