001. Find the Arithmetic mean of the data **A**

x	5	10	15
f	5	9	6

A 10.25 B 9
C 10 D 15

002. Find the Median of the data 160, 180, 200, 280, 300, 320, 400 **C**
A 140 B 300
C 280 D 180

003. Find the Mean of 3, 5, 6, 8,13 **B**
A 6 B 7
C 5 D 8

004. The sum of squared deviations of a set of n values from their mean is **A**
A Zero B Maximum
C Minimum D Mean

005. If a, b are constants then, Var(a + b X) is **B**
A VarA + bVar(X) B b^2 Var(X)
C VarA - bVar(X) D b Var(X)

006. If X and Y are independent then SD(X−Y) is **D**
A SD (X) SD (Y) B SD (X) + SD (Y)
C $\sqrt{SD\ (X)\ +\ SD\ (Y)}$ D $\sqrt{Var\ (X)\ +\ Var\ (Y)}$

007. Var (2X+3) is **C**
A 2 Var(X) + 3 B 5 Var(X)
C 4 Var(X) D 4 Var(X)+3

008. Sum of deviations will be zero if it is taken from **C**
A Mode B Median
C Mean D Standard deviation

009. The Sum of Squared deviation is least from **C**
A Mode B Median
C Mean D Standard deviation

010. The sum of values divided by their number is called **C**
A Median B Harmonic mean
C Mean D Mode

011. The Coefficient of Skewness is always zero for ________ Distribution **D**
A Asymmetrical B Negative Skew
C Positive Skew D Symmetrical

012. If the right tail is longer than left tail then the distribution is called **B**
A Negatively Skewed B Positively Skewed
C Symmetrical D Unimodal

013. If the left tail is longer than right tail then the distribution is called **A**
A Negatively Skewed B Positively Skewed
C Symmetrical D Unimodal

014. The degree of peakedness is called **D**
A Dispersion B Skewness
C Symmetry D Kurtosis

015. The combined arithmetic mean is calculated as **C**
A $\frac{\overline{X_1}+\overline{X_2}}{n_1+n_2}$ B $\frac{\overline{X_1}+\overline{X_2}}{2}$
C $\frac{n_1\overline{X_1}+n_2\overline{X_2}}{n_1+n_2}$ D $\frac{n_1X_1+n_2X_2}{n_1+n_2}$

016. The Average of first n natural numbers is **A**
A $\frac{n+1}{2}$ B $\frac{n-1}{2}$
C $\frac{n}{2}$ D None of these

017. The mean of a constant m is **B**
A 0 B m
C $\frac{m}{n}$ D Does not exists

018. The Arithmetic mean of two positive number x and y is **B**
A $\sqrt{xy}$ B $\frac{x+y}{2}$
C $\frac{2}{\frac{1}{x}+\frac{1}{y}}$ D $\frac{x-y}{2}$

019. The geometric mean of two positive number x and y is **A**
A $\sqrt{xy}$ B $\frac{x+y}{2}$
C $\frac{2}{\frac{1}{x}+\frac{1}{y}}$ D $\frac{x-y}{2}$

020. The Harmonic mean of two positive number x and y is **C**

A $\sqrt{xy}$ B $\frac{x+y}{2}$
C $\frac{2}{\frac{1}{x}+\frac{1}{y}}$ D $\frac{x-y}{2}$

021. The mean of 10 numbers is 9, then the sum of all those number is **D**
A 9 B 0.9
C 10 D 90

022. In a distribution of 10, 20, 30, 40, 50, $\bar{x} = 30$, the sum of deviations from is **D**
A 60 B 30
C 20 D 0

023. If the median of $\frac{a}{3}, \frac{a}{2}, \frac{a}{4}, \frac{2a}{5}, \frac{a}{6}$ is 12 then find the value of a (>0) **A**
A 36 B 48
C 24 D 12

024. In a week the prices of a bag of rice were 350, 280, 340, 290, 320, 310, 300. The range is **B**
A 60 B 70
C 90 D 100

