1. The techniques which provide the decision maker a systematic and powerful means of analysis to explore policies for achieving predetermined goals are called............
   a. Mathematical techniques  
   b. Correlation technique  
   c. Quantitative techniques  
   d. None of the above

2. Programming techniques are generally known as ................................
   a. Statistical techniques  
   b. Mathematical techniques  
   c. Operation research techniques  
   d. None of these

3. ...................... is the reverse process of differentiation
   a. Differential equation  
   b. Integration  
   c. Determinant  
   d. None of these

4. ...................... is a powerful device developed over the matrix algebra.
   a. Integration  
   b. Differentiation  
   c. Determinants  
   d. None of these

5. .................. is a operation research technique which resembles a real life situation.
   a. Decision theory  
   b. Simulation  
   c. Game theory  
   d. Queuing theory

6. Queuing theory is also called ........................................
   a. Linear programming technique  
   b. Waiting line theory  
   c. Game theory  
   d. None of these

7. C.P.M. stands for.......................................................
   a. Critical Process Method  
   b. Critical Performance Measurement  
   c. Critical Path Method  
   d. Critical Programme Method

8. The word correlation usually implies.........................
   a. Cause and effect relationship  
   b. Mutual interdependence  
   c. Both  
   d. None of the above

9. Correlation analysis is a ....................... analysis.
   a. Univariate analysis  
   b. Bivariate analysis  
   c. Multivariate analysis  
   d. Both b and c

10. When the values of two variables move in the same direction, correlation is said to be .........
    a. Positive  
    b. Negative  
    c. Linear  
    d. Non-linear

11. When the values of two variables move in the opposite direction, correlation is said to be
    .....................
    a. Positive  
    b. Negative  
    c. Linear  
    d. Non-linear
12. When the amount of change in one variable leads to a constant ratio of change in the other variable, correlation is said to be ...........................
   a. Positive  
   b. Negative  
   c. Linear  
   d. Non-linear

13. ..................... attempts to determine the degree of relationship between variables.
   a. Correlation analysis  
   b. Regression analysis  
   c. Probability  
   d. None of the above

14. Non-linear correlation is also called .........................
   a. Zero correlation  
   b. Curvi-linear correlation  
   c. Correlation graph  
   d. None of the above

15. Scatter diagram is also called ............................
   a. Correlation graph  
   b. Zero correlation  
   c. Dot chart  
   d. None of the above

16. If all the points of a scatter diagram lie on a straight line falling from the lower left-hand corner to the upper right-hand corner, the correlation is said to be ..........................
   a. Zero correlation  
   b. Perfect positive correlation  
   c. Perfect negative correlation  
   d. High degree of positive correlation

17. If all the dots of a scatter diagram lie on a straight line falling from the upper left-hand corner to the lower right hand corner, the correlation is said to be ..........................
   a. Zero correlation  
   b. Perfect positive correlation  
   c. Perfect negative correlation  
   d. High degree of negative correlation

18. The quantitative measure of correlation between two variables is known as...........................
   a. Coefficient of correlation  
   b. Coefficient of regression  
   c. Coefficient of determination  
   d. None of the above

19. Coefficient of correlation measures ............................
   a. Location  
   b. Variability  
   c. Concentration  
   d. Relation

20. Coefficient of correlation lies between ...........................
   a. 0 and 1  
   b. 0 and -1  
   c. +1 and -1  
   d. None of these

21. Karl Pearson’s coefficient of correlation is denoted by the symbol ...................
   a. R  
   b. r  
   c. k  
   d. None of the above

22. The rank correlation coefficient is always ..........................
   a. Zero  
   b. Unity  
   c. Between +1 and -1  
   d. Positive

23. Correlation can be ..........................................
   a. Positive only  
   b. Negative only  
   c. Positive or negative  
   d. None of these

24. Coefficient of correlation explains .......................... of the relationship between two variables.
   a. Direction  
   b. Degree  
   c. Direction and degree  
   d. None of the above

25. If r= +1, the correlation is said to be .......................... 
   a. Perfectly positive correlation  
   b. High degree of correlation  
   c. Perfectly negative correlation  
   d. None of the above
26. An analysis of the covariance between two or more variables is called ......................
   a. Regression analysis       c. Testing of hypothesis
   b. Correlation analysis      d. None of these

27. The square of coefficient of correlation is called .................
   a. Coefficient of regression   c. Coefficient of non-determination
   b. Coefficient of determination d. Coefficient of alienation

