

UNIVERSITY OF CALICUT  
SCHOOL OF DISTANCE EDUCATION  
(For B Com. IV Semester & BBA III Semester)

COMPLEMENTARY COURSE  
**QUANTITATIVE TECHNIQUES**  
QUESTION BANK

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 an 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
  - b. Correlation analysis
  - c. Testing of hypothesis
  - d. None of these
27. The square of coefficient of correlation is called .....
  - a. Coefficient of regression
  - b. Coefficient of determination
  - c. Coefficient of non-determination
  - d. Coefficient of alienation
28. In correlation analysis, P.E. = ..... x 0.6745
  - a. Standard Error
  - b. Probable Error
  - c. None of the above
  - d. Correlation analysis
29. If coefficient of correlation is more than ..... of its P.E. , correlation is significant.
  - a. 5 times
  - b. 6 times
  - c. 2 times
  - d. None of the above
30. If correlation between the two variables is unity , there exists .....
  - a. Perfect +ve correlation
  - b. Perfect -ve correlation
  - c. Zero correlation
  - d. Perfect correlation
31. In correlation analysis, the formulae  $1-r^2$  is used to compute the value of .....
  - a. Coefficient of determination
  - b. Coefficient of non-determination
  - c. Coefficient of correlation
  - d. Coefficient of alienation
32. Study of correlation between two sets of data only is called .....
  - a. Partial correlation
  - b. Simple correlation
  - c. Multiple 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
  - b. Simple correlation
  - c. Partial correlation
  - d. None of the above
34. .... is the study of correlation among three or more variable simultaneously.
  - a. Multiple correlation
  - b. Partial correlation
  - c. Simple 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
  - b. Perfect correlation
  - c. Linear correlation
  - d. None of the above
36. Coefficient of correlation is independent of .....
  - a. Origin
  - b. Scale
  - c. Both
  - 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
  - b. 2.5
  - c. 0.1
  - d. 2
38. When  $r = -1$ , we may say that, there is .....
  - a. Perfect negative correlation
  - b. High degree of negative correlation
  - c. Very poor 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
  - b. Curvi-linear
  - c. Non-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
  - b. Low
  - c. High
  - 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
  - b. Low degree
  - c. Absence
  - d. None of these
42. If  $r=0.9$ , coefficient of determination is .....
  - a. 9%
  - b. 90%
  - c. 81%
  - 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
  - b. 0
  - c. -1
  - d. None of these
44. .... is the geometric mean of two regression coefficients.
  - a. Coefficient of correlation
  - b. Coefficient of Standard deviation
  - c. Arithmetic mean
  - d. Coefficient of variation
45. If dots in a scatter diagram are lie in a haphazard manner, then  $r=.....$ 
  - a. 0
  - b. +1
  - c. -1
  - d. None of these
46. Product moment correlation was developed by .....
  - a. Karl Pearson
  - b. Charles Edward Spearman
  - c. Kelly
  - d. None of these
47. Spearman's coefficient of correlation is usually denoted by .....
  - a. r
  - b. K
  - c. R
  - 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
  - b. Coefficient of determination
  - c. Coefficient of non-determiantion
  - d. None of these
49. If m is the correlation coefficient , then the quantity  $(1-m^2)$  is called .....
  - a. Coefficient of determination
  - b. Coefficient of non-determination
  - c. Coefficient of alienation
  - 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
  - b. X is decreasing, Y is increasing
  - c. Any one of the above
  - d. None of these
51. Coefficient of concurrent deviation depends on .....
  - a. Magnitude of deviation
  - b. Direction of deviation
  - c. Both a and b
  - d. None of these
52. .... refers to analysis of average relationship between two variables to provide a mechanism for prediction.
  - a. Correlation
  - b. Regression
  - c. Average
  - d. None of these
53. The two regression lines coincide each other when  $r = .....$ 
  - a. 0
  - b. -1
  - c. +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.  $1/30^{\text{th}}$  of the original regression coefficient

