

Roll No.

Total No. of Pages : 02

Total No. of Questions : 07

B.Sc. (Artificial Intelligence & Machine Learning) (Sem.-4)

**ADVANCE PYTHON PROGRAMMING**

Subject Code : UGCA 1983

M.Code : 91712

Date of Examination : 13-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

**SECTION-A**

**1. Write briefly :**

- a) Which method is used to create Data Frame in Python? Explain with the help of an example.
- b) Write a statement to display first 7 rows from DataFrame "DF".
- c) Explain the importance of database connection.
- d) What is the use of Seaborn library.
- e) Write two ways of indexing DataFrame.
- f) What is categorical data?
- g) Create a 1D array of numbers from 0 to 9 using Numpy.
- h) How to extract all numbers between a given range from a numpy array.
- i) How to sort an array in Numpy? Explain with the help of an example.
- j) How do you print content of array in reverse order? Explain also illustrate with the help of an example.

## SECTION-B

2. Give an example of creating dataframe from two series.
3. What is data aggregation? List and explain functions used in aggregation with an example.
4. Consider the code given below and answer the following questions:

```
Ld = [{'a': 10, 'b' : 20}, {'a': 5, 'b' : 10, 'c': 20}]
```

```
DF = pd.DataFrame(Ld)
```

```
print(DF)
```

- a. How many rows will be there in dataframe “DF”?
  - b. How many columns will be there in dataframe “DF”?
  - c. How many NaN will be there in dataframe “DF”?
5. How to compute statistical functions on numpy array? Explain in detail.
  6. How to plot histogram using Matplotlib? Explain in detail along with an example.
  7. How is indexing and slicing done in Python? Explain with the help of suitable examples.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**