# STATISTICS WORKSHEET-3

1) Which of the following is the correct formula for total variation?

**Answer**: b) Total Variation = Residual Variation + Regression Variation

2) Collection of exchangeable binary outcomes for the same covariate data are called _____ outcomes.

**Answer:** c) binomial

3) How many outcomes are possible with Bernoulli trial?

**Answer:** a) 2

4) If Ho is true and we reject it is called

**Answer**: Type-I error

5) Level of significance is also called:

**Answer:** c) Level of confidence

6) The chance of rejecting a true hypothesis decreases when sample size is:

**Answer:** d) None

7) Which of the following testing is concerned with making decisions using data?

**Answer:** b) Hypothesis

8) What is the purpose of multiple testing in statistical inference?

**Answer:** d) All of the mentioned

9) Normalized data are centred at _____and have units equal to standard deviations of the original data.

**Answer:** a) 0

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

10) What Is Bayes' Theorem?

**Answer:** Bayes' Theorem states that the conditional probability of an event, based on the occurrence of another event, is equal to the likelihood of the second event given the first event multiplied by the probability of the first event.

11) What is z-score?

**Answer:** A z score is a standard score that tells you how many standard deviations away from the mean. It is a statistical measurement that describes a value's relationship to the mean of a group of values.

12) 12. What is t-test?

**Answer**: The t test is usually used when data sets follow a normal distribution but you don't know the population variance. Type of tool we use to test to solve different problems. There are 2 types of t-test- 1 sample t-test and 2 sample t-test.

13) What is percentile?

**Answer:** A percentile is a comparison score between a particular score and the scores of the rest of a group. It is basically a measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall.

14) What is ANOVA?

**Answer:** Anova is used to compare differences of means among more than 2 groups. It does this by looking at variation in the data and where that variation is found. In Anova we try to figure out F csore and based on that we will find the p value. F= sample means of between groups/sample means of within groups.

15) How can ANOVA help?

**Answer**: The ANOVA can help you know whether or not there are significant differences between the means of your independent. 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 (and begin to learn what is driving that behavior.