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

   Answer : d) Expected

   Explanation:- A statistical test of the hypothesis that the observed frequency distribution of a categorical variable matches the expected frequency distribution is known as a goodness of fit test in statistics.

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

   Answer : c) Frequencies

   Explanation:- To determine whether there is a significant difference between the expected and actual frequencies in one or more categories of a contingency table, the Chi-square test is utilised. Therefore, "Frequencies" will be the right response.

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

   Answer : c) 6

   Explanation:- The mean and the number of degrees of freedom are correlated according to the Chi Square distribution characteristic. Six degrees of freedom. Thus, 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

   Answer : b) Chisquared distribution

   Explanation:- The chi-square distribution is used as the sample distribution for the goodness of fit test, which assesses how well the distribution discovered from the values matches the empirical distribution.

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

d) Poisson Distribution

Answer : c) F Distribution

Explanation:- Discrete distributions include Poisson, hypergeometric, and binomial distributions. Out of all the distributions shown, only the F-Distribution is Continuous.

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

   Answer : b) Hypothesis

   Explanation:- A hypothesis is a generalisation about a population. After then, it is put to the test if it passes, it is accepted if not, it is rejected.

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

   Answer : a) Null Hypothesis

   Explanation:- The term "null hypothesis" refers to the assumption that, if checked for rejection, it is considered to be true. It provides the population parameter's value.

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

   Answer : a) Two tailed

   Explanation:- The Critical area is spread uniformly in a two-tailed test. The region that accepts the null hypothesis is one region, and the region that rejects it is another.

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

   Answer : b) Research Hypothesis

   Explanation:- Research hypotheses are another name for alternative hypotheses. The alternative hypothesis is accepted if the null hypothesis is incorrect.

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

Answer : a) np

Explanation:- The anticipated value or mean value of a discrete probability function can be found using the formula Mean (μ)=∑nx=0xp(x).
Substitute P(x)=nCx px q(n-x) for the binomial distribution, then solve for μ = np in the following equation.