1. Bernoulli random variables take (only) the values 1 and 0.

   Ans- True

2. Which of the following theorem states that the distribution of averages of iid variables, properly normalized, becomes that of a standard normal as the sample size increases?

Ans- Central Limit Theorem

3. Which of the following is incorrect with respect to use of Poisson distribution?
   Ans- Modeling event/time data
4. Ans- All of the mentioned
5. _____ random variables are used to model rates
   Ans – Poisson

6. Usually replacing the standard error by its estimated value does change the CLT

   Ans - False
7. Which of the following testing is concerned with making decisions using data?
   Ans- Hypothesis
8. Normalized data are centered at_____and have units equal to standard deviations of the original data.

   Ans- 0
9. Which of the following statement is incorrect with respect to outliers?
   Ans- Outliers cannot conform to the regression relationship

10. What do you understand by the term Normal Distribution?

Ans- Normal distributions are important in statistics and are often used in social and natural sciences. They can represent random variables with unknown distributions and are common in statistical reports, including quality control, survey analysis, and resource allocation.

11. How do you handle missing data? What imputation techniques do you recommend?

Ans – Data imputation is the process of replacing missing values with estimated ones. There are several techniques to handle missing data, each with its own advantages and disadvantages. The best method depends on the type of missing data. Here are some common techniques:

- Simple imputation

Use the mean, median, or mode of existing values to replace missing ones. This is suitable for random missingness or small amounts of missing data.

- Regression substitution

Use multiple regression analysis to predict the missing value based on other values.

- Machine learning

Use supervised or unsupervised learning techniques to learn data patterns and generate estimates for missing values.

12. What is A/B testing?

    Ans- A/B testing in its simplest sense is an experiment on two variants to see which performs better based on a given metric. Typically, two consumer groups are exposed to two different versions of the same thing to see if there is a significant difference in metrics like sessions, click-through rate, and/or conversions.
13. Is mean imputation of missing data acceptable practice?

    Ans- Mean imputation is a common method for imputing missing data, but it's not generally accepted as a good practice. It can be a good choice if the data is normally distributed, has no outliers, and the missing values are missing at random (MAR).

14. What is linear regression in statistics?

    Ans- Linear regression analysis is used to predict the value of a variable based on the value of another variable. The variable you want to predict is called the dependent variable. The variable you are using to predict the other variable's value is called the independent variable.
15. What are the various branches of statistics?

    Ans- Two main branches of statistics are descriptive statistics and inferential statistics.