

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

M.Tech-1 Semester (BT)

COURSE CODE(CREDITS): 13M11BT112 (3)

MAX. MARKS: 15

COURSE NAME: Advanced Bioinformatics

COURSE INSTRUCTORS: Dr. Raj Kumar

MAX. TIME: 1 Hour

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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Q1. Provide a concise elucidation of how the central dogma of molecular biology functions as the primary reservoir of data in the field of bioinformatics. [2]

Q2. Write a small description of the following R-functions with an example for each function. [1 × 3]

- a) rep()
- b) dim()
- c) length()

Q3. Write a R-program to: [2 × 3]

- a) Create a vector of a specified type and length. Create vector of numeric, complex, logical and character types of length 4.
- b) Add two vectors of integers type and length 3.
- c) Sort a Vector in ascending and descending order.

Q4. Write the output of the given R-code: [2]

```
sequence <-matrix(c("apple", "banana", "cherry", "orange", "grape", "pineapple"), nrow = 3, ncol = 2)
print(sequence)
sequence [c(1,2),]
```

Q5. Give the general expression to create an array in R-programming. [2]