PSN COLLEGE OF ENGINEERING AND TECHNOLOGY
(An Autonomous Institution Recognised by AICTE, New Delhi and Affiliated to Anna University, Chennai)
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Melathediyoor, Tirunelveli – 627 152

IC630017 - NUMERICAL METHODS AND STATISTICS

MULTIPLE CHOICE QUESTION

Year/Semester: II / III (All Branches)

1. Example for Algebraic equation is ------

a) Sinx b) cos x +3x-1=0 c) log x **d)** $x^4 + 2x^3 = 0$

2. Example for Transcendental equation is -------

a) x-2 b) $x^4 + 2x^3 = 0$ c) **cos x +3x-1=0** **d)** 2x+3

3.In Newton's - Raphson method, the root is not given then we can find any two values of x say a and b such that f(a) and f(b) are of opposite signs. If $|f(a)| \leq |f(b)|$ then

a) 'a' is taken as the first approximation
b) 'b' is taken as the first approximation
c) neither 'a' nor 'b' is a root
d) There is no root

4. $In\ Regula - falsi\ method\ if\ f(x_1)\ and\ f(a)\ are\ of\ same\ sign$

a) $Replace\ a\ by\ x_1\ and\ keep\ b\ as\ it\ is$
b) $Replace\ b\ by\ x_1\ and\ keep\ a\ as\ it\ is$
c) $Replace\ x_1\ by\ a\ and\ keep\ b\ as\ it\ is$
d) $Replace\ x_1 by\ b\ and\ keep\ a\ as\ it\ is$

5. Order of convergence of Newton RaphsonMethod is _____
a) 1 **b) 2** c) 3 d) 4

6. Order of convergence of RegulaFalsiMethod is _____
a) 1 **b) 2** c) 3 d) 4

7. Order of convergence of Iteration Method is _____
a) **1** b) 2 c) 3 d) 4

8. Condition for convergence of iteration method is _____
*

a) $|\phi'(x)| \leq 1$
b) $|f(x)f''(x)| \leq |f'(x)|^2$
c) $|\phi'(x)| > 1$
d) $|f(x)f''(x)| > |f'(x)|^2$

9.Condition for convergence of Newton Raphson method is _____

a) $|\phi'(x)| \leq 1$

b) $|f(x)f''(x)| \leq |f'(x)|^2$

c) $|\phi'(x)| > 1$

d) $|f(x)f''(x)| > |f'(x)|^2$

10.Formula for iterative method is _____

a) When x=g(x)

b) $x_{n+1} = g(x_n)$

c) $x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$

d) $x_1 = \frac{af(b) - bf(a)}{f(b) - f(a)}$

11.Formula for Regula falsi method is _____

a) When x=g(x)

b) $x_{n+1} = g(x_n)$

c) $x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$

d) $x_1 = \frac{af(b) - bf(a)}{f(b) - f(a)}$

12.Formula for Newton Raphson method is _____

a) * When x=g(x)

b) $x_{n+1} = g(x_n)$

c) $x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$

d) $x_1 = \frac{af(b) - bf(a)}{f(b) - f(a)}$

13. A real root of $x^3 + x - 11 = 0$ is _____

a) (0,1) b) (1,2) **c) (2,3)** d)(3,4)

14.A real root of $e^x = 4x$

a) (0,1) b) (1,2) **c) (2,3)** d)(3,4)

15. A real root of $x^3 - 2x - 5 = 0$

a) (0,1) b) (1,2) **c) (2,3)** d)(3,4)

16. In Gauss elimination method, the given system is transformed into an equivalent system with

a) Lower triangular matrix

b) Upper triangular matrix

c) Diagonal matrix

d) Identity matrix

17.The solution of x+y=1, 2x+3y=2 by Gauss elimination method is _____

a) (1,1) b)(0,1) **c)(1,0)** d)(0,0)

18.The solution of 2x+y=3, x+3y=4 by Gauss elimination method is _____

a) **(1,1)** b)(0,1) c)(1,0) d)(0,0)

19. The solution of x+y=1, 2x+3y=3 by Gauss elimination method is _____

a) (1,1) **b)(0,1)** c)(1,0) d)(0,0)

