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?

a) Total Variation = Residual Variation – Regression Variation
b) Total Variation = Residual Variation + Regression Variation
c) Total Variation = Residual Variation * Regression Variation
d) All of the mentioned

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

a) random
b) direct
c) binomial
d) none of the mentioned

3. How many outcomes are possible with Bernoulli trial?

a) 2
b) 3
c) 4
d) None of the mentioned

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

a) Type-I error
b) Type-II error
c) Standard error
d) Sampling error

5. Level of significance is also called:

a) Power of the test
b) Size of the test
c) Level of confidence
d) Confidence coefficient

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

a) Decrease
b) Increase
c) Both of them
d) None

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

a) Probability
b) Hypothesis
c) Causal
d) None of the mentioned

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

a) Minimize errors
b) Minimize false positives
c) Minimize false negatives
d) All of the mentioned

9. Normalized data are centred at____and have units equal to standard deviations of the original data

a) 0
b) 5
c) 1
d) 10

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?
A z score is simply defined as **the number of standard deviation from the mean**

12. What is t-test?
The t-test is **a test that is mainly used to compare the mean of two groups of samples**. It is meant for evaluating whether the means of the two sets of data are statistically significantly different from each other

13. What is percentile?

14. What is ANOVA?
Analysis of variance (ANOVA) is **a collection of statistical models and their associated estimation procedures (such as the "variation" among and between groups) used to analyze the differences among means**.

15. How can ANOVA help?
ANOVA is helpful for **testing three or more variables**