025. The Geometric mean of -2, 4, 3, 6, 0 will be **B**
A 3 B 0
C 2.2 D does not exists

026. The most repeated value in a data set is called **D**
A Median B Mean
C Harmonic mean D Mode

027. In a frequency distribution the last cumulative frequency is 500. Q3 must lie in **A**
A 275^{th} item B 375^{th} item
C 150^{th} item D 175^{th} item

028. The arithmetic mean of the observations 10, 8, 5, a, b is 6 and their variance is 6.8 then ab=? **B**
A 6 B 12
C 4 D 3

029. Which one of the following is not a measure of dispersion? **C**
A Mean Deviation B Range
C Quartile D Standard Deviation

030. Find the variance of the data 2, 4, 6, 8 and 10 is **A**
A 10 B 6
C 4 D 8

031. Which of the following are measures of central tendency **B**
A Percentile, Quartile, Median B Median, Mode, Mean
C Percentile, Median, Mode D Percentile, Quartile, Mode

032. Which of the following can be used as measures of dispersions **D**
A Range B Percentiles
C Standard deviation D All the above

033. The Mean deviation about Arithmetic mean of the numbers 3, 4, 5, 6, 7 is **C**
A 25 B 5
C 1.2 D 0

034. A contractor employs 20 male, 15 female and 5 children in his factory. Male wages are Rs. 10 per day, female Rs. 8 per day, and children Rs. 3 per day. The mean of wages per day is **D**
A 3.86 B 9.21
C 10.63 D 8.37

035. If $\bar{x}$= 4 and the distribution is 2, 3, 4, 5, 6 then the sum of squared deviations from the is **A**
A 10 B 8
C 6 D 0

036. The variance is the _____ of the Standard deviation **C**
A Square root B Cube
C Square D Cube root

037. The middle value of an ordered series is called **D**
A 2^{nd} quartile B 5^{th} decile
C 50^{th} percentile D All the above

038. In a frequency distribution, Range is the difference between ___ and ___ **A**
A Upper limit of the highest class, lower limit the lowest class B lower limit of the highest class, upper limit of the lowest class
C A or B D None of the above

039. The first quartile divides a frequency distribution in the ratio ___ **B**
A 4:1 B 1:3
C 1:4 D 3:1

040. Find the quartile deviation of 6, 12, 14, 16, 18, 20 and 24 **B**
A 12 B 4
C 20 D 16

041. Find Q_1 and Q_2 from the given data 1, 2, 3, 4, 5, 6, 7 **C**

A 2, 6 B 4, 6
C 2, 4 D 3, 5

042. Find the value of mode if the median, mean of the data given as 20, 22.5 respectively **A**

A 15 B 20
C 22.5 D 10

043. If the standard deviation of a population is 9, the population variance is **B**

A 9 B 81
C 3 D 12

044. Find the mode of the data -1, 2, 3, 8, 7, 2, 9, 6, 3. **C**

A 7 B 2
C 2, 3 D 3

045. If mode = a median + b mean then a, b? **D**

A 2, -3 B 2, 3
C 3, 2 D 3, -2

046. The measure of dispersion is **D**

A Mean deviation B Standard deviation
C Quartile deviation D All of these

047. The limits for coefficient of correlation are **D**

A Has no limit B less than 1
C More than 1 D (-1, 1)

048. Which of the following are types of graph which include bars? **C**

A Bar graph B Histogram
C A & B D Line graph

049. The men and the variance of 10 observations are given to be 4 and 2 respectively. If every observation is multiplied by 2, then the mean and variance of the data. **D**

A 80 and 40 B 8 and 4
C 8 and 20 D 8 and 8

050. The degree to which numerical data tend to spread about value is called **A**

A Variance B Mean
C Median D Mode

051. Which of the following statements is not correct for a bar graph **B**

A Distance between two consecutive bars is the same B All bars have different thickness
C The bars can touch other D The thickness has no significance

052. The normal equations to fit the straight line y = ax+ b for n data points is given by **C**

A $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2$

053. The normal equations to fit the straight line x = ay+ b for n data points is given by **D**

A $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2$

054. The normal equations to fit the straight line x = a+ by for n data points is given by **B**

A $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2$

055. The relationship between two variables is **A**

A correlation B regression
C ANOVA D sampletests

056. The method least squares work on the principle **D**

A maximizationof residual errors B minimizationof residual errors
C maximizationof sum of squares of errors D minimizationof sum of squares of errors

