STATISTICS WORKSHEET 3

Answer of Q1 - (B) Total Variation = Residual Variation + Regression Variation

Answer of Q2 - (C) Binomial

Answer of Q3 - (A) 2

Answer of Q4 - (A) Type-I error

Answer of Q5 - (D) Confidence coefficient

Answer of Q6 - (B) Increase

Answer of Q7 - (B) Hypothesis

Answer of Q8 - **(D)** All of the mentioned

Answer of Q9 - **(A)** 0

Answer of Q10

Bayes' Theorem states that the conditional probability of an event, based on the occurrence of another event, is equal to the likelihood of the second event given the first event multiplied by the probability of the first event.

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)} \quad if\ P(B) \neq 0$$

P(*A*)= The probability of A occurring

P(*B*)= The probability of B occurring

P(*A*|*B*)=The probability of A given B

P(*B*|*A*)= The probability of B given A

Answer of Q11

Standard scores are most commonly called *z*-scores. The standard score is the number of standard deviation by which the value of a raw score (i.e., an observed value or data point) is above or below the mean value of what is being observed or measured.

$$z = \frac{x - \mu}{\sigma}$$

μ is the mean of the population,

σ is the standard deviation of the population.

Answer of Q12

A *t*-test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another.

Answer of Q13

A percentile is a comparison score between a particular score and the scores of the rest of a group. It shows the percentage of scores that a particular score surpassed.

Answer of Q14

Analysis of variance, or ANOVA, is a statistical method that separates observed variance data into different components to use for additional tests. A one-way ANOVA is used for three or more groups of data, to gain information about the relationship between the dependent and independent variables.

Answer of Q15

ANOVA is helpful for testing three or more variables. It is similar to multiple two-sample t-tests. However, it results in fewer type I errors and is appropriate for a range of issues. ANOVA groups differences by comparing the means of each group and includes spreading out the variance into diverse sources.