28. In correlation analysis, $P.E. = \ldots \times 0.6745$
   a. Standard Error            c. None of the above
   b. Probable Error            d. Correlation analysis

29. If coefficient of correlation is more than .................. of its P.E., correlation is significant.
   a. 5 times                    c. 2 times
   b. 6 times                    d. None of the above

30. If correlation between the two variables is unity, there exists .........................
   a. Perfect +ve correlation    c. Zero correlation
   b. Perfect -ve correlation    d. Perfect correlation

31. In correlation analysis, the formulae $1 - r^2$ is used to compute the value of ..............
   a. Coefficient of determination c. Coefficient of correlation
   b. Coefficient of non-determination d. Coefficient of alienation

32. Study of correlation between two sets of data only is called .........................
   a. Partial correlation         c. Multiple correlation
   b. Simple correlation          d. None of the above

33. ......................... is the study of correlation between one dependent variable with one
   independent variable by keeping the other independent variables as constant.
   a. Multiple correlation        c. Partial correlation
   b. Simple correlation          d. None of the above

34. ......................... is the study of correlation among three or more variable simultaneously.
   a. Multiple correlation        c. Simple correlation
   b. Partial correlation         d. None of the above

35. In a correlation analysis, if $r=0$, then we may say that, there is .................... between variables.
   a. No correlation             c. Linear correlation
   b. Perfect correlation        d. None of the above

36. Coefficient of correlation is independent of .............................
   a. Origin                     c. Both
   b. Scale                      d. None

37. When $r = 0.8$, covariance of $X$ and $Y = 6$, and variance $Y = 9$, then the standard deviation of $X =$ ..........
   a. 3                         c. 0.1
   b. 2.5                       d. 2

38. When $r = -1$, we may say that, there is ......................
   a. Perfect negative correlation c. Very poor correlation
   b. High degree of negative correlation d. No correlation

39. If the ratio of change in one variable is equal to the ratio of change in the other variable, the
   correlation is said to be ..........................  
   a. Linear                     c. Non-linear
   b. Curvi-linear                d. None of these
40. If the plotted points of a scatter diagram fall on a narrow band, it indicates a .......... degree of correlation.
   a. zero    c. High
   b. Low     d. None of these

41. If plotted points in a dot chart lie on a straight line parallel to X-axis, it shows .......... of correlation.
   a. High degree    c. Absence
   b. Low degree     d. None of these

42. If $r = 0.9$, coefficient of determination is .................. 
   a. 9%     c. 81%
   b. 90%    d. None of these

43. If plotted points in a scatter diagram lie on a straight line vertical to the Y-axis, then $r =$...........
   a. +1     c. -1
   b. 0      d. None of these

44. .................... is the geometric mean of two regression coefficients.
   a. Coefficient of correlation    c. Arithmetic mean
   b. Coefficient of Standard deviation    d. Coefficient of variation

45. If dots in a scatter diagram are lie in a haphazard manner, then $r =$ .......................
   a. 0     c. -1
   b. +1    d. None of these

46. Product moment correlation was developed by ..................
   a. Karl Pearson    c. Kelly
   b. Charles Edward Spearman    d. None of these

47. Spearman’s coefficient of correlation is usually denoted by ..................
   a. $r$    c. $R$
   b. $K$    d. None of these

48. If $m$ is the coefficient of correlation, then the value of $m^2$ is known as ..................
   a. Coefficient of alienation    c. Coefficient of non-determination
   b. Coefficient of determination    d. None of these

49. If $m$ is the correlation coefficient, then the quantity $(1-m^2)$ is called ..................
   a. Coefficient of determination    c. Coefficient of alienation
   b. Coefficient of non-determination    d. None of these

50. The coefficient of correlation between two variables, $X$ and $Y$, will have negative sign when
    ............................................
   a. $X$ is increasing, $Y$ is decreasing    c. Any one of the above
   b. $X$ is decreasing, $Y$ is increasing    d. None of these

51. Coefficient of concurrent deviation depends on ..........................
   a. Magnitude of deviation    c. Both a and b
   b. Direction of deviation    d. None of these

52. .................... refers to analysis of average relationship between two variables to provide a mechanism for prediction.
   a. Correlation    c. Average
   b. Regression    d. None of these

53. The two regression lines coincide each other when $r =$ ....................
   a. 0     c. +1
   b. -1    d. None of these
54. The two regression lines are mutually perpendicular when \( r = \) ..............
   a. 0  
   b. -1  
   c. 1  
   d. None of these

