STATISTICS WORKSHEET-5

Q1 to Q10 are MCQs with only one correct answer. Choose the correct option.

1. Using a goodness of fit,we can assess whether a set of obtained frequencies differ from a set of frequencies.
   a) Mean
   b) Actual
   c) Predicted
   d) Expected

Ans: d) Expected

In a goodness-of-fit test, we assess whether a set of obtained (observed) frequencies differ from a set of expected frequencies.

2. Chisquare is used to analyse
   a) Score
   b) Rank
   c) Frequencies
   d) All of these

Ans: c) Frequencies

The Chi-square test analyzes frequencies, such as the number of occurrences of different categories or the distribution of categorical variables.

3. What is the mean of a Chi Square distribution with 6 degrees of freedom?
   a) 4
   b) 12
   c) 6
   d) 8

Ans: c) 6

The mean of a Chi-Square distribution is equal to the number of degrees of freedom. Therefore, with 6 degrees of freedom, the mean is 6

4. Which of these distributions is used for a goodness of fit testing?
   a) Normal distribution
   b) Chisqared distribution
   c) Gamma distribution
   d) Poission distribution

Ans : b) Chi-square distribution

The Chi-Square distribution is commonly used in goodness-of-fit tests to determine whether observed frequencies differ significantly from expected frequencies in categorical data.

5. Which of the following distributions is Continuous
   a) Binomial Distribution
   b) Hypergeometric Distribution
   c) F Distribution
   d) Poisson Distribution

Ans: c) F Distribution

The F distribution is a continuous probability distribution that arises frequently in the context of ANOVA (Analysis of Variance) and in testing whether two observed samples have the same variance. The Binomial, Hypergeometric, and Poisson distributions are all discrete distributions.

6. A statement made about a population for testing purpose is called?
   a) Statistic
   b) Hypothesis
   c) Level of Significance
   d) TestStatistic

Ans: b) Hypothesis

A hypothesis is a statement made about a population parameter for testing purposes. Hypothesis testing involves making an assumption (the hypothesis) and then using sample data to determine whether or not there is enough evidence to reject that assumption

7. If the assumed hypothesis is tested for rejection considering it to be true is called?
   a) Null Hypothesis
   b) Statistical Hypothesis
   c) Simple Hypothesis
   d) Composite Hypothesis

Ans: a) Null Hypothesis

The null hypothesis is the hypothesis that is assumed to be true and is tested for possible rejection based on the sample data. It represents a statement of no effect or no difference.

8. If the Critical region is evenly distributed then the test is referred as?
   a) Two tailed
   b) One tailed
   c) Three tailed
   d) Zero tailed

Ans: a) Two tailed

A two-tailed test is used when the critical region is evenly distributed in both distribution tails. This means that the hypothesis test is concerned with deviations in both directions from the null hypothesis.

9. Alternative Hypothesis is also called as?
   a) Composite hypothesis
   b) Research Hypothesis
   c) Simple Hypothesis

d) Null Hypothesis

Ans: b) Research Hypothesis

The alternative hypothesis is also called the research hypothesis. It represents the statement that there is an effect or a difference, and it is what researchers aim to support with their data

10. In a Binomial Distribution, if ‘n’ is the number of trials and ‘p’ is the probability of success, then the mean value is given by _____
    a) np
    b) n