68. In .....regression, only one independent variable is used to explain the dependent variable.
- Linear
  - Multiple
  - Scatter diagram
  - None of these
69. When two or more independent variables are used to explain/ predict the dependent variable, then it is called .....regression.
- Linear
  - Multiple
  - Scatter diagram
  - None of these
70. Regression lines are also called .....
- Correlation graph
  - Scatter diagram
  - Estimating lines
  - None of these
71. If the correlation between the two variables , X and Y is negative, the regression coefficient of Y on X is .....
- Zero
  - Positive
  - Negative
  - Not certain
72. Rank correlation method was developed by .....
- Karl Pearson
  - Charles Spearman
  - Francis Galton
  - None of these
73. The arithmetic mean of  $b_{xy}$  and  $b_{yx}$  is .....
- Equal to one
  - Greater than r
  - Less than r
  - Greater than or equal to r
74. The regression coefficient and correlation coefficient of two variables will be the same, if their ..... are same.
- Standard deviation
  - Arithmetic mean
  - Mean deviation
  - None of these
75. If the sign of regression coefficient  $b_{xy}$  is negative, then the sign of regression coefficient  $b_{yx}$  will be .....
- Positive
  - Negative
  - 0
  - None of these
76. The square root of coefficient of determination is .....
- Coefficient of correlation
  - Coefficient of regression
  - Coefficient of variation
  - None of these
77. While analysing the relationship between variables, independent variable is also called.....
- Explained variable
  - Explanatory variable
  - Variable
  - None of these
78. When  $r = 0.2$ , S.D. of X = 8 and S.D. of Y = 10, then  $b_{xy} =$  .....
- 1.6
  - 0.16
  - 4.0
  - 0.4
79. Dependent variable is also called .....
- Explained variable
  - Explanatory variable
  - Variable
  - None of these
80. If one regression coefficient is positive, the other is .....
- Positive
  - Negative
  - Zero
  - 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 likelihood 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.  ${}^{12}C_{12} = \dots\dots\dots$   
 a. 12 c. 0  
 b. 1 d. None of these
95.  ${}^{25}C_{12} = \dots\dots\dots$   
 a.  ${}^{25}C_{52}$  c.  ${}^{25}C_{13}$   
 b.  ${}^{25}C_{21}$  d.  ${}^{25}C_{31}$

96. A set which contains no element is called .....
- Null set
  - Infinite set
  - Finite set
  - None of these
97. Classical probability is also called .....
- Priori probability
  - Mathematical probability
  - Laplace's probability
  - All the above
98. The relative frequency approach is also called .....
- Empirical approach
  - Statistical probability
  - Apsteriori probability
  - All the above
99. When  $P(A \cup B) = P(A) + P(B)$ , then A and B are .....
- Dependent
  - Independent
  - Mutually exclusive
  - None of these
100. When two events cannot occur together is called .....
- Equally likely
  - Mutually exclusive
  - Random events
  - None of these
101. If A and B are mutually exclusive and exhaustive, and  $P(A) = 1/6$ , then  $P(B) = \dots\dots\dots$
- $1/6$
  - 1
  - 0
  - $5/6$
102. The probability of a sure event is .....
- 0
  - $\frac{1}{2}$
  - 1
  - Greater than 1
103. If two sets have no common element, they are called .....
- Subset
  - Super set
  - Disjoint set
  - Equal set
104. Two events are said to be ....., if any one of them cannot be expected to occur in preference to the other.
- Equally likely
  - Mutually exclusive
  - Dependent
  - None of them
105. Two events are said to be independent if .....
- There is no common point in between them
  - Both the events have only one point
  - Each outcome has equal chance of occurrence
  - One does not affect the occurrence of the other
106. Probability of an event lies between .....
- +1 and -1
  - 0 and 1
  - 0 and -1
  - 0 and infinite
107. Probability of sample space of a random experiment is .....
- 1
  - 0
  - +1
  - Between 0 and +1
108. In tossing a coin, getting head and getting tail are .....
- Mutually exclusive events
  - Simple events
  - Complementary events
  - All the above
109. If two events, A and B are mutually exclusive, then  $P(A \cup B) = \dots\dots\dots$
- $P(A) + P(B)$
  - $P(A) + P(B) - P(A \text{ and } B)$
  - $P(A) + P(B) + P(A \text{ and } B)$
  - None of these



