Descriptive Statistics I

Unit 2: Statistical Methods
1. Understand the concept of frequency distributions and how they are used to organize data.
2. Apply different types of diagrams such as column diagram, step diagram, histogram, and ogive to represent data visually.
3. Identify and interpret frequency curves to understand the distribution of data.
4. Analyze the features of data including central tendency, dispersion, skewness, and kurtosis.
5. Apply descriptive tools like moments and quantiles to summarize and interpret data.

Unit 3: Univariate Data
1. Calculate and interpret measures of central tendency for both quantitative and qualitative data.
2. Calculate and interpret measures of dispersion for both quantitative and qualitative data.
3. Understand and calculate skewness and kurtosis for quantitative and qualitative (ordinal only) data.
4. Utilize Box Plots to visualize and interpret the spread of data.

Unit 4: Bivariate Data
1. Define bivariate data and understand how it differs from univariate data.
2. Create and interpret scatter plots to analyze the relationship between two variables.
3. Calculate and interpret simple correlation coefficients to measure the strength and direction of a relationship.
4. Recognize and avoid spurious correlations in data analysis.
5. Apply least squares and simple linear regression to model and predict relationships between variables.
6. Interpret the coefficient of determination to assess the goodness of fit for a regression model.