20. The solution of x+y=2, 2x+3y=5 by Gauss elimination method is _____

a) **(1,1)** b)(0,1) c)(1,0) d)(0,0)

21.The solution of x+y=1, 2x+3y=2 by Gauss jordan method is _____

a) (1,1) b)(0,1) **c)(1,0)** d)(0,0)

22.The solution of 2x-y=1, 2x+3y=5 by Gauss jordan method is _____

a) **(1,1)** b)(0,1) c)(1,0) d)(0,0)

23. Find inverse of the system 5x+4y=15, 3x+7y=12 using Guass - Jordan method

a) x=2.8965, y=0.4567
b) x=2.4783, y= 0.6522
c) x=2.7963, y=0.3942
d) x=2. 6734, y=0.4316

24. Find inverse of the system 5x+4y=9, 3x+7y=10 using Guass - Jordan metho**d**

a) x=1 y=1 b) x=1, y= 2 c) x=2, y=1 d) x=2, y=2

25. Condition for the convergence of Gauss – Seidel method is _____

a) 0
b) 1
c) dominant
d) diagonally dominant

26.For the system of equations x+y+54z=110, 27x+6y-z=85, 6x+15y+2z=72 by using Gauss seidel method the initial values are _____

a) 2.4322, 3.572, 1.925
b) 3.148, 3.5408, 1.913
c) 2.42569, 3.5729, 1.92595
d) 2.42550, 3.573, 1.92595

27. In Gauss - Jordan method, the given system is transformed into an equivalent system with*

a) Lower triangular matrix
b) Upper triangular matrix
c) Diagonal matrix
d) Identity matrix

28. Pick the not diagonally dominant matrix

a) $\begin{pmatrix} 5 & 3 & 1 \\ 3 & 8 & 4 \\ 1 & 2 & 6 \end{pmatrix}$ b) $\begin{pmatrix} 8 & 2 & -3 \\ 5 & 6 & 4 \\ 3 & 2 & 6 \end{pmatrix}$ c) $\begin{pmatrix} 9 & 1 & 2 \\ 2 & 3 & -1 \\ 3 & -2 & 7 \end{pmatrix}$ d) $\begin{pmatrix} 4 & 2 & 1 \\ 2 & 5 & 0 \\ 3 & 2 & 7 \end{pmatrix}$

29. If the eigenvalues of A are -4,3,1 then the dominant eigenvalue of A is ----------

a) -4 b)4 c)3 d)1

30. If the eigenvalues of A are 1,3,4 then the dominant eigenvalue of A is ----------

a) -4 **b)4** c)3 d)1

31. Newton- Gregory Forward interpolation formula can be used _____

a) only for equally spaced intervals
b) only for unequally spaced intervals
c) for both equally and unequally spaced intervals
d) for unequally intervals

