- What is the best way to reverse and sort a Python list?
- How can you find the length of a String in Python? Share an example.
- How to remove elements/items from a Dictionary?
- What do you understand by the term identifiers in Python?
- What is the importance of Data Science?
- What are Keywords in Python?
- What is concatenation?
- What will be the way to plot scatter plot using matplotlib?
- What are the uses of data sciences?
- What is machine learning?
- What is regression?
- How to reverse the list, Write the syntax?
- Syntax to get the top 5 rows in the pandas Dataframe.
- Mention the different types of Data Structures in Pandas?
- How can we calculate the standard deviation from the Series?
- What is the purpose of the "train-test split" in machine learning?.
- What is type conversion in Python?
- How will you convert a string to all lowercase, with an example?
- What is the best way to generate histograms in Matplotlib?
- What are the uses of data sciences.
- What is NumPy.
- What are Mutable and Immutable Data Types in Python?
- Difference between break and continue statement and explain them with an example code with output?
- Create a dataframe. With column name - skill and salary and with 4 rows of observations.
- Why is NumPy faster than Python list?
- What will be the way to plot scatter plot using matplotlib?
- Explain the use of linear regression algorithm in ML?
- Why is SVM best for classification?
- What is the purpose of the test set in machine learning?

LONG MARKS QUESTIONS

- Provide a definition of built-in functions in Python and explain their significance in programming. Give examples of three commonly used built-in functions, and describe their purposes.
- Define control flow statements in Python. Write a Python program that calculates the factorial of a given positive integer using a loop structure.

- Define Data mining. Explain data mining techniques.
- What are the general steps for predicting results using a Linear Regression model ?
- Discuss the different methods available in NumPy for creating and initializing arrays. Provide examples for each method.
- Write down the Key Skills that a data scientist must have.
- Write down two methods of each data type in python and explain with code examples.
- Write Python code using Matplotlib to create a line plot that represents the monthly sales trend over the year.
- Explain the role of the Pandas library in data manipulation. Provide an example of creating a DataFrame and performing a basic operation on it.
- What are supervised and unsupervised learning? Explain in detail.
- Explain linear and logistic regression with diagrams.
- What do you understand by the term clustering? Explain the steps involved in the K-means algorithm.
- What is a Random forest? Compare it with the decision tree.
- Define the term overfitting, underfitting and outliers.
- What is a confusion matrix? Differentiate accuracy, precision, and recall.
- Explain the use of numpy,pandas and matplotlib library.
- Advantages and disadvantages of python in brief.
- How Does Support Vector Machine (SVM) Algorithm Works In Machine Learning?
- Explain the purpose of a loop structure in a programming language. Describe the syntax and semantics of any two loop structures provided by Python.
- Explain different stages of data Science?
- What are the different types are operators in python? Explain the Arithmetic operator in detail with proper syntax.
- What are user-defined functions? Write a function for the addition of two numbers.
- Discuss Python's built-in data types. Differentiate between a list and a tuple, providing examples for each.
- What are supervised and unsupervised learning? Explain in detail.
- What are overfitting and underfitting?
- Write down the Key Skills that a data scientist must have.

a) Consider a given Series, Subject:

Python	75
Hadoop	70
C++	88
Java	76
SQL	68

- Write a program in Python Pandas to create this series.

- What is matplotlib? Compare pie charts, scatter-plot, and histograms.
- What is a confusion matrix? Differentiate accuracy, precision, and recall.
- Define Data mining? Explain data mining techniques.
- Define Precision and recall. Where and why do we use these terms?
- What is a Random forest? Compare it with decision tree.
- Define control flow statements in Python. Write a Python program that calculates the factorial of a given positive integer using a loop structure.
- What are the Various steps in the Data Science process? Explain data wrangling and data exploration.
- What do you understand by the term clustering. Step-by-step calculation of k-means algorithm .
- Why do we use a confusion matrix? Define precision and recall. Why are they essential evaluation metrics for classification models? Provide an example to illustrate their calculation.
- What are the benefits of using Python?
- What are the common built-in data types in Python ? Explain with examples.
- What are various methods to add and remove data from the list? Explain each.
- What advantages do NumPy arrays offer over Python lists? What are ways of creating 1D, 2D, and 3D arrays in NumPy?
- Explain how to create a series from dict in Pandas? How will you identify and deal with missing values in a dataframe ?
- What is Data Science, Explain the various roles of data scientists.
- What is a support vector machine? Define the role of Kernel.
- Define the term overfitting, underfitting and outliers.
- What are the differences between supervised and unsupervised learning?
- Explain the steps in making a decision tree.
- What do you understand by linear regression and logistic regression.
- Describe the different types of errors in Python. Explain how to deal with those errors with an example.
- Discuss Python's built-in data types. Differentiate between a list and a tuple, providing examples for each.
- Provide an overview of the applications of Data Science in the business world. Give examples of how Data Science can drive decision-making and insights.
- Explain the advantages and disadvantages of using Python.
- Elaborate on the concept of data wrangling in Data Science. Explain various steps of data wrangling.
- Define control flow statements in Python. Write a Python program that calculates the factorial of a given positive integer using a loop structure.
- Write a Python program that determines whether a given date is a valid date or not. Take user input for day, month, and year and validate the date.