Sheth T.J. Education Society's
Sheth N.K.T.T College ,Thane
Department of Mathematics and Statistics

F.Y.B.Com Sem-II Question Bank -2020-21

Unit-I Interest and Annuity

1. The simple interest 6% on 5,000 for 7 years is----------
   a) 2,100
   b) 3,500
   c) 3.000
   d) 2500

2. The simple interest at 8%. for a fixed deposit at the end of 4 years was 640 the principal of the fixed deposit was,
   a) 6,400
   b) 20,000
   c) 2,000
   d) 25000

3. At what rate a principal of 4,000 be put for 3 years, so as to get 1,320 as interest on maturity?
   a) 5%
   b) 11%
   c) 209
   d) 10%

4. I invested 120 in a surprise scheme. I was returned 180 after a year. What was rate of simple interest on my investment?
   a) 20%
   b) 40%
   c) 50%
   d) 80%
5. A Bank promises to double the principal invested by their customers in 10 years. What is the rate of simple interest offered by the bank?
   a) 8%
   b) 10%
   c) 12%
   d) 7%
6. A well-known company advertises Make Fixed Deposits of 50 lakhs with us become crorepati in 5 years flat! If the company offers simple interest. then their rate of interest is,
   a) 15%
   b) 20%
   c) 255
   d) 25%

7. If the money kept at simple interest triples in 25 years, then the rate of interest is,
   a) 8%
   b) 10%
   c) 15%
   d) 5%

8. The maturity amount of a fixed deposit of 1,000 kept for 5 years at 10% simple interest is-------
   a) 500
   b) 1000
   c) 1.500
   d) 550

9. What is the maturity value of a fixed deposit worth 2,000 kept for 4 years at simple interest?
   a) 296
   b) 2,960
   c) 2,480
   d) 2500
10. The simple interest on Rs.20000 for 3 years at 6% rate of interest per annum is,
   a) 3600
   b) 360000
   c) 10000
   d) 40000
11. In how many years a sum of Rs.50000 will amount to Rs.60000 at 10% simple interest?
   a) 1
   b) 2
   c) 3
   d) 4
12. Find the simple interest on Rs 25000 at 8% p.a. for 5 years.
   a) 40000
   b) 15625
   c) 10000
   d) 1000000
13. If the simple interest is Rs.4000 on Rs.20000 then amount is,
   a) 16000
   b) 24000
   c) 20000
   d) 4000
14. If principal Rs.10000 becomes Rs.15000 then the simple interest is,
   a) 25000
   b) 15000
   c) 5000
   d) 10000

15. In 2 years a sum will amount to Rs.60000 at 10% simple interest, then the sum is,
    a) 60000
    b) 50000
    c) 10000
    d) 5000
16. The formula for accumulated value A is,
    a) $A=P(1-r/100)^n$
    b) $A=P(1+r/100)^n$
    c) A=nPr/100
    d) A=P+ C.I.
17. An amount of Rs.15000 is invested at 8% p.a. for one year, compounded annually. The amount is,
    a) 16200
    b) 1200
    c) 1620
    d) 1500
18. The formula of compound interest is,
    a) C.I.=A+P
    b) C.I.=A-P
    c) C.I.=A/P
    d) C.I.=A*P
19. The maturity value of a fixed deposit worth 2,000 kept for 8 years in a company at 12% compound interest, if the interest is compounded annually is given by,
    a) 4951.9
    b) 1920
    c) 3920
    d) 2900

20. After how many years the maturity value of a fixed deposit amount will be nearly doubled at the rate of 9.5%. If the interest is to be compound annually?
    a) 6 years
    b) 10 years
    c) 8 years
    d) 5 years

21. The compound interest for 2 years on 100 at the rate of 10% per year, calculated annually is-------
    a) 11
    b) 100
    c) 21
    d) 10

22. The compound interest for 2 years on 100 at the rate of 8%, calculated annually is
    a) 22.4
    b) 16.64
    c) 122.4
    d) 120.4

