

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 H_0 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**



WORKSHEET

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

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

Q10 and Q15 are subjective answer type questions, Answer them in your own words briefly.

10. What is Bayes' Theorem?

Bayes theorem is a mathematical formula, which is used to determine the conditional probability of the given event.

11. What is z-score?

The z-score is the signed number of standard deviation by which the value of an observation or data point is above the mean value of what is being observed or measured.

12. What is t-test?

It is used to determine if there is a significant difference between the means of two groups, which may be related in certain features.

13. What is percentile?

Percentile is a number/value where a certain percentage of scores/data fall below that given number/value.

14. What is ANOVA?

Analysis of variance (ANOVA) is a statistical procedure used to test the degree to which two or more groups vary in an experiment.

15. How can ANOVA help?

It helps to find out whether the difference between groups of data are statistically significant.

