STATISTICS WORKSHEET-8

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

Ans:

- b. The probability of failing to reject H0 when H1 is true

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

Ans:

- 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

Ans:

- 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

Ans:

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

5. A Type II error is the error of

Ans:

- 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

Ans:

- d. a two-tailed test

7. In hypothesis testing, the level of significance is

Ans:

- b. the probability of committing a Type I error

8. In hypothesis testing, b is

Ans:

- 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

Ans:

- a. $z > z\alpha$

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

Ans:

- d. All of the above are needed

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

Ans:

- a. level of significance

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

Ans:

- d. All of the Above

13. What is Anova in SPSS?

Ans:

- 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.

14. What are the assumptions of Anova?

Ans:

- To use the ANOVA test we made the following assumptions:

- Each group sample is drawn from a normally distributed population
- All populations have a common variance
- All samples are drawn independently of each other
- Within each sample, the observations are sampled randomly and independently of each other
- 5 Factor effects are additive

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

Ans:

- One Way Anova:
- One way ANOVA is a hypothesis test, used to test the equality of three of more population means simultaneously using variance.
- One Independent Variable
- Three or more levels of one factor.
- Need not to be same in each group.
- Need to satisfy only two principles.

- Two way Anova:
- Two way ANOVA is a statistical technique wherein, the interaction between factors, influencing variable can be studied.
- Two Independent Variable
- Effect of multiple level of two factors.
- Need to be equal in each group.
- All three principles needs to be satisfied.