23. The compound interest on two years on 1.000 at the rate of 9%, calculated annually is ,
    a) 90
    b) 81
    c) 188.1
    d) 80
24. Find the future value of Rs. 3000 kept in a bank in a fixed deposit account, after one year at 8% rate compound interest p.a.
    a) 3008
    b) 3240
    c) 240
    d) 3375
25. Find the present value of Rs.5000 payable 2 years hence, if the interest is compounded annually at 8%.
    a) 5800
    b) 4286.69
    c) 800
    d) 200
26. If the annuities are paid at the end of each period, it is called as an _____
    a) Life annuity
    b) Annuity certain
    c) Annuity due
    d) Immediate annuity
27. If the total number of time periods is fixed, it is known as _____
    a) Immediate annuity
    b) Annuity certain
    c) Annuity due
    d) Life annuity
28. If the payments are paid at the beginning of each period, it is called as _____
    a) Immediate annuity
    b) Annuity certain
    c) Annuity due
    d) Life annuity
29. If the payments are to be made as long as a person is alive, it is called as _____
    a) Immediate annuity
    b) Annuity certain
    c) Annuity due
    d) Life annuity

Unit-II Derivatives and its applications

30. If y= log x then dy/dx is
    a) 1/x
    b) 2
    c) 1/2x
    d) X

31. If y= 25log x then dy/dx is
    a) 25
    b) 25/x
    c) 25log x
    d) Log x
32. If y = 36 then dy/dx is,
    a) 6
    b) 0
    c) 9
    d) 18
33. If y= a^x then dy/dx is,
    a) ax
    b) xa
    c) a^x
    d) a^x log a
34. If y=10a^x then dy/dx is,
    a) 10ax
    b) 10xa
    c) 10a^x
    d) 10 a^x log a
35. If y= e^x then dy/dx is,
    a) xe
    b) ex
    c) e^x
    d) e
36. If y=2e^x then dy/dx is,
    a) 2xe
    b) 2ex
    c) 2e^x
    d) 2e
37. If y=-6e^x then dy/dx is,
    a) -6xe
    b) -6exx
    c) -6e^x
    d) 6e^x
38. If y=$\sqrt{x}$ then dy/dx is
    a) 1/2$\sqrt{x}$
    b) 1/2x
    c) x
    d) x^2
39. If y= u+v then dy/dx is
    a) du/dx-dv/dx
    b) du/dx +dv/dx
    c) du/dx*dv/dx
    d) dx/dy
40. The demand function is p = 1 + 4D. Then the Marginal Revenue at D=1 is,
    a) 8
    b) 9
    c) 7
    d) 6

41. The total cost function of producing certain product is $C = x^2 - 5x + 100$, the average cost of producing 20 items is _____.
    a) 10
    b) 400
    c) 20
    d) 0
42. The cost of manufacturing x toys is C=5x+7. What is average cost of manufacturing 10 toys?
    a) 57
    b) 5.7
    c) 35
    d) 12
43. The cost of manufacturing x toys is C=5x+7. What is marginal cost of manufacturing 10 toys?
    a) 5
    b) 7
    c) 10
    d) 12
44. The demand function of a commodity is $p= 3 + 5D - D^2$, where p is its price. What is total revenue of function at D=5.
    a) 10
    b) 15
    c) 25
    d) 30
45. The demand is given by $p = 10 - D^2$, where p is the price, then total revenue when the price is Rs 3 per unit is _____.
    a) 0
    b) 1
    c) 3
    d) 100
46. If the marginal revenue is 50 and the price is 75 then elasticity of demand is _____.
    a) 2
    b) 3
    c) 4
    d) 5
47. If the average revenue is 45 and the elasticity of demand is 5, Marginal Revenue is _.
    a) 45
    b) 40
    c) 36
    d) 50
48. If $f(x) = x^2+3x$ then f "(x) is _____.
    a) 2
    b) 3
    c) 4
    d) 0
49. If the elasticity of demand is 2 and the marginal revenue is 30, then Average Revenue is _____.
    a) 32
    b) 28
    c) 60
    d) 15