057. The normal equations to fit the straight line y = a+ bx for n data points is given by **A**

A $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2$

058. Which of the following is a linear curve **A**

A y= a+bx B $y= a+bx^2$
C $x= a+ by +cy^2$ D $x= a+ by^2$

059. Which of the following is a power function **D**

A $y = a+bx$ B $y = a+bx^2$
C $y = ae^{bx}$ D $y = ax^b$

060. The normal equations to fit the straight line $x = a + by + cy^2$ for n data points is given by **D**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i + c\sum_{i=1}^{n} x_i^2, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2 + c\sum_{i=1}^{n} x_i^3, \sum_{i=1}^{n} x_i y_i^2 = a\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + c\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i + c\sum_{i=1}^{n} y_i^2, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2 + c\sum_{i=1}^{n} y_i^3, \sum_{i=1}^{n} y_i x_i^2 = a\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + c\sum_{i=1}^{n} y_i^4$

061. The normal equations to fit the straight line $y = a + b/x$ for n data points is given by **A**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i^2 y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

062. The normal equations to fit the straight line $x = a + b/y$ for n data points is given by **A**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

063. The normal equations to fit the straight line $y = a + bx + cx^2$ for n data points is given by **C**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = na + b\sum_{i=1}^{n} x_i + c\sum_{i=1}^{n} x_i^2, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2 + c\sum_{i=1}^{n} x_i^3, \sum_{i=1}^{n} x_i y_i^2 = a\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + c\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i + c\sum_{i=1}^{n} y_i^2, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2 + c\sum_{i=1}^{n} y_i^3, \sum_{i=1}^{n} y_i x_i^2 = a\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + c\sum_{i=1}^{n} y_i^4$

064. The normal equations to fit the curve $y = ax^b$ are **C**

A $\sum_{i=1}^{n} \log_e y_i = n\log_e a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_e y_i = \log_e a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + \log_{10} b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + \log_{10} b\sum_{i=1}^{n} x_i^2$
C $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i^2 y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$

065. The normal equations to fit the straight line $y = ax^2 + bx + c$ for n data points is given by **C**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nc + b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2, \sum_{i=1}^{n} x_i y_i = c\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2 + a\sum_{i=1}^{n} x_i^3, \sum_{i=1}^{n} x_i y_i^2 = c\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + a\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} x_i = nc + b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2, \sum_{i=1}^{n} x_i y_i = c\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2 + a\sum_{i=1}^{n} y_i^3, \sum_{i=1}^{n} y_i x_i^2 = c\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + a\sum_{i=1}^{n} y_i^4$

066. The normal equations to fit the curve $y = ab^x$ are **B**

A $\sum_{i=1}^{n} \log_e y_i = n\log_e a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_e y_i = \log_e a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + \log_{10} b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + \log_{10} b\sum_{i=1}^{n} x_i^2$
C $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i^2 y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$

067. Which of the following is a exponential function **C**

A $y = a+bx$ B $y = a+bx^2$
C $y = ae^{bx}$ D $y = ax^b$

068. Which of the following is a exponential function **C**

A $y = a+bx$ B $y = a+bx^2$
C $y = ab^x$ D $y = ax^b$

069. The normal equations to fit the curve $y = ae^{bx}$ are **A**

A $\sum_{i=1}^{n} \log_e y_i = n\log_e a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_e y_i = \log_e a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + \log_{10} b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + \log_{10} b\sum_{i=1}^{n} x_i^2$
C $\sum_{i=1}^{n} \log_{10} y_i = n\log_{10} a + b\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i \log_{10} y_i = \log_{10} a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i^2 y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$

070. The first normal equation to fit the curve $xy = a + bx$ is **C**

A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i$
B $\sum_{i=1}^{n} x_i y_i = na + b\sum_{i=1}^{n} y_i$
C $\sum_{i=1}^{n} x_i y_i = na + b\sum_{i=1}^{n} x_i$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i$

071. The second normal equations to fit the straight line $yx = ay + b$ for n data points is given by **B**

A $\sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

072. The first normal equation to fit the curve xy= a + by is **B**
A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i$
B $\sum_{i=1}^{n} x_i y_i = na + b\sum_{i=1}^{n} y_i$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i$

