STATISTICS WORKSHEET-3

1.

Ans b) Total Variation = Residual Variation + Regression Variation

2.

Ans c) binomial

3.

Ans a) 2

4.

Ans a) Type-I error

5.

Ans c) Level of confidence

6.

Ans b) Increase

7.

Ans b) Hypothesis

8.

Ans d) All of the mentioned

9.

Ans a) 0

Q10and Q15 are subjective answer type questions, Answer them in your own words briefly

10. What Is Bayes' Theorem?

Ans - Bayes' Theorem governs the likelihood that one event is based on the occurrence of some other events. It depends upon the concepts of conditional probability. This theorem gives us the probability of some events depending on some conditions related to the event.

P(A) = Probability of occurrence of event A

P(B) = Probability of occurrence of event B

P(A|B) = Probability of occurrence of event A given B

P(B|A) = Probability of occurrence of event B given A

11. What is z-score?

Ans - A standard normal table (also called the unit normal table **or** z-score table**)** is a mathematical table for the values of **φ**, indicating the values of the cumulative distribution function of the normal distribution. **Z-Score,** also known as the standard score, indicates how many standard deviations an entity is, from the mean.

Since probability tables cannot be printed for every normal distribution, as there is an infinite variety of normal distribution, it is common practice to convert a normal to a standard normal and then use the z-score table to find probabilities.

12. What is t-test?

Ans

A ***t* test** is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment influences the population of interest, or whether two groups are different from one another.

A *t* test can only be used when comparing the means of two groups (a.k.a. pairwise comparison). If you want to compare more than two groups, or if

want to do multiple pairwise comparisons, use an ANOVA test or a post-hoc test.

13. What is percentile?

Ans

In statistics, a percentile is a term that describes how a score compares to other scores from the same set. While there is no universal definition of percentile, it is commonly expressed as the percentage of values in a set of data scores that fall below a given value.

Percentiles show how a given value compares to others. The general rule is that if a value is in the kth percentile, it is greater than K per cent of the total values. Now, look at how this information can be useful.

14. What is ANOVA?

Ans

ANOVA is to test for differences among the means of the population by examining the amount of variation within each sample, relative to the amount of variation between the samples. Analysing variance tests the hypothesis that the means of two or more populations are equal.

In a regression study, analysts use the ANOVA test to determine the impact of independent variables on the dependent variable.

15. How can ANOVA help?

Ans

The one-way ANOVA can help you know whether there are significant differences between the means of your independent variables (such as the first example: age, sex, income). When you understand how each independent variable's mean is different from the others, you can begin to understand which of them has a connection to your dependent variable (landing page clicks), and begin to learn what is driving that behaviour.