50. If the elasticity of demand is 2 and the marginal revenue is 30, then price is _____.
    a) 32
    b) 28
    c) 60
    d) 15
51. If f '(4) = 0 and f "(4) < 0 then
    a) f(x) has minima at x = 4
    b) f(x) has maxima at x = 4
    c) f(x) has maxima at x = 0
    d) f(x) has minima at x = 0
52. If f '(2) = 0 and f "(2) > 0 then
    a) f(x) has minima at x = 2
    b) f(x) has maxima at x = 2
    c) f(x) has maxima at x = 0
    d) f(x) has minima at x = 0
53. If $\eta > 1$ then demand is said to be _____.
    a) Inelastic
    b) Elastic
    c) Perfectly elastic
    d) Proportional to price
54. If $0 < \eta < 1$ then demand is said to be _____.
    a) Inelastic
    b) Elastic
    c) Perfectly elastic
    d) Proportional to price
55. The maximum value of function $f(x) = 3+4x -x^2$ is
    a) 7
    b) 2
    c) 3
    d) 1
56. If the Profit Function in lakhs, for selling x tons of goods is $f(x) = x^2 -8x+28$ the minimum profit at x=2 in lakhs, is?
    a) 13
    b) 14
    c) 15
    d) 16
57. The relation between Marginal Revenue ,,Average Revenue and elasticity ηis,
    a) MR = AR (1-1/ η)
    b) MR = AR (1+ 1/ η)
    c) AR = MR (1+ 1/ η)
    d) AR = MR (1+ η)
58. If total cost is $C= x^2+2x-1$ then MC is,
    a) 2x+2
    b) X+2-1/x
    c) 0
    d) 2x-1
59. If y= u-v then dy/dx is,
    a) du/dx-dv/dx
    b) du/dx+dv/dx
    c) du/dx*dv/dx
    d) dx/du-dx/dv

60. If total cost is C= x^2+3x-3 then AC is,
    a) 2x+3
    b) x+3-3/x
    c) x+3
    d) 3x-3
61. If total cost is C= x^2+3x-3 then MC is,
    a) 2x+3
    b) 2x+3-3
    c) 2x
    d) 3x-3
62. If total cost is C= x^2+3x-3 then MC at x=5 is,
    a) 10
    b) 37
    c) 13
    d) 12
63. If total cost is C= x^2+4x-5 then MC is,
    a) x+4
    b) 2x+4-5
    c) 2x+4
    d) 4x-5
64. If total cost is C= x^2+4x-5 then MC at x=2 is,
    a) 8
    b) 7
    c) 6
    d) 5
65. If Average cost=2x+4 then MAC is,
    a) x+4
    b) 4
    c) 2
    d) 8
66. If average cost=2x+4 then MAC at x=10 is,
    a) 24
    b) 20
    c) 60
    d) 2
67. If average cost = 2x+3 then MAC is,
    a) x+3
    b) 2
    c) 3
    d) 5
68. If average cost=2x+3 then MAC at x=5 is,
    a) 13
    b) 10
    c) 2
    d) 5
69. If y= $2x^4$ +4 then dy/dx is,
    a) 2x+4
    b) 8x
    c) 2
    d) 2x

70. The total revenue received from the sale of x units of an article is given by $R(x) = 3x^2 + 36x + 5$. The marginal revenue when x = 15 is,
    a) 126
    b) 116
    c) 96
    d) 90
71. If $f'(a) = 0$ and $f''(a) < 0$ then f has -------
    a) a maximum at x=a
    b) a minimum at x=a
    c) a decreasing at x=a
    d) a increasing at x=a
72. If $f'(a) = 0$ and $f''(a) > 0$ then f has -------
    a) a maximum at x=a
    b) A Minimum at x = a
    c) a decreasing at x=a
    d) a increasing at x=a
73. If x is real, the minimum value of $x^2 - 8x + 17$ is
    a) -1
    b) 0
    c) 1
    d) 2
74. Two parts of 50, such that their product is maximum are,
    a) 25 & 25
    b) 49 & 1
    c) 20 & 30
    d) 10 & 40
75. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then total revenue is,
    a) $2D+4D^2-D^3$
    b) $2+4D-D^2$
    c) $2+4D$
    d) $4D-D^2$
76. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then total revenue at D=2 is,
    a) 8
    b) 12
    c) 11
    d) 10
77. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then Average revenue is,
    a) $2+4D-D^2$
    b) $2/D +4$
    c) $4D-D^2$
    d) $2+4D$
78. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then Average revenue at D=2 is,
    a) 6
    b) 12
    c) 18
    d) 24

79. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then Marginal revenue at is,
    a) $2+4D$
    b) $D-8D^2$
    c) $2+8D-3D^2$
    d) $2D+4D^2-D^3$
80. The demand function of a commodity is $p=2+4D-D^2$, where p is price. Then Marginal revenue at D=2 is,
    a) 12
    b) 6
    c) 0
    d) 18
81. The demand function of a commodity is $p=2+4D-D^2$, where p is price. The rate of change of price when the demand is 1 is,
    a) 10
    b) 5
    c) 4
    d) 2

Unit-III Correlation and Regression

82. If the value of r is 1 then it is called,
    a) no correlation
    b) Perfectly positive correlation
    c) Negative correlation
    d) Perfectly negative correlation
83. If the value of r is -1 then it is called____ correlation.
    a) Positive
    b) Perfectly positive
    c) Perfectly negative
    d) no
84. correlation coefficient can have
    a) any unit
    b) unit free
    c) unit of first variable
    d) unit of second variable
85. When there is absence of correlation then r is equal to _____.
    a) 1
    b) -1
    c) 0
    d) Between – 1 and 1
86. The correlation between demand and price is_____.
    a) Positive
    b) Negative
    c) Can be positive or negative
    d) Can't say

87. If the value of r is 0 then it is called _____ correlation.
    a) Positive
    b) Negative
    c) Perfectly positive
    d) No
88. If the value of r is greater than 0 then it is called _____correlation.
    a) Positive
    b) Negative
    c) Perfectly negative
    d) No
89. If the value of r is less than 0 then it is called_____ correlation.
    a) Positive
    b) Negative
    c) Perfectly positive
    d) No
90. The range of coefficient of correlation is
    a) 0 to 10
    b) 0 to ∞
    c) -1 to +1
    d) -1 to 10
91. If $\Sigma(x-12)(y-25)=192\ and\ \Sigma(x-12)^2=119, \Sigma(y-25)^2=345$ then r is ___.
    a) 0.84
    b) 0.94
    c) 0.55
    d) 0.62
92. If $\Sigma(x-6)(y-8)=60\ ,\ s.d\ ox\ x=5, s.d\ of\ y=3\ and\ n=10$
    a) 0.2
    b) 0.4
    c) 0.3
    d) 0.1
93. If sum of squares of differences in rank of 8 pairs of values is 16, Rank Correlation is __ .
    a) 0.81
    b) 0.5
    c) 2
    d) 1
94. If sum of squares of differences in rank of 5 pairs of values is 15 and correction factor is 0.5 then Rank Correlation is __ .
    a) 0.25
    b) -0.25
    c) 0.23
    d) -0.23

95. If b_{xy} and b_{yx} are two regression coefficients , they have
    a) Opposite sign
    b) Same sign
    c) Either same or opposite sign
    d) No sign
96. The two lines of regression intersect at ____
    a) (0,0)
    b) (1,1)
    c) (x ,y)
    d) $(\bar{x}\ ,\bar{y}\ )$
97. If two regression lines are perpendicular to each other, correlation coefficient is __
    a) 0
    b) 1or -1
    c) 0.95
    d) ∞
98. The Karl Pearson correlation coefficient is also called as ____
    a) Rank correlation
    b) Regression coefficient
    c) Product moment correlation coefficient
    d) Coefficient of variation
99. When bxy is positive, then byx will be ___
    a) Negative
    b) Positive
    c) Zero
    d) One
100. A measure of the strength of the linear relationship that exists between two variables is called:
    a) Slope
    b) Intercept
    c) Correlation coefficient
    d) Regression equation
101. If the points on the scatter diagram indicate that as one variable increases the other variable tends to decrease the value of r will be___.
    a) Perfect positive
    b) Perfect negative
    c) Negative
    d) Zero
102. If the sum of square of differences in rank of 10 pairs of observation is 8 then Rank Correlation , R is _____.
    a) 0.56
    b) 0.80
    c) 0.95
    d) 2