32. Find n if x0 = 0.75825, x = 0.759 and h = 0.00005.
a) 1.5 **b) 15** c) 2.5 d) 25

33. Find x if x0 = 0.6, n = 2.6 and h = 0.2.
a) 12 b) 1.2 **c)1.12** d) 1.22

34. **Find n for the following data if f(0.2) is asked.**

x	0	1	2	3	4	5	6
$f(X)$	176	185	194	203	212	220	229

a) 0.4 **b) 0.2** c) 1 d) 0.1

35. **Find n for the following data if f(1.8) is asked.**

X	0	0.5	1	1.5	2
$F(X)$	0.3989	0.3521	0.2420	0.1295	0.0540

a) 2.4 b) 3.4 c) 2.6 **d) 3.6**

36. Using Newton's Forward formula, find sin(0.1604) from the following table

X	0.160	0.161	0.162
f(x) :	0.1593182066	0.1603053541	0.1612923412

a) 0.169713084
b) 0.159713084
c) 0.158713084
d) 0.168713084

37. Find f(5) using Newton's Forward interpolation formula from the following table.

x	0	2	4	6	8
F(x)	4	26	58	112	466

a) 71.109375 b)61.103975 **c)70.103957** d)71.103957

38. Can we use lagrange interpolation formula when the intervals are equal?
a) Yes
b) No

39. The divided difference are _____ in all there arguments
a) Equal
b) Unequal
c) **Symmetrica**l
d) Unsymmetrical

40. The nth divided difference of a polynomial of the nth degree are_____
a) constant
b) variable
c) equation
d) none

41. The order of convergence of cubic spline

a) 1 b)2 c) 3 d) 4

42. The cubic spline is also called_____ spline

a) Artificial b) natural **c) random** d) none

43. Newton's interpolation formula are not suited to estimate the value of a function near the middle of table

a) true

b) false

44. The process of finding the value of a function inside the given range is called _____

a) formation b) iteration **c) interpolation** d) none

45.Lagrange interpolation formula can be used for _____ intervals

a) equally spaced

b) unequal spaced

c) both equal and not

d) none

46. Lagrange interpolation formula can be used for inverse interpolation

a) true

b) false

c) neither true nor false

d) either true or false

47. Newton's interpolation formula can be used for inverse interpolation

a) true

b) false

c) neither true nor false

d) either true or false

48. Inverse interpolation is the process of finding the value of _____

a) x corresponding to y

b) y corresponding to x

c) xy

d) none

49. Direct interpolation is the process of finding the value of _____

a) x corresponding to y

b) y corresponding to x

c) xy

d) none

50. Given n+1 data pairs, a unique polynomial of degree _____ passes through n +1 data points.

a) n+1 b) n +1 or less c) n **d) n or less**

51. Find the polynomial for the following data

x	4	6	8	10
F(x)	1	3	8	10

a) $1/8(3x^2-22x+36)$ b) $3x^2-22x+36$ **c) ½ $(3x^2-22x+36)$** d)$1/6\ (3x^2+22x+36)$

52. Interpolation is done by ---
    a) Curve fitting
    b) regression analysis
    c) curve fitting and regression analysis
    d) none

53. Newton forward interpolation is used in ---- interval points
    a) at the beginning points
    b) at the end points
    c) intermediate points
    d) none

54. Newton backward interpolation is used in ---- interval points
    a) at the beginning points
    b) at the end points
    c) intermediate points
    d) none

55. Striling interpolation is used in ---- interval points
    a) at the beginning points
    b) at the end points
    c) intermediate points
    d) none

56. Newton backward interpolation formula can be used _____
    a) only for equally spaced intervals
    b) only for unequally spaced intervals
    c) for both equally and unequally spaced intervals
    d) for unequally intervals

57. Strililng interpolation formula can be used _____
    a) only for equally spaced intervals
    b) only for unequally spaced intervals
    c) for both equally and unequally spaced intervals
    d) for unequally intervals

58. Legrange's interpolation formula can be used _____
    a) only for equally spaced intervals
    b) only for unequally spaced interval**s**
    c) for both equally and unequally spaced intervals
    d) for unequally intervals

59. Divide difference interpolation formula can be used _____
    a) only for equally spaced intervals
    b) only for unequally spaced intervals
    c) for both equally and unequally spaced intervals
    d) for unequally intervals

60. Linear interpolation is

a) easy b) precise **c) easy and precise** d) none

61. Numerical differentiation can be used only when the difference of some order -----

a) constant b) linear **c) multiple** d) None of the above

62. What is the order of error in trapezoidal rule?

a) 1 **b) 2** c) 3 d) 4

63. What is the order of error in Simpson rule?

a) 1 b) 2 **c) 3** d) 4

64. Which one is more reliable?

a) Simpson rule b) Trapezoidal rule c) none

65. Whenever trapezoidal rule is application Simpson rule can be apply

a) True **b) False**

66. Number of subintervals for trapezoidal rule is ---

a) Even b) multiple of three **c) any number** d) none

67. Number of subintervals for Simpson's 1/3rd rule is ---

a) Even b) multiple of three c) any number d) none

68. Number of subintervals for Simpson's 3/8th rule is ---

a) Even **b) multiple of three** c) any number d) none

69. If $I_1 = 0.7083 \, and \, I_2 = 0.6970 \, then \, I = \, - - - - - \, by \, ramberg \, method$

a) 0.6528 b) 0.6832 **c) 0.6932** d) 0.3582

70. Newton's forward difference formula for first differentiation is ----

a) $\frac{1}{h}\left[\Delta y_n + \frac{2u-1}{2!}\Delta^2 y_n + \frac{3u^2-6u+2}{3!}\Delta^3 y_n \ldots\right]$

