

FBQ1: _____ Situations may arise when the values of two variables deviate in the same direction

Answer: *Positive correlation*

FBQ2: _____ Correlation is said to be negative or inverse if the variables deviate in the opposite direction

Answer: *Negative*

FBQ3: _____ describes a situation where for a unit change in one variable there is a constant corresponding change in the other variable over the entire range of values.

Answer: *Linear Correlation*

FBQ4: _____ describes situations if corresponding to a unit change one variable; the other variable does not change at a constant rate but at a fluctuating rate

Answer: *Non-linear correlation*

FBQ5: _____ is the situation when the phenomena under study inter-influence each other. Such instances are usually observed in data relating to economic and business situations.

Answer: *Mutual dependence*

FBQ6: Karl Pearson was a British Biometrician and statistician suggested a mathematical method for measuring the magnitude of linear relationship between two _____

Answer: *Variables*

FBQ7: A British Psychologist _____ developed a formula in 1904 which can be used to obtain the correlation coefficient between the ranks of n individuals in the two variables or attributes being study

Answer: *Charles Edward Spearman*

FBQ8: Spearman's correlation coefficient measures correlation when the data is _____

Answer: *non-parametric*

FBQ9: _____ formula can be used even when dealing with variables which are measured quantitatively

Answer: *Spearman's rank correlation*

FBQ10: Spearman's correlation coefficient approximates Pearson's correlation when the sample size is _____

Answer: *Large*

FBQ11: _____, in general sense, means the estimation or prediction of the unknown value of one variable from the known value of the other variable

Answer: *Regression analysis*

FBQ12: Prediction or _____ is one of the major problems in almost all the spheres of human activity

Answer: *Estimation*

FBQ13: _____ is a mathematical measure of the average relationship between two or more variables in terms of the original units of the data

Answer: *Regression analysis*

FBQ14: _____ is a type of regression in which more than two variables are studied

Answer: *Simple Regression*

FBQ15: _____ is the variable whose value is influenced or is to be predicted

Answer: *Dependent Variable*

FBQ16: _____ is the variable which influences the value of the dependent variable or which is used for prediction

Answer: *Independent Variable*

FBQ17: In regression analysis, the dependent variable is also known as _____

Answer: *Regressand*

FBQ18: _____ variable is also known as the regressor

Answer: *Independent*

FBQ19: _____ is the line which gives the best estimate of one variable for any given value of the other variable

Answer: *Line regression*

FBQ20: The term best fit is interpreted in accordance with the principle of least squares which involves minimising the sum of the squares of the residuals or the _____ of the estimates

Answer: *Errors*

FBQ21: A line of best fit can be roughly determined using an eyeball method by drawing a straight line on a scatter plot so that the number of points above the line and below the line is about _____

Answer: *Equal*

FBQ22: A more accurate way of finding the line of best fit is the _____ method

Answer: *least square*

FBQ23: _____ predict a single number in each forecast period

Answer: *point forecast*

FBQ24: R^2 in regression analysis means _____

Answer: *Coefficient of multiple determination*

FBQ25: _____ states that given a sufficiently large sample size from a population

with a finite level of variance, the mean of all samples from the same population will be approximately equal to the mean of the population

Answer: *Central limit theorem*

FBQ26: If a random sample of N cases is drawn from a population with a mean $\hat{\mu}$ and standard deviation s , then the sampling distribution of the mean has a mean _____ to the population mean $\hat{\mu}_x$

Answer: *Equal*

FBQ27: Lyapunov Central Limit Theorem is named after Russian mathematician _____

Answer: *Aleksandr Lyapunov*

FBQ28: ____ Proofs that the used characteristic functions can be extended to cases where each individual $X_1, \dots, X_n$ is an independent and identically distributed random vector in R_k

Answer: *Multidimensional Central Limit Theorem*

FBQ29: A useful generalization of a sequence of independent identically distributed random variables is a mixing random process in discrete time; "mixing" means, roughly, that random variables temporally far apart from one another are nearly _____

Answer: *Independent*

FBQ30: The _____ applies in particular to sums of independent and identically distributed discrete random variables