103. If byx = -0.8 and bxy = -0.2, then r is equal to ____.
    a) -0.2
    b) -0.4
    c) 0.4
    d) -0.8
104. If byx = 1.6 and bxy = 0.4, then r will be,
    a) 0.4
    b) 0.64
    c) 0.8
    d) -0.8
105. If the relationship between two variable is given by 2x + 3y + 4 = 0 then the value of correlation coefficient is _____.
    a) 0
    b) 1
    c) -1
    d) Negative
106. The two regression lines becomes identical when
    a) r = 1
    b) r = - 1
    c) 0
    d) Both a and b
107. If the points on the scatter diagram show no tendency either to increase together or decrease together the value of r will be close to ____.
    a) -1
    b) +1
    c) 0.5
    d) 0
108. If y = 8x + 15 is the regression equation of y on x and if mean of x is 2 then mean of y is ____.
    a) 30
    b) 31
    c) 1
    d) Can't obtained
109. The method used for deceiving regression equations is called _____.
    a) Normal equation
    b) Product moment
    c) Least squares
    d) Regression coefficient
110. If byx = - 4 and bxy = - 16 then correlation is _____.
    a) 8
    b) 0
    c) -8
    d) 4

111. A process by which we estimate the value of dependent variable on the basis of one or more independent variables is called:
   a) Correlation
   b) Regression
   c) Residual
   d) Slope
112. The slope of the regression line of Y on X is also called the ____.
   a) Correlation coefficient of X on Y
   b) Correlation coefficient of Y on X
   c) Regression coefficient of X on Y
   d) Regression coefficient of Y on X

113. In the regression equation Y = a+bX, the Y is called _____.
   a) Independent variable
   b) Continuous variable
   c) Dependent variable
   d) Qualitative variable
114. In the regression equation X = a + bY, the X is called _____.
   a) Independent variable
   b) Dependent variable
   c) Qualitative variable
   d) Continuous variable
115. The graph showing the paired points of (Xi , Yi) is called _____.
   a) Scatter diagram
   b) Histogram
   c) Pie diagram
   d) Bar diagram
116. If both variables X and Y increase or decrease simultaneously, then the coefficient of correlation will be _____.
   a) Positive
   b) Negative
   c) Zero
   d) One
117. If both the series move in the same direction and the variations are in a fixed proportion, correlation between them is said to be____.
   a) Perfect correlation
   b) Nonlinear correlation
   c) Linear correlation
   d) positive correlation
118. The value of the coefficient of correlation r lies between:
   a) 0 and 1
   b) -1 and 1
   c) -1 and 0
   d) -0.5 and 0.5

119. If bxy = 0.20 and r = 0.50, then byx is equal to _____.
    a) 0.20
    b) 0.25
    c) 0.50
    d) 1.25
120. If byx = 1 and bxy = 1 then correlation coefficient, r is _____.
    a) 0
    b) 1
    c) -1
    d) 2
121. If byx = 2/5 and the ratio s.d of y/s.d of x is 2/3 then correlation coefficient, r is _____.
    a) 3/2
    b) 3/5
    c) 4/15
    d) 1/2
122. If byx = - 1 and bxy = - 1 then correlation coefficient, r is _____.
    a) 0
    b) 1
    c) – 1
    d) 2

123. If s.d of x is 3 , correlation coefficient r = 0.5 and byx = 4/3, s,d of y is____.
    a) 3
    b) 4
    c) 8
    d) 1.33
124. If the regression equation of y on x is 2x – 5y +60 = 0 then regression coefficient of y on x is ____
    a) 2/5
    b) – 2/5
    c) 5/2
    d) -5/2
125. In the regression equation of Y on X
    a) X is independent and Y is dependent.
    b) Y is independent and X is dependent.
    c) Both X and Y are independent.
    d) Both X and Y are dependent
126. In the regression equation of X on Y
    a) X is independent and Y is dependent.
    b) Y is independent and X is dependent.
    c) Both X and Y are independent.
    d) Both X and Y are dependent

