

UNIT-I:

1. What are the components of Data Science? Explain Role and responsibilities of Data Scientist? Explain Each? (10-Marks)
2. Explain Rules for Variable Declaration in R Programming? And write addition of two number in r by using variable? (10-Marks)
3. Which are the important steps of Data Cleaning? Explain each steps and give any real time example? (10-Marks)
4. What are the data structure in R Programming language? Explain Vector with example? (10-Marks)

UNIT-II:

1. What are scalars, vectors, matrices, and tensors? Explain each with example? (10-Marks)
2. How is missing data handled in statistics? Explain with any real time dataset example? (10-Marks)
3. What is population standard deviation and sample standard deviation? Give suitable example? (10-Marks)
4. What is the difference between inferential statistics and descriptive statistics? (10-Marks)

UNIT-III:

1. What are Bayesian Optimization Methods? Explain in details? (10-Marks)
2. How do you use the Convex Optimization Approach to Minimize Regret? (10-Marks)
3. What is Optimisation in Machine Learning? (10-Marks)
4. What is multivariate optimization in data science? Give any suitable example? (10-Marks)

UNIT-IV:

1. What is classification algorithm , Enlist all classification algorithm and explain any one with its application? (10-Marks)
2. What is Regression algorithm , Enlist all Regression algorithm and explain any one with its application? (10-Marks)
3. What is 'Naive' in a Naive Bayes? Explain in details. (10-Marks)
4. What do you mean by the Logistic Regression? Explain types of Logistic Regression? (10-Marks)

UNIT-V:

1. What is use of Pandas and Mention the different types of Data Structures in Pandas? (10-Marks)
2. Explain numpy, Pandas, Matplotlib, Seaborn with its application and give any one example of each? (10-Marks)
3. Why NumPy is used in Python? What does NumPy mean in Python? (10-Marks)
4. Explain Numpy Array and list its all functions and explain any 4 functions? (10-Marks)
5. what is matplotlib? which types of plot we visualize by using matplotlib? (10-Marks)

UNIT-VI:

1. What is the role of Machine learning in Data Science? Explain with real time example? (10-Marks)
2. What are the clustering algorithm? explain any one with example? (10-Marks)
3. what is Neural network? explain in detail with its diagram? (10-Marks)
4. What are the unsupervised learning algorithm? Explain any one with real time example? (10-Marks)