UNIT-1

1. Describe the importance of statistical learning in data science.
2. Differentiate supervised and unsupervised learning.
3. Assess the accuracy of the model in linear regression.
4. Develop Python program for calculating simple linear regression.
5. Define statistical learning. How do you estimate function f(x) using x?
6. Describe KNN regression? Compare linear regression with KNN
7. Develop Python program for calculating linear regression with KNN.
8. Explain different Descriptive statistics Measures
9. Differentiate regression and classification.
10. Illustrate the K-nearest neighbors classification with suitable example.
11. Develop Python program for calculating Multiple linear regression.
12. Summarize Simple linear regression
13. Summarize the procedure to measure quality of fit.
14. Summarize multiple linear regression

UNIT-2

1. Explain the features of Bayesian learning methods
2. What are Different Types of Machine Learning algorithms?
3. Write k-nearest neighbor learning algorithm and explain its operation with suitable example.
4. Explain in detail about bias-variance trade-off
5. Explain Feature extraction and Selection Methods
6. Explain the Difference Between Classification and Regression?
7. How to Tackle Overfitting and Underfitting in Machine Learning?
8. Explain about F1-Score, Precision, Recall.
9. What is ‘training Set’ and ‘test Set’ in a Machine Learning Model? How Much Data Will You Allocate for Your Training, Validation, and Test Sets?
10. What Is ‘naive’ in the Naive Bayes Classifier? Explain about Naive Bayes Classifier.
11. How Do You Handle Missing or Corrupted Data in a Dataset?
12. Explain about gradient descent machine learning
13. What is Bias and Variance in a Machine Learning Model?
14. Explain the Confusion Matrix with Respect to Machine Learning Algorithms.
15. When Will You Use Classification over Regression? Explain with neat example.
16. Explain the K Nearest Neighbor Algorithm.

UNIT-3

1. What is Matplotlib? How do you install Matplotlib for python? What are some of the features provided by Matplotlib?
2. What is the best way to generate histograms in Matplotlib with neat example?
3. How draw a horizontal bar chart with labels, legends and title in Matplotlib?
4. How draw a Scatter plot with labels, legends and title in Matplotlib?
5. Constructing Frequency Polygon Graph in Matplotlib.
6. Explain how to create and display a simple plot using matplotlib?
7. Explain about matplotlib quartiles with neat example.
8. What's the best way to draw multiple lines in a single figure with neat example?
9. How to Plot Histogram in Python using Matplotlib?
10. What is the simplest way to add text annotations and labels to plots in Python?