Unit-IV Time Series and Index Number

127. The most commonly used mathematical method for measuring the trend is _____.
   a) Moving average
   b) Semi-average
   c) Least square
   d) Free hand curve
128. The total number of components in time series are_____.
   a) 4
   b) 3
   c) 2
   d) 5
129. Prosperity, Recession and depression in business is example of _____.
   a) Seasonal Trend
   b) Cyclic Trend
   c) Irregular Trend
   d) Secular Trend
130. Increase in death rate due to earth quake is
   a) Seasonal Trend
   b) Cyclic Trend
   c) Irregular Trend
   d) Secular Trend
131. In moving average method we cannot find trend values of some _____.
   a) Staring period
   b) Ending period
   c) Starting and ending period
   d) Middle period
132. If the straight line trend is y= 5 + 3x then estimate of y when x is 7 is
   a) 8
   b) 26
   c) 21
   d) 15
133. If n = 5 , $\Sigma y = 30$, $\Sigma x^2 = 42$ and $\Sigma xy = 28$, straight line trend is_____.
   a) y = 6 + 28x
   b) y = 6 + 0.67x
   c) y = 5 + 0.67x
   d) y = 5 + 42x
134. For a given product demand, time series trend line is y = 25.3 + 2.1x, what will be the forecast of demand for period 7?
   a) 27.4
   b) 40
   c) 25.3
   d) 27

135. Three yearly moving averages of 5,6,7,9 are
   a) 5,6.3
   b) 6,7.3
   c) 7,7.3
   d) 9,7.3

136. The following are the method to determine trend except _____.
   a) Moving Averages
   b) Semi Averages
   c) Least square
   d) Correlation

137. Time series means _____.
   a) Data is arrange as per ascending order
   b) Data is arrange as per descending order
   c) Data is arrange with respect to time
   d) Data is arrange as per judgment

138. In trend line y = 2.3+ 1.6x , Y-intercept is _____.
   a) 1.6
   b) 3.9
   c) 2.3
   d) 3.68

139. In trend line y = 1.6+ 1.3x , Y-intercept is _____.
   a) 1.6
   b) 3.9
   c) 1.3
   d) 3.68

140. If the straight line trend is y= 5 + 3x then estimate of y when x is 9 is
   a) 8
   b) 32
   c) 21
   d) 15

141. The price index numbers measure the general changes in the _____of goods with reference to a particular period
   a) Quantity
   b) Price
   c) Value
   d) Quality

142. The quantity index numbers measure the changes in the _____of goods produced, consumed, sold or purchased, etc. with reference to the particular time.
   a) Quantity
   b) Price
   c) Value
   d) Quality

143. The value index number combines _____and quantity changes to present a more spatial comparison.
   a) Price
   b) Quality
   c) Width
   d) Length
144. Index number of base period is always ___.
   a) 0
   b) 1
   c) 100
   d) 200
145. If I_L= 120 and Ip = 125 then I_{DB} is ___.
   a) 122
   b) 122.5
   c) 123
   d) 123.5
146. If I_L= 120 and Ip = 125 then I_F is ___.
   a) 122.51
   b) 123.51
   c) 123.47
   d) 122.47
147. If sum of p_1 =58.5 and sum of p_0 =21 then Index number I=____
   a) 279.04
   b) 270.06
   c) 290.54
   d) 250.25
148. If sum of p_1 =2880 and sum of p_0 =1308 then Index number I=____
   a) 259.35
   b) 220.18
   c) 221.25
   d) 225.56
149. If Σp_1q_0=154 and Σp_0q_0=100 then Laspeyre's price Index Number is____
   a) 154.5454
   b) 154.00
   c) 154.27
   d) 154.2727
150. If Σp_1q_1=187 and Σp_0q_1=121 then Paasche's Index Number price Index Number is____
   a) 154.5454
   b) 154.00
   c) 154.27
   d) 154.2727