b) $\frac{1}{h}\left[\Delta y_0 + \frac{2u-1}{2!}\Delta^2 y_0 + \frac{3u^2-6u+2}{3!}\Delta^3 y_0 \ldots\right]$

c) None

71. Newton's backward difference formula for first differentiation is ----

a) $\frac{1}{h}\left[\Delta y_n + \frac{2u-1}{2!}\Delta^2 y_n + \frac{3u^2-6u+2}{3!}\Delta^3 y_n \ldots\right]$

b) $\frac{1}{h}\left[\Delta y_0 + \frac{2u-1}{2!}\Delta^2 y_0 + \frac{3u^2-6u+2}{3!}\Delta^3 y_0 \ldots\right]$

c) None

72. The types of function in which Simpson rule and direct integration will give the same result is ----

a) Parabola b) elliptic c) Hyperbolic **d) straight line**

73. The types of function in which trapezoidal rule and direct integration will give the same result is ----

a) **Parabola** b) elliptic c) Hyperbolic d) straight line

74. What is meant by n in forward interpolation method?

a) Number of intervals

b) Number of datas

c) Length of interval

d) None of the above

75. What is meant by h in forward interpolation method?

a) Number of intervals
b) Number of datas
c) Length of interval
d) None of the above

76. The number of points of the base segment is ----- in definite integral will be obtain
a) Increase b) Decrease c) constant d) none
77. Formula for trapezoidal rule is ---
a) $\int f(x)dx = \frac{h}{2}[(y_0 + y_n) + 2(y_1 + y_2 \pm - - - y_{n-1})]$
b) $\int f(x)dx = \frac{h}{3}[(y_0 + y_n) + 2(y_2 + y_4 + \ldots) + 4(y_1 + y_3 + \ldots)]$
c) $\int f(x)dx = \frac{3h}{8}[(y_0 + y_n) + 3(y_1 + y_2 + y_4 + \ldots) + 2(y_3 + y_6 + \ldots)]$
d) None

78. Formula for Simpson 1/3 rule is ---
a) $\int f(x)dx = \frac{h}{2}[(y_0 + y_n) + 2(y_1 + y_2 \pm - - - y_{n-1})]$
b) $\int f(x)dx = \frac{h}{3}[(y_0 + y_n) + 2(y_2 + y_4 + \ldots) + 4(y_1 + y_3 + \ldots)]$
c) $\int f(x)dx = \frac{3h}{8}[(y_0 + y_n) + 3(y_1 + y_2 + y_4 + \ldots) + 2(y_3 + y_6 + \ldots)]$
d) None

79. Formula for Simpson 3/8 rule is ---
a) $\int f(x)dx = \frac{h}{2}[(y_0 + y_n) + 2(y_1 + y_2 \pm - - - y_{n-1})]$
b) $\int f(x)dx = \frac{h}{3}[(y_0 + y_n) + 2(y_2 + y_4 + \ldots) + 4(y_1 + y_3 + \ldots)]$
c) $\int f(x)dx = \frac{3h}{8}[(y_0 + y_n) + 3(y_1 + y_2 + y_4 + \ldots) + 2(y_3 + y_6 + \ldots)]$
d) None

80. The two point Gaussian quadrature formula is exact for polynomial up to degree --
a) 1 b) 2 **c) 3** d) 4
81. The three point Gaussian quadrature formula is exact for polynomial up to degree ----
a) 1 b) 3 **c) 5** d)7
82. $\int_0^{\pi} \sin^3 x\, dx = - - - \,, h = \frac{\pi}{6}$
a) 0.972 b) 1.305 **c) 1.972** d) 1.299
83. The process of evaluating a definite integral from a set of tabulated value is ----*
a) Cubic **b) quadrature** c) straight line d) none
84. In Simpson 1/3 rule y is a --- of degree 2
a) straight line b) circle c) constant **d) polynomial**
85. In trapezoidal rule y is a --- of x
a) linear b) cubic c) quadratic d) none
86. $\int_5^{12} \frac{1}{x}dx = - - \ by\, Gaussian\, 3\, \text{point formula}$

