GUJARAT TECHNOLOGICAL UNIVERSITY

POST GRADUATE DIPLOMA IN BIOINFORMATICS SEMESTER - 1 WINTER 2021 EXAMINATION

Subject Code:1310203   **Date:11 Mar 2022**

Subject Name:Python for Bioinformatics

Time:10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Draw neat and clean diagrams as required**

Q.1   **Write a note on following**   **(Marks-10X2=20)**

1. String datatype and its 3 methods.
2. Functions in Python.
3. Difference between tuple and set datatypes.
4. File Handling in Python.
5. Why python is the preferred language.
6. Regex package and its usage.
7. Import module in python.
8. What is Exception handling and how it is handled in python?
9. What is a Variable, list some of its properties?
10. List Math operators in python as per precedence.

Q.2   **Answer the following (Any 2 out of 3)**   **(Marks-2X10=20)**

1. What is OOPs Concept, Explain Abstraction, Encapsulation, Inheritance and Polymorphism characteristics.
2. List all Comparison operators and Boolean operators used in python with suitable examples.
3. Explain flow charts along with all components and application of flow charts in programming.

Q.3   **Answer the following (Any 6 out of 8)**   **(Marks-6X5=30)**

1. Differentiate between Machine level language and high-level language, write examples of both the types of programming language.
2. Explain File reading and writing with suitable python example.
3. List all flow controls with respective statements and expressions
4. What is user define function? Describe the method to pass parameters in user-defined functions.
5. Difference between string and list datatypes.
6. Write a program to concatenate and display two different exons as a single sequence.
7. Explain the methods of list data type in Python for the following operations with suitable code for each: (a) Adding values to a list (b)Removing values from a list (c)Finding a value in a list (d) Sorting the values in a list.
8. Discuss the following Dictionary methods in Python with examples.
   (i) get() (b) items() (c) keys() (d) values()

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