151. If I_L=154 and I_P= 154.5454 then Fisher's index number is ___
   a) 154.5454
   b) 154.00
   c) 154.27
   d) 154.2727
152. If I_L=147.12 and I_P= 147.70 then Fisher's index number is ___
   a) 147.4
   b) 147.41
   c) 151.17
   d) 147.12
153. If IL=154 and IP= 154.5454 then Dorbish Bowley index number is ___
   a) 154.2727
   b) 154.00
   c) 154.27
   d) 154.2727
154. If $\Sigma p_1 w$= 5370 and $\Sigma p_0 w$=2590 then Weighted aggregative Index number is__
   a) 207.335
   b) 263.46
   c) 250.2
   d) 225.25
155. If Σiw =26346.07 and Σw=100 then weighted average of price relatives Index number is ____
   a) 207.335
   b) 263.46
   c) 250.2
   d) 225.25
156. If n = 5 , **Σ**y = 30 , **Σ**x^2 = 42 and **Σ**xy = 28 , straight line trend is_____.
   a) y = 6 + 28x
   b) y = 6 + 0.58x
   c) y = 5 + 0.67x
   d) y = 5 + 42x
157. For a given product demand, time series trend line is y = 25.3 + 2.1x, what will be the forecast of demand for period 5?
   a) 27.4
   b) 40
   c) 35.8
   d) 27

Unit-V Probability Distribution

158. The mean and variance of Binomial distribution are ___.
   a) np and np
   b) npq and npq
   c) np and npq
   d) npq and np

159. Let X follows Binomial distribution with n=10 and p=0.4, then E(X)+V(X)=_____

a) 4
b) 6.4
c) 2.4
d) 1.6

160.Let E(X)=6 and V(X) =4.2, then n+p=_____

a) 20.3
b) 20.7
c) 19.3
d) 19.7

161.A fair coin is tossed 8 times, then probability that it shows exactly 5 heads is _____

a) 5/32
b) 7/32
c) 9/32
d) 11/32

162. A fair coin is tossed 8 times, then probability that it shows heads at least once is _____

a) 1/256
b) 56/256
c) 93/256
d) 255/256

163.A fair coin is tossed 8 times , then probability that it shows heads more number of times than tails is_____

a) 7/32
b) 93/256
c) 255/256
d) 56/256

164.If X follows Binomial distribution with n=10 and E(X)=5, then Var(X)= _____

a) 2
b) 2.5
c) 3
d) 3.5

165. In a Binomial distribution with n=4 and 2*P(X=3)= 3*P(X=2), then value of p=_____

a) 9/13
b) 4/13
c) 6/13
d) 7/13

166. If mean of a Binomial distribution is 18 and variance is 12, then n=_____

a) 50
b) 52
c) 54
d) 55

167.In a simultaneous toss of four coins, what is probability of getting exactly three heads

a) 1 /2
b) 1 /3
c) 1 /4
d) 1 /5

168.The probability that India wins a cricket test match against England is 1 /3. If India and England play 3 matches, the probability that India will win at least one match is _____

a) 8/27
b) 19/27
c) 1/27
d) 9/27

169. The probability of getting at least two heads when tossing a coin three times is _____

a) 1 /4
b) 1 /3
c) 1 /2
d) 1 /8

170. The mean of Binomial distribution is 6 and its standard deviation is square root of 2, then the number of trials n is _____

a) 7
b) 8
c) 9
d) 10

171.A Binomial distribution has a mean of 5 and variance 4. The number of trials is _____

a) 10
b) 15
c) 20
d) 25

172.A fair coin is tossed 10 times, probability of getting exactly six heads is _____

a) 105/512
b) 196/512
c) 424/512
d) 106/512

173.The probability that a bomb will hit a target is 0.8. The probability that out of 10 bombs dropped, exactly 4 will hit the target is _____

a) ${}^{10}C_4 * 3^4/5^{10}$
b) ${}^{10}C_4 * 4^4/5^{10}$

c) $^{10}C_4 * 5^4/5^{10}$
d) $^{10}C_4 * 6^4/5^{10}$

174. In a Poisson distribution, if n is number of trials and p is probability of success, the mean value is given by _____
a) m =n(p-1)
b) $m = np^2$
c) m = p
d) m=np

