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?

    Ans: Bayes' Theorem is a mathematical formula used for determining the conditional probability of the event.

11. What is z-score?
    Ans: z-score is a type of measurement which indicates about how many standard deviations above or below the mean.

12. What is t-test?
    Ans: t-test is used to compare the significant differences between the means of two groups.

13. What is percentile?
    Ans: A Percentile is a number where a certain percentage of scores fall below that number.

14. What is ANOVA?
    Ans: ANOVA stands for Analysis of Variance, it is a type of statistical test.

15. How can ANOVA help?
Ans: ANOVA helps to find whether the difference between groups of data are statistically significant or not.