073. The normal equations to fit the straight line x = ay^2 + by +c for n data points is given by **D**
A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nc + b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2, \sum_{i=1}^{n} x_i y_i = c\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2 + a\sum_{i=1}^{n} x_i^3,$
$\sum_{i=1}^{n} x_i y_i^2 = c\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + a\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} x_i = nc + b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2, \sum_{i=1}^{n} x_i y_i = c\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2 + a\sum_{i=1}^{n} y_i^3,$
$\sum_{i=1}^{n} y_i x_i^2 = c\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + a\sum_{i=1}^{n} y_i^4$

074. The normal equations to fit the straight line xy = ax+ b for n data points is given by **A**
A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i^2 y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

075. The normal equations to fit the straight line yx = ay+ b for n data points is given by **A**
A $\sum_{i=1}^{n} x_i y_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i = na + b\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} y_i = nb + a\sum_{i=1}^{n} x_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i = nb + a\sum_{i=1}^{n} y_i, \sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

076. The first normal equations to fit the straight line x = ay^2 + by +c for n data points is given by **A**
A $\sum_{i=1}^{n} x_i = nc + b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i^3 + b\sum_{i=1}^{n} y_i^2 + c\sum_{i=1}^{n} y_i$
C $\sum_{i=1}^{n} x_i y_i^2 = c\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + a\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} y_i x_i^2 = c\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + a\sum_{i=1}^{n} y_i^4$

077. The study of relationship between two variables is called **B**
A univariateanalysis
B Bivariateanalysis
C Analysisof variance
D sampletesting

078. The second normal equations to fit the straight line x = ay^2 + by +c for n data points is given by **B**
A $\sum_{i=1}^{n} x_i = nc + b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i^3 + b\sum_{i=1}^{n} y_i^2 + c\sum_{i=1}^{n} y_i$
C $\sum_{i=1}^{n} x_i y_i^2 = c\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + a\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} y_i x_i^2 = c\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + a\sum_{i=1}^{n} y_i^4$

079. The second normal equations to fit the straight line yx = a+ by for n data points is given by **A**
A $\sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} x_i + a\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

080. The second normal equations to fit the straight line yx = a+ bx for n data points is given by **C**
A $\sum_{i=1}^{n} y_i^2 x_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i + b\sum_{i=1}^{n} y_i^2$
C $\sum_{i=1}^{n} x_i^2 y_i = a\sum_{i=1}^{n} x_i + b\sum_{i=1}^{n} x_i^2$
D $\sum_{i=1}^{n} x_i y_i = b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} x_i^2 y$

081. The third normal equations to fit the straight line x = ay^2 + by +c for n data points is given by **D**
A $\sum_{i=1}^{n} x_i = nc + b\sum_{i=1}^{n} y_i + a\sum_{i=1}^{n} y_i^2$
B $\sum_{i=1}^{n} x_i y_i = a\sum_{i=1}^{n} y_i^3 + b\sum_{i=1}^{n} y_i^2 + c\sum_{i=1}^{n} y_i$
C $\sum_{i=1}^{n} x_i y_i^2 = c\sum_{i=1}^{n} x_i^2 + b\sum_{i=1}^{n} x_i^3 + a\sum_{i=1}^{n} x_i^4$
D $\sum_{i=1}^{n} y_i x_i^2 = c\sum_{i=1}^{n} y_i^2 + b\sum_{i=1}^{n} y_i^3 + a\sum_{i=1}^{n} y_i^4$

082. The ration between two variables are uniform , then the correlation is said to be **B**
A Negative
B Linear
C positive
D non linear

083. The study of two variables excluding some other variables , then the correlation is said to be **C**
A Negative
B Linear
C Partial
D non linear

084. If the relation between two variables moving in opposite direction , then the correlation is said to be **A**

A Negative
B Linear
C positive
D non linear

085. The study of characteristics of a single variable is called **A**

A univariate analysis
B Bivariate analysis
C Analysis of variance
D sample testing

086. The statistical analysis which measures the degree or extent to which two variables fluctuate with reference to each other is called **D**