55. \( b_{yx} \) is the regression coefficient of regression equation ......................
   a. Y on X  
   b. X on Y  
   c. 0  
   d. None of these

56. The signs of regression coefficients will be ....................
   a. Different  
   b. Same  
   c. 0  
   d. None of these

57. The signs of correlation coefficient and regression coefficient are ....................
   a. Different  
   b. Same  
   c. 0  
   d. None of these

58. Scatter diagram of the various values of \((X, Y)\) gives the idea about ....................
   a. Regression model  
   b. Distribution of errors  
   c. Functional relationship  
   d. None of the above

59. If \( X \) and \( Y \) are independent, the value of regression coefficient \( b_{yx} = \) ....................
   a. 1  
   b. 0  
   c. Greater than 1  
   d. Any negative value

60. Regression coefficient is independent of  ....................
   a. Scale  
   b. Origin  
   c. Both  
   d. None

61. \( b_{xy} \times b_{yx} = \) ....................
   a. Coefficient of regression  
   b. Coefficient of regression  
   c. Coefficient of determination  
   d. None of these

62. If \( X \) and \( Y \) are two variables, there can be at most ....................
   a. Three regression lines  
   b. Two regression lines  
   c. One regression line  
   d. Infinite number of regression lines

63. Geometric mean of regression coefficients will be ....................
   a. Coefficient of correlation  
   b. Coefficient of determination  
   c. Coefficient of variation  
   d. None of these

64. In a regression line of \( Y \) on \( X \), the variable \( X \) is known as ....................
   a. Explanatory variable  
   b. Independent variable  
   c. Regressor  
   d. All the above

65. The regression coefficient of regression equation \( X \) on \( Y \) is denoted by ....................
   a. \( b_{yx} \)  
   b. \( b_{xy} \)  
   c. 0  
   d. None of these

66. The term regression was used firstly by ....................
   a. Prof. Karl Pearson  
   b. Edward Spearman  
   c. Francis Galton  
   d. None of these

67. If a constant 30 is subtracted from each of the value of \( X \) and \( Y \), the regression coefficient is ....................
   a. Reduced by 30  
   b. Increased by 30  
   c. Not changed  
   d. 1/30\(^{th}\) of the original regression coefficient
68. In .........................regression, only one independent variable is used to explain the dependent variable.
   a. Linear 
   b. Multiple 
   c. Scatter diagram 
   d. None of these

69. When two or more independent variables are used to explain/ predict the dependent variable, then it is called   .........................regression.
   a. Linear 
   b. Multiple 
   c. Scatter diagram 
   d. None of these

70. Regression lines are also called   .........................
   a. Correlation graph 
   b. Scatter diagram 
   c. Estimating lines 
   d. None of these

71. If the correlation between the two variables, X and Y is negative, the regression coefficient of Y on X is  .........................
   a. Zero 
   b. Positive 
   c. Negative 
   d. Not certain

72. Rank correlation method was developed by   .........................
   a. Karl Pearson 
   b. Charles Spearman 
   c. Francis Galton 
   d. None of these

73. The arithmetic mean of  \( b_{xy} \) and  \( b_{yx} \) is  .........................
   a. Equal to one 
   b. Greater than \( r \) 
   c. Less than \( r \) 
   d. Greater than or equal to \( r \)

74. The regression coefficient and correlation coefficient of two variables will be the same, if their  ......................... are same.
   a. Standard deviation 
   b. Arithmetic mean 
   c. Mean deviation 
   d. None of these

75. If the sign of regression coefficient  \( b_{xy} \) is negative, then the sign of regression coefficient  \( b_{yx} \) will be   .........................
   a. Positive 
   b. Negative 
   c. 0 
   d. None of these

76. The square root of coefficient of determination is   .........................
   a. Coefficient of correlation 
   b. Coefficient of regression 
   c. Coefficient of variation 
   d. None of these

77. While analysing the relationship between variables, independent variable is also called   .........................
   a. Explained variable 
   b. Explanatory variable 
   c. Variable 
   d. None of these

78. When \( r = 0.2 \), S.D. of X = 8 and S.D. of Y =10, then  \( b_{xy} = \)  .........................
   a. 1.6 
   b. 0.16 
   c. 4.0 
   d. 0.4

79. Dependent variable is also called   .........................
   a. Explained variable 
   b. Explanatory variable 
   c. Variable 
   d. None of these

