

1. All Questions are compulsory.
2. All Questions carry equal marks.

Q.1 Answer the following. (Attempt any three)

[15marks]

- a. Explain comparison of Python with C and Java.
- b. Explain continue statement in Python with an example.
- c. Write a program to check whether the number is even or odd.
- d. Write a program to display table of 4.
- e. Explain data types in python.
- f. Write a program to show return statement in Python.

Q.2 Answer the following. (Attempt any three)

[15marks]

- a. Define Recursive Functions. Explain with an example.
- b. Explain Lambda function with example.
- c. Explain Relational operators in Python.
- d. Write a program to show indexing and slicing of Strings.
- e. Explain attributes of an Array.
- f. Explain upper(), len(), format(), index(), replace().

Q.3 Answer the following. (Attempt any three)

[15marks]

- a. What are Regular Expressions?
- b. Write a program to show current date and time.
- c. Explain any 5 operations on dictionary.
- d. Explain Quantifiers in Regular Expressions.
- e. Write a program to show how to stop program execution temporarily.
- f. What is Dictionary? Explain with example.

Q.4 Answer the following. (Attempt any three)

[15marks]

- a. Explain any 5 IPython shell commands.
- b. Explain in and out objects in IPython.
- c. Explain any 5 debugging commands.
- d. Write a program to show universal functions in numpy.
- e. Write a program to show min, max, slicing of array using numpy.
- f. Explain numpy structured arrays.

Q.5 Answer the following. (Attempt any three)

[15marks]

- a. Write a program to join datasets using pandas.
- b. Write a program to find missing values using pandas.
- c. Explain any 5 aggregation functions in pandas.
- d. What are simple line plots.

- e. Explain histogram using matplotlib.
- f. How to use simple scatter plots using matplotlib.

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