a) 0.28767 b) 0.65860 **c) 0.87534** d) 0.64820

87. $\int_1^2 e^x dx$ *by* Gaussian 3 point formula is ---

a) 0.28767 **b) 0.65860** c) 0.87534 d) 4.67077

88 $\int_{-1}^{1} \frac{1}{x} dx$ by Gaussian two point formula is ---

a) 0 b) 1 c) 2 d) 3

89 $\int_{-1}^{1} \frac{1}{1+x^2} dx$ by Gaussian two point formula is ---

a) 0 b) ½ **c) 3/2** d) 5/2

90. Simpson 1/3 rule is called --- formula

a) open closed
b) open
c) closed
d) closed open

91. The total area of a normal distribution between average value ± 1.96 of standard deviation is:

a) 95.45% **b) 95%** c)98% d) 65.48%

92. The process of making inferences and drawing conclusion about the population based on sample data is known as

a) Descriptive statistics
b) Inferential statistics
c) Population statistics
d) Sample satistics

93. Statistical inference has …… branches

a) 2 b) 4 c) 3 d) 1

94. Which of the following is the branch of statistical inference ?

a) Estimation
b) Hypothesis testing
c) Both a and b
d) Neither a nor b

95.The statistical estimation s possible in the case of

a) Parameter
b) Sample
c) Population
d) Random sample

96. The estimator is Known as random as it varies from

a) Population to population
b) Sample to sample
c) Population to sample
d) Sample to population

97. The process in which the true but unknown value of population parameter is computing is known as

a) Descriptive statistic

b) Inferential statistic
c) Estimation
d) Testing of hypothesis

98.Sample is a part of
a) Statistical analysis
b) Statistical inference
c) Statistic
d) Population

99. Statistical estimation of …… types
a) One **b)Two** c)Three d)Four

100. The theory of estimation is given by
a) Fermat b) Laplace **c) Fisher** d) None of them

101. parameter are those constants which occur in
a) Samples
b) **Probability density functi**on
c) Formula
d) None of them

102. Estimate and estimator are
a) Different
b) Synonyms
c) Same
d) None of them

103.The value of an estimator is called
a) Expectations
b) Estimate
c) Variance
d) None of them

104. The formula which is used to estimate the true but unknown value of population parameter is called
a) Estimate
b) Estimation
c) Estimator
d) All of them

105. The value obtained by applying the estimator on sample information is known as
a) Estimator
b) Estimation
c) Both a and b
d) Estimate

106. Statistic may be
a) An estimator
b) An estimate
c) Both a and b
d) None of them

107. Estimate can be
a) Specific value

b) Range of values
c) Both a and b
d) Neither a nor b

108. A single numerical value which is used as an estimate of unknown parameter is known as
a) Population parameter
b) Mean estimate
c) Interval estimate
d) Point estimate

109. A range of values within which the true value of population parameter lies is called
a) Point estimate
b) Mean estimate
c) Interval estimate
d) None of them

110. An estimator is considered to be best if its distribution is
a) Discrete
b) Concentrated about the true parameter value
c) Normal
d) Normal continuous

111. Which of the following properties an estimator holds?
a) Sufficiency
b) Efficiency
c) Unbiasedness
d) All of them

112. The types of estimates are
a) Point estimate
b) Interval estimate
c) Estimation of confidence region
d) all of them

113. An estimator of a parametric function tau(theta) is said to be the best if is possesses
a) all properties of good estimator
b) any two properties of good estimator
c) atleast three properties of good estimator
d) all of them

114. An estimator 'T-n' based on the sample of size n to be the best estimator of θ if
a) 'P(abs(T_n-theta)\gt epsi)\ge P{abs(T_n^*-theta)\It epsi}'
b) 'P(abs(T_n-theta)\It epsi)\ge P{abs(T_n^*-theta)\It epsi}'
c) 'P(abs(T_n-theta)\gt epsi)=P{abs(T_n^*-theta)\It epsi}'
d) All of them

115. The bias of an estimator will be
a) Positive
b) Negative
c) Both a and b
d) None of them

116. An estimator whose expected value is equal to the true value of population parameter is known as

a) Biased estimator
b) unbiased estimator
c) sufficient estimator
d) efficient estimator