110. If two events, A and B are not mutually exclusive, the  $P(A \cup B) = \dots\dots\dots$
- $P(A) + P(B)$
  - $P(A) + P(B) - P(A \text{ and } B)$
  - $P(A) + P(B) + P(A \text{ and } B)$
  - None of these
111. An event consisting of those elements which are not in the given event is called.....
- Simple event
  - Derived event
  - Complementary event
  - None of these
112. The definition of priori probability was originally given by .....
- De-Moivre
  - Laplace
  - Pierre de Fermat
  - James bernoulli
113. ....refers to the totality of all the elementary outcomes of a random experiment.
- Sample point
  - Sample space
  - Simple event
  - None of these
114. The sum of probabilities of all possible elementary outcomes of a random experiment is always equal to .....
- 0
  - 1
  - Infinity
  - None of these
115. The probability of the intersection of two mutually exclusive events is always .....
- 0
  - 1
  - Infinity
  - None of these
116. An empty set is also known as .....
- Null set
  - Equal set
  - Finite set
  - Infinite set
117. Chance for an event may be expressed as .....
- Percentage
  - Proportion
  - Ratio
  - All the above
118. If it is known that an event A has occurred, the probability of an event B given A is called .....
- Empirical probability
  - Conditional probability
  - Priori probability
  - Posterior probability
119. When a die is thrown, .....is the probability of getting a 5.
- $5/6$
  - $6/5$
  - $1/5$
  - $5/1$
120. Three dies are thrown, probability of getting a sum of 3 is .....
- $3/216$
  - $2/3$
  - $1/36$
  - $1/216$
121. Three coins are tossed, the probability of getting at the most two heads is .....
- $7/8$
  - $6/8$
  - $3/8$
  - $3/4$
122. Binomial distribution is also called .....
- Pearsonian distribution
  - Bernoulli distribution
  - Continuous distribution
  - None of these
123. The mean of a binomial distribution is .....
- $np$
  - $npq$
  - square root of  $npq$
  - None of these
124. Binomial distribution is a ..... probability distribution
- Discrete
  - Continuous
  - Continuous distribution
  - 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. probability
  - 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  $q$  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
  - b. Continuous
  - c. Poisson
  - d. None of these
153. ....distribution gives a normal bell shaped curve.
  - a. Normal
  - b. Poisson
  - c. Binomial
  - d. None of these
154. The height of normal curve is at its maximum at the .....
  - a. Mode
  - b. Median
  - c. Mean
  - d. None of these
155. The normal curve is .....
  - a. Bi-model
  - b. Uni-model
  - c. Binomial
  - d. None of these
156. Mean, median and mode are equal for a .....distribution.
  - a. Binomial
  - b. Poisson
  - c. Normal
  - d. None of these
157. Normal distribution is .....
  - a. Continuous
  - b. Unimodal
  - c. Symmetrical
  - d. All of these
158. For a normal curve , the QD, MD, and SD are in the ratio of .....
  - a. 5:8:10
  - b. 10:12:15
  - c. 2:3:5
  - d. None of these
159. An approximate relation between QD and SD of normal distribution is .....
  - a.  $2QD = 3SD$
  - b.  $5QD = 4SD$
  - c.  $4QD = 5SD$
  - d.  $3QD = 2SD$
160. An approximate relation between MD about mean and SD of a normal distribution is .....
  - a.  $5MD = 4SD$
  - b.  $3MD = 3SD$
  - c.  $3MD = 2SD$
  - d.  $4MD = 5SD$
161. The area under the standard normal curve beyond the line  $z = \pm 1.96$  is .....
  - a. 5%
  - b. 10%
  - c. 90%
  - d. 95%
162. Coefficient of skewness of a normal distribution is .....
  - a. 0
  - b. Less than 0
  - c. More than 0
  - d. In between +1 and -1
163. Normal distribution is .....
  - a. Mesokurtic
  - b. Leptokurtic
  - c. Platykurtic
  - d. None of these
164. Mean Deviation (M.D) for normal distribution is equal to .....
  - a.  $5/4$  S.D.
  - b.  $3/2$  S.D.
  - c.  $4/5$  S.D.
  - d.  $2/3$  S.D.
165. Quartile Deviation (Q.D) for normal distribution is equal to .....
  - a.  $5/4$  S.D.
  - b.  $3/2$  S.D.
  - c.  $4/5$  S.D.
  - d.  $2/3$  S.D.
166. In a ..... distribution, quartiles are equi-distant from median.
  - a. Binomial
  - b. Poisson
  - c. Normal
  - d. None of these