Answer: *central limit theorem*

FBQ31: The _____ gives only an asymptotic distribution

Answer: *central limit theorem*

FBQ32: The law of large numbers says that the sample mean of a random sample converges in probability to the mean $\bar{x}$ of the individual random variables, if the _____ exists

Answer: *Variance*

FBQ33: In probability theory, the law of large numbers is a theorem that describes the result of performing the same experiment in a large number of _____

Answer: *Times*

FBQ34: The logarithm of a product is simply the sum of the logarithms of the _____

Answer: *Factors*

FBQ35: Index number may be classified in terms of the variables they _____

Answer: *Measure*

FBQ36: _____ numbers study changes in price level of commodities over a period of time

Answer: *price index*

FBQ37: _____ depict changes in the general price level of the economy
Answer: *Wholesale price index number*

FBQ38: _____ number reflect changes in the retail prices of different commodities
Answer: *Retail Price Index*

FBQ39: _____ number reflect changes in the volume of goods produced or consumed
Answer: *Quantity Index*

FBQ40: _____ number study changes in the total value (price X quantity) e.g index number of profit or sales
Answer: *Value Index*

FBQ41: _____ is the aggregate of prices of all the selected commodities in the current year as a percentage of the aggregate of prices in the base year.
Answer: *Simple (unweight) Aggregate Method*

FBQ42: In _____ appropriate weights are assigned to various commodities to reflect their relative importance in the group
Answer: *Weighted Aggregate Method*

FBQ43: Laspeyre's Price Index or Base year method means taking the base year quantity as _____
Answer: *Weights*

FBQ44: Paasche's Price Index, the current year quantities are taken as _____
Answer: *Weights*

FBQ45: _____ Index is given by the arithmetic mean of Laspeyre's and Paasche's price index numbers
Answer: *Dorbish-Bowley Price*

FBQ46: _____ advocated the geometric cross of Laspeyre's and Paasche's Price index numbers
Answer: *Irving Fisher*

FBQ47: _____ is termed as an ideal index since it satisfies time reversal and factor reversal test for the consistency of index numbers
Answer: *Fisher's Index*

FBQ48: _____ is a branch of mathematics that deals with the collection, organization, and analysis of numerical data and with such problems as experiment design and decision making
Answer: *Statistics*

FBQ49: _____ are data collected directly from the field of enquiries by the user(s) or researcher(s) themselves

Answer: *Primary data*

FBQ50: _____ are data which have been collected by someone else or some organization either in published or unpublished forms

Answer: *Secondary Data*

Multiple Choice Questions (MCQs):

MCQ1: A Bernoulli process is a finite or infinite sequence of _____ random variable

Answer: Binary

MCQ2: Bernoulli process can also be generalized to more than _____ outcomes

Answer: One

MCQ3: The negative Binomial variables may be interpreted as random waiting _____

Answer: Moment

MCQ4: The _____ process can be formalized in the language of probability spaces as a random sequence of independent realisations of a random variable that can take values of heads or tails

Answer: Statistical

MCQ5: The Bernoulli distribution was named after Swiss scientist _____

Answer: Adam Smith

MCQ6: A classical example of a Bernoulli experiment is a single toss of a _____

Answer: Card

MCQ7: The maximum likelihood estimator based on a random sample is the _____

Answer: sample mean

MCQ8: The normal distribution was first discovered by English Mathematician De-voire in _____

Answer: 1729

MCQ9: The graph of normal distribution is called _____

Answer: Normal curve

MCQ10: Using normal tables, find the values of probabilities $P(z \leq 0.50)$

Answer: 0.6915

MCQ11: Using normal tables, find the values of probabilities $P(z \leq -2.50)$

Answer: 0.0081

MCQ12: Using normal tables, find the values of probabilities $P(-1.50 \leq z \leq 2.50)$

Answer: 0.8211

MCQ13: Using normal tables, find the values of probabilities $P(1.62 \leq z \leq 2.20)$

Answer: 0.0871

MCQ14: Poisson distribution was derived in _____

Answer: 1837

MCQ15: Poisson distribution was derived by a French mathematician _____

Answer: Simeon D. Poisson

MCQ16: The condition under which Poisson distribution is obtained is in a limiting case of _____

Answer: Binomial Distribution

MCQ17: A statistical _____ is a method of making decisions using data from a scientific study

Answer: Data

MCQ18: In statistics, a result is interpreted as being statistically significant if it has been predicted as unlikely to have occurred by _____ alone according to a pre-determined threshold probability, the significance level.

