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B.Sc. (Data Science) (NEP) First Year Semester-I
BSCDS011 : Data Structure and Algorithm Using Python

P. Pages : 2
Time : Three Hours



GUG/W/24/15255

Max. Marks : 80

1. a) Explain types of variable and types of methods. 8
b) What do you mean by "Object Oriented Programming" (OOP's)? 8

OR

- c) Explain classes and objects with an example. 8
d) What is inheritance? Explain its type. 8

2. a) Explain the terms. 8
i) Set ii) Tuple
iii) List iv) Dictionary

- b) Explain Data Structure with its types in detail. 8

OR

- c) What is python specific Data structure explain in details. 8

- d) Explain the terms 8
i) String ii) Slicing

3. a) Explain all operations of array with example in detail. 8

- b) Explain sorting in detail with its types. 8

OR

- c) What is array and explain its types in brief. 8

- d) Explain linear search and binary search in detail. Differentiate between linear search and binary Search. 8

4. a) Explain all Applications of Queue in detail. 8

- b) Explain Stack and Queue in brief. 8

OR