

## STATISTICS WORKSHEET-1

Q.1) a

Q.2) a

Q.3) b

Q.4) d

Q.5) c

Q.6) b

Q.7) b

Q.8) a

Q.9) c

**Q.10) A Normal Distribution** has a probability distribution that is centered around the mean. This means that the distribution has more data around the mean. The data distribution decreases as you move away from the center. The resulting curve is symmetrical about the mean and forms a bell-shaped distribution.

**Q.11)** There is no one way to handle missing data, and there are multiple techniques present to handle it:

Some Techniques are:

1. **Mean Imputation:** Simply calculate the mean of the observed values for that variable for all individuals who are non-missing.
2. **Substitution:** Impute the value from a new individual who was not selected to be in the sample.
3. **Regression Imputation:** The predicted value obtained by regressing the missing variable on other variables.
4. **Hot deck imputation:** A randomly chosen value from an individual in the sample who has similar values on other variables.
5. **Cold deck imputation:** A systematically chosen value from an individual who has similar values on other variables.

**Q.12) A/B Testing** is a method of comparing two versions of a webpage or app against each other to determine which one performs better. A/B testing is essentially an experiment where two or more variants of a page are shown to users at random, and statistical analysis is used to determine which variation performs better for a given conversion goal.

**Q.13)** Since most research studies are interested in the relationship among variables, mean imputation is not a good solution.

**Q.14) Linear Regression** is a linear approach for modelling the relationship between a scalar response and one or more explanatory variables.

**Q.15) Various branches of Statistics are:**

- 1. Descriptive Statistics:** It is the part of statistics that deals with presenting the data we have.
- 2. Inferential Statistics:** It is the aspect that deals with making conclusions about the data.
- 3. Data Collection:** It is all about how the actual data is collected