BCSE0487: Data Visualization

Objective: The objective of this course to introduce the all kind of graph and chart that might be used to analyze the different business moment decision to attain their objective and getting the growth in the business.

Credits: 3   **L-T-P-J:3-0-0-0**

Module No.	Content	Teaching Hours
I	1. Introduction to EDA 2. Data Analysis vs EDA 3. Understanding the Data 4. Univariate Analysis 5. Bivariate Analysis 6. Multi Collinearity 7. Missing Values Treatment 8. Outliers Treatment 9. Working on Imbalanced Dataset 10. Case Study	20

II	1. Introduction to Data Visualization Tools
	   a. Introduction to Data Visualization
	   b. Introduction to Matplotlib
	   c. Basic Plotting with Matplotlib
	2. Different types of Plots
	   a. Line Plots
	   b. Area Plots
	   c. Histograms
	   d. Bar Charts
	   e. Pie Charts
	   f. Box Charts
	   g. Scatter Plots
	3. Advanced Visualizations and Geospatial Data
	   a. Waffle Carts
	   b. Word Clouds
	   c. Seaborn and Regression Plots Map with Markers
	4. Creating Dashboards with Plotly and Dash
	   a. Dashboarding Overview
	   b. Introduction to Plotly
	   c. Introduction to Dash
	   d. Make interactive dashboards
	5. Case Study Project for Data Visualization - COVID19 Data Storytelling
		20

Text Books:

- Claus O. Wilke, Fundamentals of Data Visualization: A Primer on Making Informative and compelling Figures, Paperback.
- Andy Kirk, Data Visualization: A Handbook for Data Driven Design, Paperback.

Reference Books: Ken Black, Business Statistics: For Contemporary Decision Making.

Outcome: After completion of Lab, student will be able to:
- CO1: Apply the basic concepts of Data Visualization.
- CO2: List various business moment decisions.
- CO3: Apply the concept of data preprocessing.
- CO4: Differentiate Data types.
- CO5: Implement Data Preprocessing technique.