167. A normal distribution requires two parameters, namely the mean and .....
  - a. Median
  - b. Mode
  - c. Standard deviation $\pm$
  - d. Mean deviation
168. A normal distribution is an approximation to .....
  - a. Binomial distribution
  - b. Poisson distribution
  - c. Poisson
  - d. None of these
169. Mean  $\pm$  2 S.D. covers .....% area of normal curve.
  - a. 68.27
  - b. 95.45
  - c. 95.54
  - d. 98.73
170. Theoretically, the range of normal curve is .....
  - a. -1 to +1
  - b. +1 to infinity
  - c.  $-\infty$  to  $+\infty$
  - d. None of these
171. Standard deviation of the sampling distribution is called .....
  - a. Probable error
  - b. Standard error
  - c. Mean deviation
  - d. Coefficient of variation
172. A parameter is a function of .....values.
  - a. Population
  - b. Sample
  - c. Statistic
  - d. None of these
173. A ..... is a function of sample values.
  - a. Parameter
  - b. Statistic
  - c. Population
  - d. None of these
174. The hypothesis under test is called .....
  - a. Alternative hypothesis
  - b. Simple hypothesis
  - c. Null hypothesis
  - d. All these above
175. A wrong decision about null hypothesis leads to .....
  - a. One kind of error
  - b. Two kinds of errors
  - c. Three kinds of error
  - d. Four kind of errors
176. Out of the two types of errors, ..... is the more severe error.
  - a. Type I error
  - b. Type II error
  - c. Both are equally severe
  - d. None of these
177. Power of a test is related to .....
  - a. Type I error
  - b. Type II error
  - c. Both
  - d. None of the above
178. Test of hypothesis and ..... are the two branches of statistical inference.
  - a. Probability
  - b. Statistical analysis
  - c. Estimation
  - d. None of these
179. .... is the original hypothesis.
  - a. Null hypothesis
  - b. Alternative hypothesis
  - c. Statistical analysis
  - d. None of these
180. A null hypothesis is indicated by .....
  - a.  $H_0$
  - b.  $H_1$
  - c.  $H_2$
  - d. None of these
181. Accepting a null hypothesis when it is true is a .....
  - a. Type I error
  - b. Type II error
  - c. Not an error
  - d. None of these

182. Type II error means .....
  - a. Accepting a true hypothesis
  - b. Rejecting a true hypothesis
  - c. Accepting a wrong hypothesis
  - d. Rejecting a wrong hypothesis
183. Quartile deviation of normal distribution is equal to .....
  - a.  $4/5$  S.D.
  - b.  $3/4$  S.D.
  - c.  $2/3$  S.D.
  - d. 1 S.D.
184. Type I error is denoted by the symbol .....
  - a. Alpha
  - b. Beta
  - c. Gamma
  - d. None of these
185.  $\beta$  symbol is used to denote .....
  - a. Type I error
  - b. Type II error
  - c. Correct decisions
  - d. None of these
186. A sample is treated as large sample when its sample size is .....
  - a. More than 100
  - b. More than 75
  - c. More than 50
  - 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
  - b. Degree of freedom
  - c. Sample size
  - d. None of these
188. Degrees of freedom for Chi-square in case of contingency table of (4x3) order are .....
  - a. 6
  - b. 8
  - c. 7
  - d. 12
189. Prob.(Rejecting  $H_0/H_0$  is true) is .....
  - a. Type I error
  - b. Type II error
  - c. Level of significance
  - 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
  - b. 0 to 1
  - c. 1 to infinite
  - d. None of these
192. The range of statistic, t is .....
  - a. -1 to +1
  - b. 0 to infinite
  - c. -ve infinite to +ve infinite
  - d. 0 to 1
193. When sample is small, ..... test is applied.
  - a. t- test
  - b. z-test
  - c. l-test
  - d. None of these
194. The range of the variance ratio, F is .....
  - a. -1 to +1
  - b. 0 to 1
  - c. 0 to infinite
  - d. -ve infinite to +ve infinite
195. Total number of observations – Number of constraints = .....
  - a. Sample size
  - b. Degree of freedom
  - c. Level of significance
  - d. None of these