117. If the expected value is grater than the true value of population parameter then the estimator is known as
a) efficient
b) unbiased estimator
c) sufficient estimator
d) positively biased

118. the sample satistic s is a point estimator of
a) **σ** b) μ c) P d)None of them

119.the sample mean 'bar X' is a point estimator of
a) σ **b) μ** c) P d)None of them

120. The sample proportion P is
a) Parameter
b) Biased estimator
c) unbiased estimator
d) None of them

121. Pick out the notation for sample mean and population mean*
a) $\bar{x}\ and\ s$
b) $\bar{x}\ and\ \mu$
c) $\bar{x}\ and\ s^2$
d) n and s

122. If the calculated value of t exceeds the tabulated value of at 5% or 1% level of significance the the null hypothesis is*
a) **Accepted** b)Rejected c)None

123. Right tailed alternative is*
a) $H_1 : \mu > \mu_0$
b) $H_1 : \mu_0 > \mu$
c) $H_1 : \mu = \mu_0$
d) $H_1 : \mu \neq \mu_0$

124. Left tailed alternative is*
a) $H_1 : \mu > \mu_0$
b) $H_1 : \mu_0 > \mu$
c) $H_1 : \mu = \mu_0$
d) $H_1 : \mu \neq \mu_0$

125.*
$If\ |Z| \angle z_\alpha\ then$

_____the null hypothesis.

a) Accept
b) Reject
c) neither accept nor reject

d) none

126.* $If\ |Z| > z_\alpha\ then$

_____the null hypothesis

a) Accept
b) Reject
c) neither accept nor reject
d) none

127. Critical value depends on*

a) level of significance
b) alternative hypothesis
c) both
d) none

128. In all probability a standard normal variate to lie between*

a) -2 and 2
b) -4 and 4
c) -5 and 5
d) -3 and 3

129. A coin is tossed 144 times and a person gets 80 heads. Can we say that the coin is unbiased one?*

a) Biased **b) Unbiased** c)none

130. When the size of the sample n_____30, then that sample is called a small sample.*

a) greater than
b) greater than or equal to
c) less than
d) less than or equal to

131. When the size of the sample n_____30, then that sample is called a large sample.*

a) greater than
b) greater than or equal to
c) less than
d) less than or equal to

132. If the calculated value of t is less than the tabulated value of at 5% or 1% level of significance the the null hypothesis is*

a) Accepted **b) Rejected** c)None

133. If the standard deviation of a sample is given directly the the statistic is given by*

a) $t = \frac{\bar{x} - \mu}{\frac{s^2}{\sqrt{n}}}$

b) $t = \frac{\bar{x} - \mu}{\frac{s^2}{\sqrt{n-1}}}$

c) $t = \frac{\bar{x} - \mu}{\frac{S.D}{\sqrt{n-1}}}$

134. Pick the degrees of freedom of student's t- test for single mean*

a) **n-1** b) n-m-1 c) n-2 d)n-m-2

135. Write the formula for to test the significant difference between two means x and y of two sample sizes*

a) $$t = \frac{x - y}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

b) $$t = \frac{x - y}{\sqrt{s^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

c) Option 2both a and b

d) none

136. Pick the degrees of freedom of student's t' test for difference of means*

a) $n_1 + n_2 - 1$

b) $n_1 + n_2 + 2$

c) $n_1 + n_2 - 2$

d) $n_1 + n_2 + 1$

137. To if the two samples have come from the same population then we use*

a) t-test **b) F-test** c) chi-square test d)none

138. We will take greater of the variances S_1^2 *or* S_2^2 in the numerator and adjust for the degrees of freedom accordingly

a) $$F = \frac{Smaler\ variance}{Greater\ variance}$$

b) $$F = \frac{Greater\ variance}{Smaler\ variance}$$

c) None

139. In F-test*

a) $S_1^2 \leq S_2^2$

b) $S_1^2 > S_2^2$

c) $S_1^2 \geq S_2^2$

d) None

140. Pick the degrees of freedom for chi-square test of goodness of fit*

a) n+1 b) n+m-1 **c) n-1** d) n-m-1

141. The number of automobile accidents per week in a certain community are as follows: 12, 8, 20, 2, 14, 10, 15, 6, 9, 4. What is the expected frequency?*

