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. How many outcomes are possible with Bernoulli trial?

a) 2

884. 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?

A10. Bayes Theorem gives us the probability of an event occurring based on pre-defined conditions.

P(A/B) = (P(B/A)*P(A))/ P(B)

Eg.: With increase in age the risk of certain like High BP and diabetes increases.

11. What is z-score?

A11. Z-Score tells us how far a data point is from the mean of a distribution.

It is measured in standard deviations.

We use the z table to find the probability.

12. What is t-test?

A12. A t-test is a statistical test that compares the means of two samples.

It is often used in hypothesis testing

- One Sample T-Test: Population or sample is compared to a given value.

- Two Sample T-Test: When two samples from different population are to be compared

13. What is percentile?

A13.Percentile is a value that represents a percentage position on a range of data.

A normal distribution is divided into 4 quartiles or percentiles. This divides the data into four groups.

14. What is ANOVA?

A14. ANOVA stands for analysis of variance

ANOVA is used to compare differences of means among more than two groups. It does this by looking at the variation in data and where the variation is found. ANOVA compares the amount of variation between groups with amount of variation within groups.

ANOVA uses F-Score and the corresponding p value to accept or reject the Null Hypothesis.

f-score = Sample means between groups / Sample means within groups.

15. How can ANOVA help?

A15. ANOVA is used the compare data of more than 3 groups

It helps us find the relationship between dependent and independent varaiable.