196. An alternative hypothesis is denoted by .....
- $H_0$
  - $H_1$
  - $H_2$
  - None of these
197. Student's t-test was developed by .....
- R.A. Fischer
  - Karl Pearson
  - William Gosset
  - James Bernoulli
198. Z-test was developed by .....
- R.A. Fischer
  - Karl Pearson
  - William Gosset
  - James Bernoulli
199. Who developed F-test ?
- R.A. Fischer
  - Karl Pearson
  - William Gosset
  - James Bernoulli
200. Chi-square test was developed by .....
- R.A. Fischer
  - Karl Pearson
  - William Gosset
  - James Bernoulli
201. The level of probability of accepting a true null hypothesis is called .....
- Degree of freedom
  - Level of significance
  - Level of acceptance
  - None of these
202. The probability level of rejecting a true null hypothesis is called .....
- Degree of freedom
  - Level of significance
  - Level of acceptance
  - None of these
203.  $1 - \text{Level of significance} = \dots\dots\dots$
- Level of confidence
  - Degree of freedom
  - Level of acceptance
  - None of these
204. In a normal curve, the significance level is usually termed as .....region.
- Critical region
  - Acceptance region
  - Level of acceptance
  - None of these
205. The statistical tests which do not follow any assumption about population parameter are called .....
- Parametric tests
  - Non-parametric tests
  - Level of acceptance
  - None of these
206. .... tests follow assumptions about population parameters.
- Parametric
  - Non-parametric
  - Level of acceptance
  - None of these
207. If level of significance is not specified, we take .....level of significance while testing the hypothesis.
- 1%
  - 5%
  - 10%
  - 25%
208. .... describes the magnitude of difference between observed frequencies and expected frequencies.
- F-value
  - t-value
  - z-value
  - Chi-square value
209. ....are distribution free tests.
- Parametric tests
  - Non-parametric tests
  - Level of acceptance
  - None of these

210. Chi-square value ranges from 0 to .....
- +1
  - 1
  - 10
  - Infinity
211. When the expected frequencies and observed frequencies are completely coincide, chi-square value will be .....
- +1
  - 1
  - 0
  - None of these
212. If the discrepancy between observed and expected frequencies are greater, .....will be the chi-square value.
- Smaller
  - Greater
  - 0
  - None of these
213. The calculated value of chi-square is .....
- Always positive
  - Always negative
  - Can be positive or negative
  - None of these
214. Chi-square test was first used by.....
- Simeon Denis Poisson
  - R.A.Fischer
  - Karl Pearson
  - Frank Wilcoxon
215. .... is the simplest and most widely used non-parametric test.
- Chi-square test
  - Sign test
  - Wilcoxon matched paired test
  - K-S test
216. .... is used as a test of goodness of fit.
- Run test
  - Mann-whitney U-test
  - Chi-square test
  - Wilcoxon test
217. While applying chi-square test, the frequency in any cell should not be .....
- More than 10
  - More than 5
  - Less than 10
  - Less than 5
218. In a 4x4 contingency table, degree of freedom is .....
- 4
  - 16
  - 3
  - 9
219. .... is used as a test of whether there is any association between two attributes.
- Mann-whitney U-test
  - Chi-square test
  - K-S test
  - Sign test
220. The Yates correction is generally applied when the number of degree of freedom is .....
- More than 5
  - Less than 5
  - More than 10
  - Less than 10
221. Non-parametric test is .....
- Distribution free statistical test
  - Not concerned with parameter
  - Does not make assumption about the form of distribution
  - All the above
222. Which of the following is not a non-parametric test:
- Chi-square test
  - t- test
  - Sign test
  - Run test
223. Signed rank test was developed by .....
- Karl Pearson
  - Kruskal
  - Kolmogorov
  - Frank Wilcoxon