80. If one regression coefficient is positive, the other is   .........................
   a. Positive 
   b. Negative 
   c. Zero 
   d. 1
81. The arithmetic mean of $b_{xy}$ and $b_{yx}$ is ......................
   a. Equal to 1  c. Greater than $r$
   b. Equal to 0  d. Less than $r$

82. ...................... refers to the chance of happening or not happening of an event.
   a. Regression  c. Correlation
   b. Probability  d. None of these

83. The numerical value given to the likelyhood of the occurrence of an event is called.............
   a. Correlation  c. Probability
   b. Regression  d. None of these

84. Every indecomposable outcome of a random experiment is called ......................
   a. Sample point  c. Probability
   b. Sample space  d. None of these

85. Sample point is also called ....................
   a. Sample space  c. Event
   b. Elementary outcome  d. None of these

86. The result of a random experiment is called .....................
   a. Sample space  c. Probability
   b. Event  d. None of these

87. ..................... has two or more outcomes which vary in an unpredictable manner from trial to trial when conducted under uniform conditions.
   a. Experiment  c. Probability
   b. Random experiment  d. None of these

88. An event whose occurrence is inevitable is called ...................
   a. Sure event  c. Uncertain event
   b. Impossible event  d. None of these

89. An event whose occurrence is impossible, is called ...................
   a. Sure event  c. Uncertain event
   b. Impossible event  d. None of these

90. An event whose occurrence is neither sure nor impossible, is called ...................
   a. Sure event  c. Uncertain event
   b. Impossible event  d. None of these

91. A set of events are said to be ................., if the occurrence of one of them excludes the possibility of the occurrence of the other.
   a. Mutually exclusive  c. Independent
   b. Not mutually exclusive  d. None of them

92. ......................refers to the arrangement of objects in a definite order.
   a. Combination  c. Independent
   b. Permutation  d. None of them

93. Selection of objects without considering their order is called ............................
   a. Combination  c. Independent
   b. Permutation  d. None of them

94. $12C_{12} =$ ................
   a. 12  c. 0
   b. 1  d. None of these

95. $25C_{12} =$ ................
   a. $25C_{52}$  c. $25C_{13}$
   b. $25C_{21}$  d. $25C_{31}$
96. A set which contains no element is called ..................
   a. Null set
   b. Infinite set
   c. Finite set
   d. None of these

97. Classical probability is also called ..................
   a. Priori probability
   b. Mathematical probability
   c. Laplace’s probability
   d. All the above

98. The relative frequency approach is also called ..................
   a. Empirical approach
   b. Statistical probability
   c. Apsteriori probability
   d. All the above

99. When \( P(A \cup B) = P(A) + P(B) \), then \( A \) and \( B \) are ..................
   a. Dependent
   b. Independent
   c. Mutually exclusive
   d. None of these

100. When two events cannot occur together is called ..................
    a. Equally likely
    b. Mutually exclusive
    c. Random events
    d. None of these

101. If \( A \) and \( B \) are mutually exclusive and exhaustive, and \( P(A) = 1/6 \), then \( P(B) = \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots 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110. If two events, A and B are not mutually exclusive, the \( P(A \cup B) = \) ...............
   a. \( P(A) + P(B) \)  
   b. \( P(A) + P(B) - P(A \text{ and } B) \)  
   c. \( P(A) + P(B) + P(A \text{ and } B) \)  
   d. None of these

111. An event consisting of those elements which are not in the given event is called .............
   a. Simple event  
   b. Derived event  
   c. Complementary event  
   d. None of these

112. The definition of priori probability was originally given by ..............................
   a. De-Moivre  
   b. Laplace  
   c. Pierre de Fermat  
   d. James bernoulli

113. .................refers to the totality of all the elementary outcomes of a random experiment.
   a. Sample point  
   b. Sample space  
   c. Simple event  
   d. None of these

114. The sum of probabilities of all possible elementary outcomes of a random experiment is always equal to ...............
   a. 0  
   b. 1  
   c. Infinity  
   d. None of these

115. The probability of the intersection of two mutually exclusive events is always ......................
   a. 0  
   b. 1  
   c. Infinity  
   d. None of these

116. An empty set is also known as .................
   a. Null set  
   b. Equal set  
   c. Finite set  
   d. Infinite set

117. Chance for an event may be expressed as .................
   a. Percentage  
   b. Proportion  
   c. Ratio  
   d. All the above