A univariate analysis
B Bivariate analysis
C Analysis of variance
D correlation

087. If the relation between two variables moving in same direction , then the correlation is said to be **C**

A Negative
B Linear
C positive
D nonlinear

088. If COV(x,y) = 0 then the following is true **B**

A xand y are correlative
B xand y are un correlatative
C xand y are dependent
D xand y are independent

089. The correlation coefficient is **A**

A independentof scale and origin
B independentof scale only
C independentof origin only
D independentof neither scale nor origin

090. The rank correlation is given by **B**

A $\rho = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$
B $\rho = 1 - \frac{6\sum d^2}{n(n^2-1)}$
C $\rho = \frac{\sum xy}{\sqrt{\sum x^2}}$
D $\rho = \frac{\sum xy}{\sqrt{\sum y^2}}$

091. The maximum value of rank correlation is **A**

A 1
B -1
C 0
D 2

092. The limits of correlation coefficient is **D**

A (0,1)
B (-1,0)
C (1,2)
D (-1,1)

093. The coefficient of correlation is given by **A**

A $r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$
B $r = 1 - \frac{6\sum d^2}{n(n^2-1)}$
C $r = \frac{\sum xy}{\sqrt{\sum x^2}}$
D $r = \frac{\sum xy}{\sqrt{\sum y^2}}$

094. The regression coefficient x on y is given by **A**

A $r\frac{\sigma_x}{\sigma_y}$
B $r\frac{\sigma_y}{\sigma_x}$
C $r\frac{\sigma_{xy}}{\sigma_y}$
D $r\frac{\sigma_x}{\sigma_{xy}}$

095. The regression coefficient y on x is given by **B**

A $r\frac{\sigma_x}{\sigma_y}$
B $r\frac{\sigma_y}{\sigma_x}$
C $r\frac{\sigma_{xy}}{\sigma_y}$
D $r\frac{\sigma_x}{\sigma_{xy}}$

096. The regression line always pass through the point **B**

A origin
B mean
C S.D
D (x,y)

097. If x and y are random variables and a ,b, c, d are constants the r(ax +b ,cy +d) = **D**

A $\frac{ab}{|bd|}r(x,y)$
B $\frac{ab}{|ab|}r(x,y)$
C $\frac{bd}{|bd|}r(x,y)$
D $\frac{ac}{|ac|}r(x,y)$

098. If n =10 ,σ_x = 5.4, σ_y = 6.2 , $\sum(x-\bar{x})(y-\bar{y}) = 66$, then r = **A**

A 0.1971
B 0.2971
C 0.3971
D 0.5

099. The functional relationship between independent and dependent variables is given by **A**

A correlation
B regression
C ANOVA
D qualitycontrol

100. The angle(obtuse) between two regression lines is given by **B**

A $\tan\theta = \frac{1-r^2}{r} \cdot \frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$
B $\tan\theta = \frac{r^2-1}{r} \cdot \frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$

C $\tan\theta = \frac{1+r^2}{r}.\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$ D $\tan\theta = \frac{1-r^2}{r}.\frac{\sigma_x+\sigma_y}{\sigma_x^2+\sigma_y^2}$

101. A random variable is a **A**

A function assigns a real number to each sample point B function assigns a real number to some points in sample space

C function assigns a real number to two sample points only D variable only

102. The angle(acute) between two regression lines is given by **A**

A $\tan\theta = \frac{1-r^2}{r}.\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$ B $\tan\theta = \frac{r^2-1}{r}.\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$

C $\tan\theta = \frac{1+r^2}{r}.\frac{\sigma_x\sigma_y}{\sigma_x^2+\sigma_y^2}$ D $\tan\theta = \frac{1-r^2}{r}.\frac{\sigma_x+\sigma_y}{\sigma_x^2+\sigma_y^2}$

