

Question MCQ1 : The two possible values of each in a Bernoulli process  $X_i$  are often called?

Answer: "success" and "failure"

Question MCQ2 : The negative Binomial variables may be interpreted as what?

Answer: Random waiting times

Question MCQ3 : The probability of tossing a coin once and getting a head is?

Answer: 0.5

Question MCQ4 : The total probability for any event is?

Answer: 1

Question MCQ5 : If a random variable  $X$  takes only integral values it can be called?

Answer: Discrete probability distribution.

Question MCQ6 : The normal distribution was first discovered by English Mathematician \_\_\_\_?

Answer: De-moivre

Question MCQ7 : The following are properties of normal distribution curve except

Answer: The curve is not symmetric about a vertical axis

Question MCQ8 : A random variable  $X$  has normal Distribution, and it is referred to as \_\_\_\_

Answer: a normal random variable

Question MCQ9 : Using normal tables, find the values of the following probabilities:  $P(-1.50 < z < 2.50)$

Answer: 0.9270

Question MCQ10 : Given a normal distribution with mean of 230 and standard deviation of 20, what is the probability that an observation from this population is: Greater than 280

Answer: 2.50

Question MCQ11 : We know that for a binomial variate  $X$  with parameter  $n$  and  $p$  is \_\_\_\_

Answer:  $E(X) = np$  and  $Var(X) = npq$

Question MCQ12 : Poisson distribution was derived in what year?

Answer: 1837

Question MCQ13 : Poisson distribution may be obtained as a limiting case of which distribution?

Answer: Binomial probability distribution

Question MCQ14 : The mean number of misprints per page in a book is 1.2. What is the probability of finding on a particular page no misprints?

Answer: 0.301

Question MCQ15 : A statistical hypothesis test is a method of making decisions using \_\_\_\_?

Answer: Data from a scientific study.

Question MCQ16 : The following are statistical test tools except

Answer: E-test

Question MCQ17 : One out of the following is an assumption for F-test for equality of variances.

Answer: The samples are simple random samples

Question MCQ18 : Chi-square distribution test is one among the following:

Answer: Goodness of fit

Question MCQ19 : ANOVA can be in how many ways?

Answer: One-way or two-way

Question MCQ20 : Statistics that do not assume the data or population have any characteristic structure or parameters is called?

Answer: Non-parametric statistics

Question MCQ21 : In statistics, the term non-parametric statistics has at least how many different meanings?

Answer: Two

Question MCQ22 : Price and supply of a commodity is example what correlation?

Answer: Positive correlation

Question MCQ23 : Rainfall and Farm yield is example what correlation?

Answer: Positive correlation

Question MCQ24 : Tax rate and consumption demand is example what correlation?

Answer: Negative correlation

Question MCQ25 : Karl Pearson's coefficient of correlation is

Answer: Non-Parametric statistic

Question MCQ26 : Spearman's Rank Correlation Coefficient, usually denoted by?

Answer:  $\rho$  (Rho)

Question MCQ27 : A more accurate way of finding the line of best fit is through the use of

Answer: Least square method

Question MCQ28 : A simple regression model comprise of how many variables?

Answer: 2

Question MCQ29 : In simple regression model how many independent variable do we have?

Answer: 1

Question MCQ30 :  $Y = a + bX + e$ .

Answer: Simple regression model

Question MCQ31 : In probability theory central limit theorem states that given a certain conditions the mean of a sufficiently \_\_\_\_\_ of iterates.

Answer: large number

Question MCQ32 : By the law of large numbers, the sample averages converge in probability and almost surely to the expected value

Answer:  $\frac{1}{n} \sum_{i=1}^n \hat{X}_i$

Question MCQ33 : Ten unbiased coins are tossed simultaneously. Find the probability of obtaining: Exactly six heads

Answer: 0.2051

Question MCQ34 : All these are types of Index Numbers except

Answer: Value added tax index number

Question MCQ35 : Below are not problems in the construction of Index Numbers except

Answer: Choice of formula

Question MCQ36 : Below are methods of constructing index numbers except

Answer: Simple aggregate

Question MCQ37 : One of these is not a weighted Aggregate method

Answer: Karl Pearson's Price Index

Question MCQ38 : Below are Uses of Index Number except

Answer: Use to measure sick people

Question MCQ39 : Data can be classified into two major sources from which they are obtained

Answer: Primary and Secondary data

Question MCQ40 : The following are disadvantages of primary data except

Answer: Less accurate

Question MCQ41 : The following are advantages secondary data except

Answer: Accurate and Reliable

Question MCQ42 : Data are also classified based on the form except

Answer: Primary Data

Question MCQ43 : \_\_\_\_\_ combine the features of cross-sectional and time-series data.

