

Q1. 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**

Solution : d) Expected is the right answer as In a goodness-of-fit test, the expected frequencies serve as a baseline to determine how well the actual data aligns with the assumed distribution

Q2. Chisquare is used to analyse

- a) Score
- b) Rank
- c) Frequencies**
- d) All of these

Solution : c) Frequencies is the right answer as chi-square is used to examine whether there is a significant association between categorical variables or to compare observed data with expected data according to a specified distribution by this we can analyse frequencies used

Q3. What is the mean of a Chi Square distribution with 6 degrees of freedom?

- a) 4
- b) 12
- c) 6**

d) 8

Solution : The formula for the mean (μ) of a Chi-square distribution is:

$$\mu = k$$

where K is the number of degrees of freedom.

Given Problem

- **Degrees of Freedom : 6**

Applying the formula:

$$\mu = 6$$

The correct answer is $\mu = 6$

Q4 Which of these distributions is used for a goodness of fit testing?

a) Normal distribution

b) Chisquared distribution

c) Gamma distribution

d) Poission distribution

Solution: Chi – square distribution compares observed data with expected data

Hence option (b) is the correct option

Q5. Which of the following distributions is Continuous

a) Binomial Distribution

b) Hypergeometric Distribution

c) F Distribution

d) Poisson Distribution

Solution: The correct answer is F- Distribution, the reasons behind this is The F Distribution arises as the ratio of two independent chi-square variables divided by their respective degrees of freedom. Both the chi-square distribution and their ratio are continuous, this application is used in ANOVA

Q6. A statement made about a population for testing purpose is called?

a) Statistic

b) Hypothesis

c) Level of Significance

d) TestStatistic

Solution : b) is the correct answer

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

Solution : The correct answer is a) Null Hypothesis is the statement that is tested with the assumption that it is true. The goal is to determine whether there is enough evidence to reject this hypothesis

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

Solution:

The correct answer is:

a) Two tailed

In a two-tailed test, the critical region is distributed evenly on both tails of the probability distribution. This type of test is used to determine if there are significant differences in either direction from the null hypothesis.

9. Alternative Hypothesis is also called as?

a) Composite hypothesis

b) Research Hypothesis

c) Simple Hypothesis

d) Null Hypothesis

Solution :

The correct answer is:

b) Research Hypothesis

The alternative hypothesis is often referred to as the research hypothesis. It represents the statement that there is an effect or a difference, contrary to the null hypothesis.

10. 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

Solution :

The correct answer is:

a) np

In a Binomial Distribution, the mean value (expected value) is given by the formula:

$$\text{Mean} = np$$

where n is the number of trials and p is the probability of success on each trial.
