1. **Which of the following can be considered as random variable?**

   Ans: d) All of the mentioned.

2. **Which of the following random variable that take on only a countable number of possibilities?**

   Ans: a) Discrete.

3. **Which of the following function is associated with a continuous random variable?**

   Ans: a) pdf

4. **The expected value or _____ of a random variable is the center of its distribution**

   Ans: c) mean

5. **Which of the following of a random variable is not a measure of spread?**

   Ans: c) empirical mean

6. **The _____ of the Chi-squared distribution is twice the degrees of freedom**

   Ans: b) standard deviation

7. **The beta distribution is the default prior for parameters between _____**

   Ans: c) 0 and 1

8. **Which of the following tool is used for constructing confidence intervals and calculating standard errors for difficult statistics?**

   Ans: b) bootstrap

9. **Data that summarize all observations in a category are called _____ data**

   Ans: b) summarized

10. **What is the difference between a boxplot and histogram?**

Boxplot: used to visualize the data points even from the normal range of spread(outliers)

Histogram is used togive the graphical representation of only the spread of data., A histogram is a graphical representation of the frequencies of a continuous variable. The variable is divided into bins and a bar is drawn for each bin, proportional to its frequency in the data.

Than Histograms, boxplot also provides the median of the Datapoints,25% of the data set range and 50% of the Dataset. and 75% of the Dataset.

11. How to select metrics?

We need to identify our primary objective, Choose the best Metric which predicts their achievement, identify which influence the predictors, and revaluate the process.

12. How do you assess the statistical significance of an insight?

1. Know the research hypothesis
2. State the Null Hypothesis.
3. Select a probability of error level (alpha level)
4. Select and compute the test for statistical significance.
5. Interpret the results.

13. Give examples of data that does not have a Gaussian distribution, nor log-normal

Any type of categorical data won't have a gaussian distribution or lognormal distribution. Exponential distributions-ex. the amount of time that a car battery lasts or the amount of time until an earthquake occurs.

14. Give an example where the median is a better measure than the mean.

Median is the middle value in a rank-ordered sequence. Mean is the sum of all observation values divided by the number of cases observed.

Medians are not affected by outliers, while Mean can swing wildly due to extreme anomalies that are irrelevant to the norms.

The middle (median) remans the same middle value regardless of the size of the highest or the lowest case, which has great effects on the mean.

15. What is the Likelihood?

Likelihood function is a fundamental concept in statistical inference. It indicates how likely a particular population is to produce an observed sample.