118. If it is known that an event A has occurred, the probability of an event B given A is called .....................
   a. Empirical probability  
   b. Conditional probability  
   c. Priori probability  
   d. Posterior probability

119. When a die is thrown, ..................is the probability of getting a 5.
   a. 5/6  
   b. 6/5  
   c. 1/5  
   d. 5/1

120. Three dies are thrown, probability of getting a sum of 3 is .....................
   a. 3/216  
   b. 2/3  
   c. 1/36  
   d. 1/216

121. Three coins are tossed, the probability of getting at the most two heads is ..................
   a. 7/8  
   b. 6/8  
   c. 3/8  
   d. 3/4

122. Binomial distribution is also called ............................
   a. Pearsonian distribution  
   b. Bernoulli distribution  
   c. Continuous distribution  
   d. None of these

123. The mean of a binomial distribution is .....................
   a. np  
   b. npq  
   c. square root of npq  
   d. None of these

124. Binomial distribution is a ....................... probability distribution
   a. Discrete  
   b. Continuous  
   c. Continuous distribution  
   d. None of these
125. Binomial distribution is originated by ..........................
   a. Prof. Karl Pearson  
   b. Simeon Dennis Poisson  
   c. James Bernoulli  
   d. De-Moivre

126. When probability is revised on the basis of all the available information, it is called ............
   a. Priori probability
   b. Posterior probability
   c. Continuous
   d. None of these

127. .......................... refers to the probabilities before making revision on the basis of all the available information.
   a. Priori probabilities
   b. Posterior probability
   c. Continuous
   d. None of these

128. Baye’s theorem is based upon inverse probability.
   a. Yes
   b. No
   c. Probability
   d. None of these

129. Probability distribution is also called theoretical distribution.
   a. Yes
   b. No
   c. Probability
   d. None of these

130. The height of persons in a country is a ........................ random variable.
   a. Discrete
   b. Continuous
   c. Discrete as well as continuous
   d. Neither discrete nor continuous

131. When the value of a variable is determined by the outcome of a random experiment, it is called..............
   a. Non-random variable
   b. Random variable
   c. Both
   d. None of these

132. Random variable is also called ......................
   a. Stochastic variable
   b. Chance variable
   c. Both
   d. None

133. If the random variable of a probability distribution assumes specific values only, then it is called ......................
   a. Discrete probability distribution
   b. Continuous probability distribution
   c. Probability distribution
   d. None of these

134. If the random variable of a probability distribution assumes any value in a given interval, then it is called ......................
   a. Discrete probability distribution
   b. Continuous probability distribution
   c. Probability distribution
   d. None of these

135. npq is the variance of .......................... 
   a. Binomial distribution
   b. Poisson distribution
   c. Normal distribution
   d. None of these

136. For a binomial distribution with probability p of a success and of q of a failure, the relation between mean and variance is ...................... 
   a. Mean is less than variance 
   b. Mean is greater than variance 
   c. Mean is equal to variance 
   d. Mean is greater than or equal to variance
137. In a binomial distribution, if \( n = 8 \) and \( p = 1/3 \), then variance = ........................
   a. 8/3
   b. 48/3
   c. 64/3
   d. 16/9

138. In a ......................... distribution, mean is equal to variance
   a. Binomial
   b. Poisson
   c. Normal
   d. Gamma

139. For a binomial distribution, the parameter \( n \) takes .................values
   a. Finite
   b. Infinite
   c. Continuous
   d. None of these

140. Poisson distribution is the limiting form of .........................
   a. Binomial distribution
   b. Normal distribution
   c. Poisson
   d. None of these

141. Poisson distribution is a ..................... probability distribution.
   a. Discrete
   b. Continuous
   c. Poisson
   d. None of these

142. Poisson distribution is originated by .........................
   a. De-Moivre
   b. Bernoulli
   c. Simeon Denis Poisson
   d. James Bernoulli

143. In Poisson distribution, mean is denoted by .........................
   a. npq
   b. np
   c. m
   d. e

144. Poisson distribution is a ..................... distribution.
   a. Negatively skewed distribution
   b. Positively skewed distribution
   c. Symmetrical distribution
   d. None of these

145. In Poisson distribution, the value of \( 'e' \) = .........................
   a. 2.178
   b. 2.817
   c. 2.718
   d. 2.871

146. Mean and variance of Poisson distribution is equal to .........................
   a. m
   b. e
   c. np
   d. npq

147. If two independent random variables follow binomial distribution, their sum follows.................
   a. Binomial distribution
   b. Poisson distribution
   c. Normal distribution
   d. None of these

