STATISTICS WORKSHEET-8

Q1 to Q12 have only one correct answer. Choose the correct option to answer your question.

1. In hypothesis testing, type II error is represented by β and the power of the test is 1−β then β is:

a. The probability of rejecting H0 when H1 is true

2. In hypothesis testing, the hypothesis which is tentatively assumed to be true is called the

b. null hypothesis

3. When the null hypothesis has been true, but the sample information has resulted in the rejection of the null, a _____ has been made

d. Type I error

4.For finding the p-value when the population standard deviation is unknown, if it is reasonable to assume that the population is normal, we use

b. the t distribution with n - 1 degrees of freedom

5. A Type II error is the error of

a. accepting Ho when it is false

6. A hypothesis test in which rejection of the null hypothesis occurs for values of the point estimator in either tail of the sampling distribution is called

d. a two-tailed test

7. In hypothesis testing, the level of significance is

b. the probability of committing a Type I error

8. In hypothesis testing, b is

a. the probability of committing a Type II error

9. When testing the following hypotheses at an α level of significance

H0: $p = 0.7$

H1: $p > 0.7$

The null hypothesis will be rejected if the test statistic Z is

a. $z > z\alpha$

10. Which of the following does not need to be known in order to compute the P-value?

c. the level of significance

11. The maximum probability of a Type I error that the decision maker will tolerate is called the

a. level of significance

12. For t distribution, increasing the sample size, the effect will be on

d. All of the Above

Q13 to Q15 are subjective answers type questions. Answers them in their own words briefly.

13. What is Anova in SPSS?

A13Analysis of variance, i.e. ANOVA in SPSS, is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables. Essentially, ANOVA in SPSS is used as the test of means for two or more populations

14. What are the assumptions of Anova?

A14. Assumptions of ANOVA:

- **Normality** – Each sample was drawn from a normally distributed population.
- **Equal Variances** – The variances of the populations that the samples come from are equal.
- **Independence** – The observations in each group are independent of each other and the observations within groups were obtained by a random sample.

15. What is the difference between one way Anova and two way Anova

A15. One-way ANOVA: Used to determine how one factor affects a response variable.

Two-way ANOVA: Used to determine how two factors affect a response variable, and to determine whether or not there is an interaction between the two factors on the response variable.