a) 20

b) 30

c) 40

d) 10

142. Observed frequencies are 1026, 1107, 997, 966, 1075,933, 1107, 972, 964, 853. What is the expected frequency?*

a) 10 b) 100 **c) 1000** d)10000

143. Observed frequencies are 14, 18, 12, 11, 15, and 14. What is the expected frequency?*

a) 11 **b) 12** c) 13 d) 14

144. Pick the degrees of freedom for chi-square test for independence of attributes.*

a) (r-1)(s-2) b)(r-2)(s-1) **c)(r-1)(s-1)** d)(r-2)(s-2)

145. Tabulated value of chi-square test for 1 degrees of freedom at 5% level of significance is

a) 2.90 b)3.12 **c) 3.84** d)4.88

146. Tabulated value of chi-square test for 5 degrees of freedom at 5% level of significance is

a) 10.07 **b)9.488** c)7.851 d)11.07

147. Tabulated value of F- test for (6, 5) degrees of freedom at 5% level of significance is*

a) 6.26 b)6.16 **c) 5.05** d)4.95

148. Tabulated value of F- test for (3, 10) degrees of freedom at 5% level of significance is*

a) 3.86
b) 3.48
c) 3.71
d) 3.59

149. Tabulated value of t- test for 9 degrees of freedom at 5% level of significance is*

a) 2.306
b) 2.262
c) 2.228
d) 2.365

150. IF Observed frequency are 14, 18, 12,11,15,14 and expected frequency is 14. Find chi-square value*

a) 1.143
b) 2.143
c) 3.143
d) 4.143

S.NO.	ANS.	S.NO.	ANS.	S.NO.	ANS.	S.NO.	ANS.	S.NO.	ANS.
1	d	31	a	61	c	91	b	121	b
2	c	32	b	62	b	92	a	122	a
3	a	33	c	63	c	93	c	123	a
4	d	34	b	64	a	94	d	124	c
5	b	35	d	65	b	95	b	125	a
6	b	36	b	66	c	96	c	126	b
7	a	37	c	67	a	97	d	127	b
8	a	38	a	68	b	98	b	128	d
9	b	39	c	69	c	99	c	129	b
10	b	40	a	70	a	100	b	130	d
11	c	41	a	71	c	101	a	131	b
12	d	42	c	72	d	102	b	132	b

13	**c**	**43**	**a**	**73**	**a**	**103**	**c**	**133**	**a**
14	**c**	**44**	**c**	**74**	**a**	**104**	**d**	**134**	**a**
15	**c**	**45**	**b**	**75**	**c**	**105**	**c**	**135**	**b**
16	**a**	**46**	**a**	**76**	**a**	**106**	**c**	**136**	**a**
17	**c**	**47**	**b**	**77**	**a**	**107**	**d**	**137**	**b**
18	**a**	**48**	**b**	**78**	**b**	**108**	**c**	**138**	**b**
19	**b**	**49**	**a**	**79**	**c**	**109**	**b**	**139**	**a**
20	**a**	**50**	**d**	**80**	**c**	**110**	**b**	**140**	**c**
21	**c**	**51**	**c**	**81**	**c**	**111**	**d**	**141**	**b**
22	**a**	**52**	**c**	**82**	**c**	**112**	**d**	**142**	**c**
23	**b**	**53**	**a**	**83**	**b**	**113**	**a**	**143**	**b**
24	**a**	**54**	**b**	**84**	**d**	**114**	**b**	**144**	**c**
25	**b**	**55**	**c**	**85**	**a**	**115**	**c**	**145**	**c**
26	**c**	**56**	**a**	**86**	**c**	**116**	**b**	**146**	**b**
27	**c**	**57**	**a**	**87**	**b**	**117**	**d**	**147**	**c**
28	**b**	**58**	**c**	**88**	**a**	**118**	**a**	**148**	**c**
29	**a**	**59**	**c**	**89**	**c**	**119**	**b**	**149**	**c**
30	**b**	**60**	**c**	**90**	**b**	**120**	**c**	**150**	**c**