224. ....test is usually used as a test of homogeneity.
- Chi-square test
  - Sign test
  - Run test
  - Signed rank test
225. Kruskal – Wallis test is a ..... test.
- Parametric
  - Non-parametric
  - Run test
  - None of these
226. Wilcoxon Matched-pairs test is used for testing .....
- Significance of difference between two pairs of values
  - Significance of variance
  - Significance of mean
  - All the above
227. The technique of analysis of variance is developed by .....
- R.A.Fischer
  - Karl Pearson
  - Frank wilcoxon
  - Kruskal
228. Analysis of variance utilises .....
- Chi-square test
  - F-test
  - Z-test
  - t-test
229. which of the following is not a parametric test:
- chi-square test
  - z-test
  - t-test
  - 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  $t =$  .....
- 0.149
  - 1.84
  - 0.79
  - None of these
231. Customarily the larger variance in the variance ratio for F-statistic is taken as.....
- The denominator
  - The numerator
  - Either way
  - None of these
232. Student's t-test is applicable only when.....
- The variance values are independent
  - The variable is distributed normally
  - The sample is not large
  - All the above.
233. The idea of testing of hypothesis was first set forth by .....
- R.A. Fischer
  - J. Neyman
  - Karl Pearson
  - James Bernoulli
234. In 1933, the theory of testing of hypothesis was propounded by .....
- R.A. Fischer
  - J. Neyman
  - Karl Pearson
  - James Bernoulli
235. In one way ANOVA, the variances are .....
- Between samples
  - Within samples
  - Both
  - Neither a nor b

\*\*\*\*\*

**ANSWER KEY**

1.c	2.c	3.b	4.c	5.b	6.b
7.c	8.c	9.d	10.a	11.b	12.c
13.a	14.b	15.b	16.b	17.c	18.a
19.d	20.c	21.b	22.c	23.c	24.c
25.a	26.b	27.b	28.a	29.b	30.d
31.b	32.b	33.c	34.a	35.a	36.c
37.b	38.a	39.a	40.c	41.c	42.c
43.b	44.a	45.a	46.a	47.c	48.b
49.b	50.c	51.b	52.b	53.c	54.a
55.a	56.b	57.b	58.c	59.b	60.b
61.c	62.b	63.a	64.d	65.b	66.c
67.c	68.a	69.b	70.c	71.c	72.b
73.b	74.a	75.b	76.a	77.b	78.b
79.a	80.a	81.c	82.b	83.c	84.a
85.b	86.b	87.b	88.a	89.a	90.c
91.a	92.b	93.a	94.b	95.c	96.a
97.d	98.d	99.c	100.b	101.d	102.c
103.c	104.a	105.d	106.b	107.c	108.a
109.a	110.b	111.c	112.b	113.b	114.b
115.a	116.b	117.d	118.b	119.c	120.d
121.a	122.b	123.a	124.a	125.c	126.b
127.a	128.a	129.a	130.b	131.b	132.c
133.a	134.b	135.a	136.b	137.d	138.b
139.a	140.a	141.a	142.c	143.c	144.b
145.c	146.a	147.a	148.c	149.d	150.c
151.c	152.b	153.a	154.c	155.b	156.c
157.d	158.b	158.b	159.d	160.a	161.a
162.a	163.a	164.c	165.d	166.c	167.c
168.a	169.b	170.c	171.b	172.a	173.b
174.c	175.b	176.b	177.b	178.c	179.a
180.a	181.c	182.c	183.c	184.a	185.b
186.d	187.b	188.a	189.a	190.c	191.c
192.c	193.a	194.c	195.b	196.b	197.c
198.a	199.a	200.c	201.c	202.b	203.a
204.a	205.b	206.a	207.b	208.d	209.b
210.d	211.c	212.b	213.a	214.c	215.a
216.c	217.d	218.d	219.b	220.b	221.a
222.b	223.d	224.d	225.b	226.a	227.a
228.b	229.a	230.c	231.b	232.d	233.b
234.c	235.c				

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