Qno	Question	Marks	Section
1.	Define Data Science and explain the applications of data science in various sectors.	8	Section-I
2.	Define Data Wrangling. Explain its importance and various steps involved in it.	8	Section-I
3.	Write about the essential python libraries.	8	Section-I
4.	Write about the built in data structures used in python.	8	Section-I
5.	a) Explain about List comprehension with example? b) Explain about Dictionary comprehension with example?	4 4	Section-I
6.	What are Functions? Explain about Local and Global Variable?	8	Section-I
7.	Explain about importance of data, types of data and sources of data?	8	Section-I
8.	a) What are the different types of data quality issues in process of Data wrangling? b) Explain about Anonymous (lambda) Functions?	4 4	Section-I
9.	What is Numpy. What are its main areas of functionalities used for data analysis applications.	8	Section-II
10.	a) Write about numpy ndarray. b) What are the arithmetic operations performed using numpy arrays. Explain with examples.	4 4	Section-II
11.	Write about different array creation methods in numpy. Explain with examples.	8	Section-II
12.	a) Explain about the basic data structures used in pandas. b) Write the syntax for creating a Series with list, and a Data Frame with list and dictionary.	8	Section-II
13.	What is Pandas? Write about the essential functionalities in pandas?	8	Section-II
14.	Explain the following in detail using suitable examples: a) Re indexing b) Dropping entries from an axis. c) Indexing d) Selection e) Filtering	8	Section-II
15.	a) What is Data Frame in Pandas? Explain with example b) What is Series in Pandas? Explain with example.	4 4	Section-II
16.	a) What are Different ways of creating Data Frame? b) What is Python Pandas and what is it used for?	4 4	Section-II
17.	Explain About the significant features of Pandas Library?	8	Section-II
18.	a)How do you split a Data Frame according to a Boolean criterion? b)How can we convert Numpy array into a DataFrame?	4 4	Section-III
19.	a)How are iloc and loc different ?Give syntax and examples b)How to set index to Pandas Data Frame?	4 4	Section-III
20.	a) How to add a row to a Pandas Data Frame? b)how to add a column to a Pandas Data Frame?	4 4	Section-III
21.	Explain about web scraping with an example?	8	Section-IV

22.	Write about Interacting with web API's with an example.	8	Section-IV
23.	Write about function arguments used for reading csv/excel files.	8	Section-III
24.	Explain about Data cleaning and preparation?	8	Section-IV
25.	a) How do you handle the Missing data? b) Explain how do you filter out Missing Data?	4 4	Section-IV
26.	Explain about a) removing duplicates b) transforming data using a function or mapping	4 4	Section-IV
27.	a)Explain about replacing values b)Explain about renaming index	4 4	Section-IV
28.	Write about detecting and filtering outliers?	8	Section-IV
29.	Write about regular expression and write the code to retrieve pattern on email address?	8	Section-IV
30.	Explain about the different built -in string manipulation methods?	8	Section-IV
31.	Explain the different type of joins in pandas with syntax and examples	8	Section-V
32.	a) Explain Group-by function in Pandas? b) What is the use of Pandas Aggregate Function?	4 4	Section-V
33.	Explain with example the use of Merge and Concat function?	8	Section-V
34.	Explain in detail about finding and treating Null values?	8	Section-V
35.	a) What is the use of Pandas Data Frame aggregate () function and explain its syntax and parameters? b) Explain how Groupby method is used on different columns?	4 4	Section-V
36.	Explain about the Exploratory data Analysis and methods used in EDA?	8	Section-V
37.	What is data aggregation? What are the different aggregation functions? Explain with examples	8	Section-V
38.	Explain about combining and merging Datasets? Write about different join type?	8	Section-V
39.	Explain about Concatenation along Axis? Explain with example about concat function arguments?	8	Section-V
40.	What is Hierarchical Indexing? Give examples. Explain about indexing with data frame's columns?	8	Section-V