103. The relation between the two regression coefficients is given by **D**

A $r^2 = \frac{b_{xy}}{b_{yx}}$ B $r^2 = b_{xy} + b_{yx}$

C $r = b_{xy}b_{yx}$ D $r^2 = b_{xy}b_{yx}$

104. If $b_{xy} = 0.85$, $b_{yx} = 0.89$, then r = **A**

A 0.87 B 0.98

C 0.78 D 0.68

105. If $b_{xy} = 0.85$, $b_{yx} = 0.89$, $\sigma_x = 3$, then , σ_y = **C**

A 3.87 B 3.98

C 3.07 D 3.68

106. The cumulative distribution function for discrete random variable X is given by **B**

A $F_X(x) = P(X \le x), 0 < x < 1$ B $F_X(x) = P(X \le x), -\infty < x < \infty$

C $F_X(x) = P(X \le x), 0 < x < \infty$ D $F_X(x) = P(X \le x), -\infty < x < 0$

107. If F is the distribution function of discrete random variable X then , **B**

A $P(X = a) + [F(b) - F(a)]$ B $F(b) - F(a) - P(X = b)$

C $F(b) - F(a)$ D $F(b) - F(a) - P(X = b) + P(X = a)$

108. The probability distribution function for a discrete random variable X, if **A**

A $P(x) \ge 0$ and $\sum P(x) = 1$ B $P(x) \ge 0$ and $\sum P(x) = 0$

C $\sum P(x) = 1$ D $P(x) \ge 0$

109. A discrete random variable X takes **B**

A every value in the interval B finite values in the interval

C only two values in the interval D even values in the interval

110. The number of students in a class is classified as **C**

A moment generating function B continuous random variable

C Discrete random variable D expectation of the variable

111. If X and Y are two random variables then which of the following is false **D**

A $X + Y$ is also a random variable B XY is also a random variable

C $X - Y$ is also a random variable D $\frac{1}{XY}$ is not a random variable are non zero

112. If X is discrete random variable and is constant then is **C**

A $KE(X)$ B $XE(K)$

C $K + E(X)$ D $X + E(K)$

113. If X is discrete random variable and is constant then is **A**

A $KE(X)$ B $XE(K)$

C $K + E(X)$ D $X + E(K)$

114. Mathematical expectation of a discrete random variable with n entries $x_1, x_2, \dots \dots x_n$ is **B**

A $E(X) = \sum_{i=1}^{n} x_i$ B $E(X) = \sum_{i=1}^{n} p_i.x_i$

C $E(X) = \sum_{i=1}^{n} p_i.x_i^2$ D $E(X) = \sum_{i=1}^{n} p_i^2.x_i$

115. If F is the distribution function of discrete random variable X then , **C**

A $P(X = a) + [F(b) - F(a)]$ B $F(b) - F(a) - P(X = b)$

C $F(b) - F(a)$ D $F(b) - F(a) - P(X = b) + P(X = a)$

116. If F is the distribution function of discrete random variable X then , **A**

A $P(X = a) + [F(b) - F(a)]$ B $F(b) - F(a) - P(X = b)$

C $F(b) - F(a)$ D $F(b) - F(a) - P(X = b) + P(X = a)$

117. If F is the distribution function of discrete random variable X then , **D**

A $P(X = a) + [F(b) - F(a)]$ B $F(b) - F(a) - P(X = b)$

C $F(b) - F(a)$ D $F(b) - F(a) - P(X = b) + P(X = a)$

118. If X is discrete random variable then is given by **C**

A $E[X - E(X)]$ B $E[X + E(X)]^2$

C $E[X - E(X)]^2$ D $E[X + E(X)]$

119. If X is discrete random variable and is a constant then is **D**

A 1/3 B 1/4

C 1/5 D 1/2

120. Which of the following is False **D**

A $E(X-Y)=E(X)-E(Y)$ B $E(X+Y)=E(X)+E(Y)$

C $E(aX-bY)=aE(X)-bE(Y)$ D $E\left(\frac{1}{X}\right)=\frac{1}{E(X)}$

121. If X,Y are two discrete random variable and are two constant then is **B**

A $aE(X+Y)$ B $aE(X)+bE(Y)$

C $ab+E(XY)$ D $aE(X)+bY$

122. If X,Y are two independent discrete random variable then is **D**

A $E(X+Y)$ B $E(X)+E(Y)$

C $XE(Y)$ D $E(X).E(Y)$

123. If X is discrete random variable and is mean of the random variable then is **A**

A 0 B 1

C $\bar{X}+E(X)$ D $\bar{X}-E(X)$