Answer: Panel Data

Question MCQ44 : The Sources of Secondary data are as follows except

Answer: Household Survey

Question MCQ45 : Below are some publications in Nigeria except

Answer: Daily Consumption of Beans

Question MCQ46 : Researchers collect data in order to test \_\_\_\_\_ and to provide empirical support for explanations and predictions.

Answer: Hypotheses

Question MCQ47 : Sub-set of population is called?

Answer: Sample

Question MCQ48 : A particular value of the population, such as the mean income or the level of formal education, is called

Answer: A parameter

Question MCQ49 : Below are the functions of money except

Answer: Portability

Question MCQ50 : To accurately estimate unknown parameters from known statistics, researchers have to effectively deal with one of these problems:

Answer: The size of the sample

Question FBQ1 : A \_\_\_\_\_ random variable is the simplest random variable.

Answer: Bernoulli

Question FBQ2 : A Bernoulli process is a \_\_\_\_\_ or infinite sequence of binary random variable

Answer: finite

Question FBQ3 : Several random variables and probability distributions beside the \_\_\_\_\_ itself may be derived from the Bernoulli process

Answer: Bernoulli

Question FBQ4 : The negative Binomial variables may be interpreted as \_\_\_\_\_ waiting times

Answer: random

Question FBQ5 : A Bernoulli random variable is one which has only \_\_\_\_\_ and 1 as possible values.

Answer: 0

Question FBQ6 : A Bernoulli random variable is the simplest random variable. It models an experiment in which there are only two outcomes. Generically, we say that  $X=1$  is a success and  $X=0$  is a failure. We say that  $p$  is the \_\_\_\_\_ probability.

Answer: Success

Question FBQ7 : \_\_\_\_\_ the probability of success is constant for each trial. Then  $q = 1-p$ , is the probability of failure in any trial.

Answer:  $p$

Question FBQ8 :  $P(r) = P(X = \text{_____})$

Answer:  $r$

Question FBQ9 :

Since these probabilities are the successive terms in the Binomial expansion  $(q + p)^n$ , it is called the \_\_\_\_\_ distribution

Answer: Binomial

Question FBQ10 : Total probability is \_\_\_\_\_

Answer: 1

Question FBQ11 : The normal distribution with  $\mu$  is referred to as the standard \_\_\_\_\_ distribution.

Answer: normal

Question FBQ12 : If  $X$  has a normal distribution with the \_\_\_\_\_ of  $\frac{1}{4}$  and the deviation  $\sigma$ , then it is the standard normal distribution,

Answer: mean

Question FBQ13 : Poisson distribution may be obtained as a limiting case of \_\_\_\_\_ probability distribution under the following conditions

Answer: binomial

Question FBQ14 : 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: alternative

Question FBQ15 : Statistical hypothesis testing is sometimes called \_\_\_\_\_ data analysis

Answer: confirmatory

Question FBQ16 : Common test Statistics are; t-test, z-test, chi-square test and f-test which is sometimes referred to as analysis of \_\_\_\_\_ test

Answer: variance

Question FBQ17 : *t*-test for the significance of single mean, population variance being unknown. True or False? \_\_\_\_\_

Answer: True

Question FBQ18 : One of the assumptions for Student's *t*-test: The parent population from which the sample is drawn is not normal. True or False \_\_\_\_\_

Answer: False

Question FBQ19 : The sampling distribution of F-statistics does not involve any population parameters and depends only on the degrees of freedom  $n_1$  and  $n_2$ . True or False \_\_\_\_\_.

Answer: True

Question FBQ20 : \_\_\_\_\_ of fit and is used to test if the deviation between observation

Answer: goodness

Question FBQ21 : Under the null hypothesis that there is no significant difference between the observed and the \_\_\_\_\_ values.

Answer: hypothetical

Question FBQ22 : Karl \_\_\_\_\_ proved that the statistic \_\_\_\_\_

Answer: Pearson

Question FBQ23 : In statistics, the term non-parametric statistics refers to statistics that do not assume the data or population have any characteristic structure or \_\_\_\_\_.