148. Number of parameters of the Binomial distribution are .........................
   a. 0
   b. 1
   c. 2
   d. 3

149. For a normal distribution:
   a. Mean = mode
   b. Mean = median
   c. Median + mode
   d. All the above

150. When \( X \) follows binomial distribution, \( P(X=0) \) is .........................
   a. 0
   b. 1
   c. \( q^n \)
   d. \( p^n \)

151. Normal distribution was first discovered by ......................... in 1733 as limiting form of binomial distribution.
   a. Karl Pearson
   b. James Bernoulli
   c. De-Moivre
   d. Simeon Denis Poisson
152. Normal distribution is a .................... probability distribution.
   a. Discrete                          c. Poisson
   b. Continuous                       d. None of these

153. ......................distribution gives a normal bell shaped curve.
   a. Normal                          c. Binomial
   b. Poisson                         d. None of these

154. The height of normal curve is at its maximum at the ....................
   a. Mode                            c. Mean
   b. Median                          d. None of these

155. The normal curve is ....................
   a. Bi-model                        c. Binomial
   b. Uni-model                       d. None of these

156. Mean, median and mode are equal for a ......................distribution.
   a. Binomial                        c. Normal
   b. Poisson                         d. None of these

157. Normal distribution is ....................
   a. Continuous                      c. Symmetrical
   b. Unimodal                        d. All of these

158. For a normal curve, the QD, MD, and SD are in the ratio of ....................
   a. 5:8:10                          c. 2:3:5
   b. 10:12:15                        d. None of these

159. An approximate relation between QD and SD of normal distribution is ....................
   a. 2QD = 3SD                       c. 4QD = 5SD
   b. 5QD = 4SD                       d. 3QD = 2SD

160. An approximate relation between MD about mean and SD of a normal distribution is ....................
   a. 5MD = 4 SD                      c. 3MD = 2 SD
   b. 3MD = 3 SD                      d. 4MD = 5 SD

161. The area under the standard normal curve beyond the line z = ±1.96 is ....................
   a. 5%                              c. 90%
   b. 10%                             d. 95%

162. Coefficient of skewness of a normal distribution is ....................
   a. 0                               c. More than 0
   b. Less than 0                     d. In between +1 and -1

163. Normal distribution is ....................
   a. Mesokurtic                      c. Platykurtic
   b. Leptokurtic                     d. None of these

164. Mean Deviation (M.D) for normal distribution is equal to ....................
   a. 5/4 S.D.                        c. 4/5 S.D.
   b. 3/2 S.D.                        d. 2/3 S.D.

165. Quartile Deviation (Q.D) for normal distribution is equal to ....................
   a. 5/4 S.D.                        c. 4/5 S.D.
   b. 3/2 S.D.                        d. 2/3 S.D.

166. In a ..................... distribution, quartiles are equi-distant from median.
   a. Binomial                        c. Normal
   b. Poisson                         d. None of these
167. A normal distribution requires two parameters, namely the mean and ............
   a. Median           c. Standard deviation±
   b. Mode             d. Mean deviation

168. A normal distribution is an approximation to ......................
   a. Binomial distribution  c. Poisson
   b. Poisson distribution  d. None of these

169. Mean ± 2 S.D. covers ............% area of normal curve.
   a. 68.27           c. 95.54
   b. 95.45           d. 98.73

170. Theoretically, the range of normal curve is ..........................
   a. -1 to +1           c. -infinity to +infinity
   b. +1 to infinity     d. None of these

171. Standard deviation of the sampling distribution is called ..............
   a. Probable error     c. Mean deviation
   b. Standard error     d. Coefficient of variation

172. A parameter is a function of ................. values.
   a. Population        c. Statistic
   b. Sample            d. None of these

173. A ....................... is a function of sample values.
   a. Parameter         c. Population
   b. Statistic         d. None of these

174. The hypothesis under test is called ..............................
   a. Alternative hypothesis  c. Null hypothesis
   b. Simple hypothesis     d. All these above

175. A wrong decision about null hypothesis leads to ......................
   a. One kind of error    c. Three kinds of error
   b. Two kinds of errors  d. Four kind of errors

176. Out of the two types of errors, ....................... is the more severe error.
   a. Type I error        c. Both equally severe
   b. Type II error       d. None of these

177. Power of a test is related to .........................
   a. Type I error        c. Both
   b. Type II error       d. None of the above

