**STATISTICS WORKSHEET-3**

**Q1 to Q9 have only one correct answer. Choose the correct option to answer your question.**

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

b) Total Variation = Residual Variation + Regression Variation

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

c) binomial

3. 3. How many outcomes are possible with Bernoulli trial?

a) 2

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

a) Type-I error

5. Level of significance is also called:

c) Level of confidence

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

b) Increase

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

b) Hypothesis

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

d) All of the mentioned

9. . Normalized data are centred at \_\_\_ and have units equal to standard deviations of the original data

a) 0

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

10. What Is Bayes' Theorem?

**Bayes**' **theorem** describes the probability of occurrence of an event related to any condition. It is also considered for the case of conditional probability.

**Bayes theorem** is also known as the **formula** for the probability of “causes”.

11. What is z-score?

  z-score can be placed on a [**normal distribution**](https://www.statisticshowto.com/probability-and-statistics/normal-distributions/) curve. Z-scores range from -3 standard deviations (which would fall to the far left of the normal distribution curve) up to +3 standard deviations (which would fall to the far right of the normal distribution curve).

In order to use a z-score, you need to know the [mean](https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/mean-median-mode/#mean) μ and also the population standard deviation σ.

Z-scores are a way to **compare results** to a “normal” population. Results from tests or surveys have thousands of possible results and units; those results can often seem meaningless.

12. What is t-test?

The **t**-**test** is a **test** for the hypothesis of equal means, whereas the WMW **test** is less specific. ... The WMW **test** is sensitive to distribution differences besides location [11] and may give a small p-value based on differences in spread even when the means and medians are equal.

13. What is percentile?

In **statistics**, a **percentile** (or a centile) is a score below which a given percentage of scores in its frequency distribution falls (exclusive definition) or a score at or below which a given percentage falls (inclusive definition). ...

The **percentile** (or **percentile** score) and the **percentile** rank are related terms.

14. What is ANOVA?

**Analysis of variance** (**ANOVA**) is an analysis tool used in statistics that splits an observed aggregate variability found inside a data set into two parts: systematic factors and random factors.

The systematic factors have a statistical influence on the given data set, while the random factors do not.

15. How can ANOVA help?

An **ANOVA** test is a way **to** find out if survey or experiment results are significant. In other words, they **help** you **to** figure out if you need **to** reject the null hypothesis or accept the alternate hypothesis.

Basically, you're testing groups **to** see if there's a difference between them.