Answer: Chance

MCQ19: The phrase "test of significance" was coined by statistician _____

Answer: Dein Fisher

MCQ20: The critical region of a hypothesis test is the set of all outcomes which cause the null hypothesis to be rejected in favour of the _____ hypothesis

Answer: Second

MCQ21: Statistical hypothesis testing is sometimes called _____

Answer: True testing

MCQ22: _____ testing is a key technique of frequentist inference.

Answer: Z

MCQ23: Statistics are helpful in analysing most collections of _____

Answer: Test

MCQ24: Common test Statistics are; t-test, z-test, chi-square test and f-test which is sometimes referred to as analysis of _____

Answer: variance (ANOVA) test

MCQ25: If the population variance is unknown then for the large samples, its estimates provided by sample variance S^2 is used and _____ is applied

Answer: Figures

MCQ26: F-distribution has a number of applications in the field of _____

Answer: Statistics

MCQ27: _____ test is use to test for equality of population variances

Answer: T

MCQ28: The square of a standard normal variable is called a _____ variate with 1 degree of freedom

Answer: F test

MCQ29: chi-square test of _____ is used to determine how well theoretical distributions such as the normal and binomial distributions

Answer: Sample

MCQ30: Chi square for _____ consider a given population consisting of N items divided into r mutually disjoint (exclusive) and exhaustive classes

Answer: independence of attributes

MCQ31: For the contingency table data, the _____ hypothesis is always set up that the attributes under consideration are independent

Answer: Alternative

MCQ32: The term Analysis of Variance was introduced by _____

Answer: Dr Ganiyat Uthman

MCQ33: The term Analysis of Variance was developed in _____

Answer: 1922

MCQ34: The total variation in any set of numerical data is due to a number of causes which may be classified as assignable causes and _____

Answer: Variable causes

MCQ35: _____ test is based on the test statistic F or variance ratio

Answer: Z test

MCQ36: _____ as a tool has different dimensions and complexities

Answer: ANOVA

MCQ37: _____ technique enables us to compare several population means simultaneously and thus results in lot of saving in terms of time and money

Answer: T

MCQ38: The origin of the _____ technique lies in agricultural experiments and as such its language is loaded with such terms as treatments, blocks, plots

Answer: Regression

MCQ39: _____ is not designed to test equality of several population variances.

Answer: T test

MCQ40: In statistics, the term non-parametric statistics refers to statistics that do not assume the data or _____ have any characteristic structure or parameters

Answer: Calculation

MCQ41: non-parametric statistics are suitable for examining the order in which runners complete a race, while _____ statistics would be more appropriate for looking at the actual race times

Answer: Distribution

MCQ42: _____ methods are widely used for studying populations that take on a ranked order

Answer: Non-parametric

MCQ43: _____ models differ from parametric models in that the model structure is not specified a priori but is instead determined from data

Answer: Regression

MCQ44: _____ is a non-parametric test alternative to the one-way analysis of variance

Answer: T test

MCQ45: _____ provides an estimate of the relationship between two measurements, without any assumption of whether one comes before the other

Answer: T test

MCQ46: Correlation coefficients have a value between -1 and _____

Answer: +2

MCQ47: A positive _____ means that x and y values increases and decrease in the same direction

Answer: F test

MCQ48: A negative _____ means that as x and y move in opposite directions, one increases as the other decreases

Answer: Correlation

MCQ49: Coefficient of 0 means x and y are associated _____

Answer: Positively

MCQ50: The _____ measures only the degree of linear association between two variables

Answer: Regression model