178. Test of hypothesis and .................... are the two branches of statistical inference.
   a. Probability         c. Estimation
   b. Statistical analysis d. None of these

179. ....................... is the original hypothesis.
   a. Null hypothesis     c. Statistical analysis
   b. Alternative hypothesis d. None of these

180. A null hypothesis is indicated by ..............
   a. H₀               c. H₂
   b. H₁               d. None of these

181. Accepting a null hypothesis when it is true is a ......................
   a. Type I error       c. Not an error
   b. Type II error      d. None of these
182. Type II error means ........................................
   a. Accepting a true hypothesis    c. Accepting a wrong hypothesis
   b. Rejecting a true hypothesis    d. Rejecting a wrong hypothesis
183. Quartile deviation of normal distribution is equal to .................
   a. 4/5 S.D.    c. 2/3 S.D.
   b. 3/4 S.D.    d. 1 S.D.
184. Type I error is denoted by the symbol ..............................
   a. Alpha    c. Gamma
   b. Beta    d. None of these
185. β symbol is used to denote ........................................
   a. Type I error    c. Correct decisions
   b. Type II error    d. None of these
186. A sample is treated as large sample when its sample size is ............
   a. More than 100    c. More than 50
   b. More than 75    d. More than 30
187. ..........................refers to the number of independent observations which is obtained by subtracting the number of constraints from the total number of observations.
   a. Level of significance    c. Sample size
   b. Degree of freedom    d. None of these
188. Degrees of freedom for Chi-square in case of contingency table of (4x3) order are .................
   a. 6    c. 7
   b. 8    d. 12
189. Prob.(Rejecting H₀/H₀ is true) is ........................
   a. Type I error    c. Level of significance
   b. Type II error    d. Power of the test
190. By test of significance, we mean ..............................
   a. A significant procedure in statistics
   b. A method of making a significant statement
   c. A rule of accepting or rejecting hypothesis
   d. A significant estimation problem
191. The range of Chi-square is ........................................
   a. -1 to +1    c. 1 to infinite
   b. 0 to 1    d. None of these
192. The range of statistic, t is ........................................
   a. -1 to +1    c. –ve infinite to +ve infinite
   b. 0 to infinite    d. 0 to 1
193. When sample is small, ....................... test is applied.
   a. t-test    c. l-test
   b. z-test    d. None of these
194. The range of the variance ratio, F is ........................
   a. -1 to +1    c. 0 to infinite
   b. 0 to 1    d. –ve infinite to +ve infinite
195. Total number of observations – Number of constraints = ...........................
   a. Sample size    c. Level of significance
   b. Degree of freedom    d. None of these
196. An alternative hypothesis is denoted by ....................
   a. H_0  
   b. H_1  
   c. H_2  
   d. None of these

197. Student’s t-test was developed by ....................
   a. R.A. Fischer  
   b. Karl Pearson  
   c. William Gosset  
   d. James Bernoulli

198. Z-test was developed by ....................
   a. R.A. Fischer  
   b. Karl Pearson  
   c. William Gosset  
   d. James Bernoulli

199. Who developed F-test?
   a. R.A. Fischer  
   b. Karl Pearson  
   c. William Gosset  
   d. James Bernoulli

200. Chi-square test was developed by ....................
   a. R.A. Fischer  
   b. Karl Pearson  
   c. William Gosset  
   d. James Bernoulli

201. The level of probability of accepting a true null hypothesis is called ....................
   a. Degree of freedom  
   b. Level of significance  
   c. Level of acceptance  
   d. None of these

202. The probability level of rejecting a true null hypothesis is called ....................
   a. Degree of freedom  
   b. Level of significance  
   c. Level of acceptance  
   d. None of these

203. 1 – Level of significance = ....................
   a. Level of confidence  
   b. Degree of freedom  
   c. Level of acceptance  
   d. None of these

204. In a normal curve, the significance level is usually termed as ....................region.
   a. Critical region  
   b. Acceptance region  
   c. Level of acceptance  
   d. None of these

205. The statistical tests which do not follow any assumption about population parameter are called....................
   a. Parametric tests  
   b. Non-parametric tests  
   c. Level of acceptance  
   d. None of these

206. .................... tests follow assumptions about population parameters.
   a. Parametric  
   b. Non-parametric  
   c. Level of acceptance  
   d. None of these

207. If level of significance is not specified, we take ............level of significance while testing the hypothesis.
   a. 1%  
   b. 5%  
   c. 10%  
   d. 25%

