

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- MAY-2023

COURSE CODE(CREDITS): 18B11BI414(3)

MAX. MARKS: 35

COURSE NAME: Programming Languages for Bioinformatics

COURSE INSTRUCTORS: Dr. Shikha Mittal

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Write a program to transcribe DNA into RNA using Perl scripting language. [4 marks] (CO-1)

Q2. How the information can be inserted into the hashes in Perl? [2 marks] (CO-2)

Q3. How many types of primary data structures are there? What do they denote? [3 marks] (CO-2 & CO-3)

Q4. What are the common built-in data types in Python? What is the difference between list and tuples in Python? [4 marks] (CO-4)

Q5. What will be the output of these programs – [4 marks] (CO-3 & CO-5)

a.

```
#!/usr/bin/perl
@list = (2,"Scaler", 0, "by", "InterviewBit", 26 );
@hasdigit = grep ( /\d/, @list );
print "@hasdigit\n";
```

b.

```
#!/usr/bin/perl
@list = (2,"ScalerEdge", 0, "by", "Scaler", 26 );
@haschar = grep ( /^S/, @list );
print "@haschar\n";
```

Q6. Answer the following – [6 marks] (CO-3, CO-4 & CO-5)

- Mutable and immutable data types in python
- Write syntax to add two arrays together in perl?
- How do I replace every TAB character in a file with a comma?

Q7. Explain subroutines in perl with example. How to get private values inside a subroutine or block? [3 marks] (CO-2)

Q8. Explain file handling in perl. [2 marks] (CO-1 & CO-3)

Q9. In Perl, how do you add or remove elements from an array? [4 marks] (CO-3)

Q10. Explain typecasting and slicing of strings in python. [3 marks] (CO-6)