175.If mean of Poisson distribution is M, then variance is given by_____
a) M^2
b) M
c) M/2
d) M(M-1)

176. If m is a mean of Poisson distribution then P(X=0) is given by_____
a) e^m
b) e^{-m}
c) e
d) m^e

177.The mean number of customers arriving at a bank during a 15-minute period is 10. The probability that exactly 2 customers will arrive at the bank during a 15-minute period is___(given that $e^{-10}=0.00005$)
a) 0.015
b) 0.001
c) 0.0005
d) 0.0025

178. Given that X has a Poisson distribution with mean 8 and $e^{-8}=0.00033546$, the probability that X=4 is _____
a) 0.054
b) 0.055
c) 0.056
d) 0.057

179. The shape of normal curve is_____
a) Bell shaped
b) Circular
c) Flat
d) Spiked

180. Normal distribution is symmetric about _____
a) Variance
b) Mean
c) Co variance
d) Standard deviation

181. For standard normal variate value of mean is _____
a) 0
b) Infinity
c) 1
d) Not defined

182. For standard normal variate value of standard deviation is _____
   a) 0
   b) 1
   c) Infinity
   d) Not defined
183. For Normal distribution mean, median and mode is____
   a) Not equal
   b) Equal
   c) Mean < median < mode
   d) Mean > median >mode
184. In standard normal distribution, the value of mode is ____
   a) 1
   b) 0
   c) Infinity
   d) Not defined
185. In standard normal distribution, the value of median is ____
   a) 0
   b) 1
   c) Infinity
   d) Not defined
186. The mean= np and variance = npq for _____
   a) All distributions
   b) Poisson distribution
   c) Binomial distribution
   d) Normal distribution
187. Let X follows Normal distribution with mean 30 and standard deviation of 4, then P(X > 37)
   is _____ (where area between 0 and 1.75 is 0.4599)
   a) 0.4599
   b) 0.5
   c) 0.0401
   d) 0.9599
188. Let X follows Normal distribution with mean 30 and standard deviation of 4, then P(X>40) is _____(where area between 0 and 2.5 is 0.4938)
   a) 0.4938
   b) 0.9938
   c) 0.5
   d) 0.0062
189. Let X follows Normal distribution with mean 30 and standard deviation of 4, then P(X<28) is _____(where area between 0 and 0.5 is 0.1915)
   a) 0.3085
   b) 0.1915
   c) 0.6915
   d) 0.5
190. Let X follows Normal distribution with mean 20 and standard deviation of 2, then P(X<26) is _____(where area between 0 and 0.5 is 0.1915)
   a) 0.4987
   b) 0.0013

c) 0.9987
d) 0.5

191. If X follows Normal distribution with mean 10 and standard deviation of 3, then P(X<16) is _____(where area between 0 and 2 is 0.4772)
a) 0.9772
b) 0.4772
c) 0.5
d) 0.0228

192. If X follows Normal distribution with mean 10 and standard deviation of 3, then quartile deviation is _____
a) 1
b) 2
c) 3
d) 4

193. Let X follows Normal distribution with mean 20 and standard deviation of 2, then Mean deviation is _____
a) 0.8
b) 0.6
c) 1.6
d) 1.8

194. If $X \sim N(10,3)$ then first quartile is _____
a) 8
b) 10
c) 12
d) 13

195. Let X follows Normal distribution with mean 10 and standard deviation of 3, then third quartile is _____
a) 10
b) 11
c) 12
d) 13

196. If $X \sim N(10,3)$ then second quartile is _____
a) 7
b) 10
c) 3
d) 13

197. Let X=12 follows Normal distribution with mean 10 and standard deviation of 2, then standard normal variable value is _____
a) 0
b) 1
c) 2
d) 10

198. Let X=8 follows Normal distribution with mean 10 and standard deviation of 2, then standard normal variable value is _____
a) -1
b) -2
c) 1
d) 2

199. If $X \sim N(10,3)$, mean of normal distribution is ___.
   a) 13
   b) 7
   c) 10
   d) 30

200. Normal distribution is ____.
   a) Discrete
   b) Asymmetric
   c) Symmetric
   d) Limiting case of Binomial

****