208. .................... describes the magnitude of difference between observed frequencies and expected frequencies.
   a. F-value  
   b. t-value  
   c. z-value  
   d. Chi-square value

209. .................... are distribution free tests.
   a. Parametric tests  
   b. Non-parametric tests  
   c. Level of acceptance  
   d. None of these
210. Chi-square value ranges from 0 to ......................
   a. +1  
   b. -1  
   c. 10  
   d. Infinity

211. When the expected frequencies and observed frequencies are completely coincide, chi-square value will be ............
   a. +1  
   b. -1  
   c. 0  
   d. None of these

212. If the discrepancy between observed and expected frequencies are greater, ..............will be the chi-square value.
   a. Smaller  
   b. Greater  
   c. 0  
   d. None of these

213. The calculated value of chi-square is ......................
   a. Always positive  
   b. Always negative  
   c. Can be positive or negative  
   d. None of these

214. Chi-square test was first used by.........................
   a. Simeon Denis Poisson  
   b. R.A.Fischer  
   c. Karl Pearson  
   d. Frank Wilcoxon

215. ....................... is the simplest and most widely used non-parametric test.
   a. Chi-square test  
   b. Sign test  
   c. Wilcoxon matched paired test  
   d. K-S test

216. ....................... is used as a test of goodness of fit.
   a. Run test  
   b. Mann-whitney U-test  
   c. Chi-square test  
   d. Wilcoxon test

217. While applying chi-square test, the frequency in any cell should not be ..................
   a. More than 10  
   b. More than 5  
   c. Less than 10  
   d. Less than 5

218. In a 4x4 contingency table, degree of freedom is .................
   a. 4  
   b. 16  
   c. 3  
   d. 9

219. ....................... is used as a test of whether there is any association between two attributes.
   a. Mann-whitney U-test  
   b. Chi-square test  
   c. K-S test  
   d. Sign test

220. The Yates correction is generally applied when the number of degree of freedom is .................
   a. More than 5  
   b. Less than 5  
   c. More than 10  
   d. Less than 10

221. Non-parametric test is .................................
   a. Distribution free statistical test  
   b. Not concerned with parameter  
   c. Does not make assumption about the form of distribution  
   d. All the above

222. Which of the following is not a non-parametric test:
   a. Chi-square test  
   b. t-test  
   c. Sign test  
   d. Run test

223. Signed rank test was developed by ......................
   a. Karl Pearson  
   b. Kruskal  
   c. Kolmogrov  
   d. Frank Wilcoxon
224. The .......................test is usually used as a test of homogeneity.
   a. Chi-square test  
   b. Signt test  
   c. Run test  
   d. Signed rank test  

225. Kruskal – Wallis test is a ......................... test.
   a. Parametric  
   b. Non-parametric  
   c. Run test  
   d. None of these  

226. Wilcoxon Matched-pairs test is used for testing .....................
   a. Significance of difference between two pairs of values  
   b. Significance of variance  
   c. Significance of mean  
   d. All the above  

227. The technique of analysis of variance is developed by ...................
   a. R.A. Fischer  
   b. Karl Pearson  
   c. Frank Wilcoxon  
   d. Kruskal  

228. Analysis of variance utilises .................. 
   a. Chi-square test  
   b. F-test  
   c. Z-test  
   d. t-test  

229. which of the following is not a parametric test:
   a. chi-square test  
   b. z-test  
   c. t-test  
   d. None of these  

230. If two samples of size 9 and 11 have means 6.8 and 8.8, and variance 36 and 25 respectively, then value of t = .................. 
   a. 0.149  
   b. 1.84  
   c. 0.79  
   d. None of these  

231. Customarily the larger variance in the variance ratio for F-statistic is taken as...........
   a. The denominator  
   b. The numerator  
   c. Either way  
   d. None of these  

232. Student's t-test is applicable only when.........................
   a. The variance values are independent  
   b. The variable is distributed normally  
   c. The sample is not large  
   d. All the above.  

233. The idea of testing of hypothesis was first set forth by .................
   a. R.A. Fischer  
   b. J. Neyman  
   c. Karl Pearson  
   d. James Bernoulli  

234. In 1933, the theory of testing of hypothesis was propounded by ........................
   a. R.A. Fischer  
   b. J. Neyman  
   c. Karl Pearson  
   d. James Bernoulli  

235. In one way ANOVA, the variances are ................... 
   a. Between samples  
   b. Within samples  
   c. Both  
   d. Neither a nor b  

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