Answer: parameters

Question FBQ24 : Non-parametric models differ from parametric models in that the model structure is not specified a priori but is instead determined from data.

Answer: prior

Question FBQ25 : The most frequently used tests include Kruskal-Wallis one-way analysis of variance by ranks

Answer: Wallis

Question FBQ26 : Spearman's \_\_\_\_\_ correlation coefficient: measures statistical dependence between two variables using a monotonic function

Answer: Rank

Question FBQ27 : \_\_\_\_\_ signed-rank test: tests whether matched pair samples are drawn from populations with different mean ranks

Answer: Wilcoxon

Question FBQ28 : Suppose we are interested in testing  $H_0: P(+) = P(-)$   $H_1: P(+)$   $\neq$   $P(-)$

Answer:  $P(-)$

Question FBQ29 : Correlation provides an estimate of the relationship between \_\_\_\_\_ measurements, without any assumption of whether one comes before the other.

Answer: Two

Question FBQ30 : Correlation coefficients have a value between \_\_\_\_\_ and +1.

Answer: -1

Question FBQ31 : The correlation measures only the \_\_\_\_\_ of linear association between two variables while regression analysis is a statistical process for estimating the relationships among variables.

Answer: degree

Question FBQ32 : Correlation is said to be positive when the values of two variables deviate in the opposite direction. True or False \_\_\_\_\_

Answer: False

Question FBQ33 : Correlation is said to be negative when the values of two variables deviate in the same direction. True or False \_\_\_\_\_

Answer: False

Question FBQ34 : Mutual dependence is the situation when the phenomena under study inter-influence each other. True OR False \_\_\_\_?

Answer: True

Question FBQ35 : Given two variables X and Y: If  $r = +1$ , there is a perfect direct relationship between Y and X. If  $r = -1$ , there is a perfect inverse or negative relationship between Y and X. If  $r =$  \_\_\_\_\_ there is no relationship between Y and X.

Answer: 0

Question FBQ36 : One of the assumptions order to use the Pearson product-moment correlation: The measures are approximately normally distributed True or False \_\_\_\_?

Answer: True

Question FBQ37 : In regression analysis there are \_\_\_\_\_ types of variable

Answer: two

Question FBQ38 : Typical regression model is specified in form of  $Y = a + b\_ + e$ .

Answer: X

Question FBQ39 : Independent Variable is the variable which influences the value of the \_\_\_\_\_ variable or which is used for prediction.

Answer: dependent

Question FBQ40 : A more accurate way of finding the line of best fit is the least square method. True OR False \_\_\_\_?

Answer: True

Question FBQ41 : Central limit theorem 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. True OR False \_\_\_\_?

Answer: True

Question FBQ42 : Let us suppose that  $Y_1, Y_2, Y_n, \dots$ , are independent and identically distributed with \_\_\_\_\_ and finite variance  $\sigma^2$ .

Answer: Mean

Question FBQ43 :The CLT can tell us about the distribution of large sums of random variables even if the distribution of the random variables is almost \_\_\_\_\_.

Answer: Unknown

Question FBQ44 : The central limit theorem applies in particular to sums of independent and \_\_\_\_\_ distributed discrete random variables.

Answer: identically

Question FBQ45 : A random orthogonal matrix is said to be distributed uniformly, if its distribution is the not normalized Haar measure on the orthogonal group  $O(n, R)$ . True or False \_\_\_\_\_?

Answer: False

Question FBQ46 : A linear function of a matrix  $M$  is a linear combination of its elements (with given coefficients), is the matrix of the coefficients. True or False \_\_\_\_\_?

Answer: True

Question FBQ47 : Laspeyres's Price Index or Base year method is a Weighted Aggregate Method. True or False \_\_\_\_\_?

Answer: True

Question FBQ48 : Fisher's Price Index – Irving Fisher advocated the geometric cross of Laspeyres's and \_\_\_\_\_ Price index numbers.

Answer: Paasche's

Question FBQ49 : Data can be classified base on the sources from which they are obtained into primary and \_\_\_\_\_

Answer: Secondary

Question FBQ50 : A sample is any subset of sampling units from a population. True or False \_\_\_\_\_?

Answer: True