Statistics Worksheet 8

Q1- In hypothesis testing, type II error is represented by β and the power of the test is 1−β then β is
Answer- b. The probability of failing to reject H0 when H1 is true

Q2- In hypothesis testing, the hypothesis which is tentatively assumed to be true is called the
Answer- b)null hypothesis

Q3- When the null hypothesis has been true, but the sample information has resulted in the rejection of the null, a _____ has been made
Answer- d)Type I error

Q4- 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
Answer- b. the t distribution with n - 1 degrees of freedom

Q5- A Type II error is the error of
Answer- a.accepting Ho when it is false

Q6- 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
Answer- a -two-tailed test

Q7- In hypothesis testing, the level of significance is
Answer- b. the probability of committing a Type I error

Q8- In hypothesis testing, b is
Answer- a. the probability of committing a Type II error

Q9- 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
Answer-b. $z < z\alpha$

Q10-Which of the following does not need to be known in order to compute the P-value?
Answer- c. the level of significance

Q11- The maximum probability of a Type I error that the decision maker will tolerate is called the
Answer- a. level of significance

Q12-For t distribution, increasing the sample size, the effect will be on
Answer -d. All of the Above

Q13-What is Anova in SPSS?
Answer- **Analysis 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.

Q14- What are the assumptions of Anova?
Answer-There are three primary assumptions in ANOVA:

1. The responses for each factor level have a normal population distribution.

2. These distributions have the same variance.
3. The data are independent.

Q15- What is the difference between one way Anova and two way Anova

Answer -**The only difference between one-way and two-way ANOVA is the number of independent variables. A one-way ANOVA has one independent variable, while a two-way ANOVA has two.**

In a one-way ANOVA, it focuses on simply one independent variable and one dependent variable. However, variables rarely exist in isolation in the real world.

The two way ANOVA focuses on two independent variables to examine these more complex, real-life situations, thus increasing the external validity of the study.