JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-IV Semester (BT/BI)

COURSE CODE (CREDITS): 25B11BT411(3)   **MAX. MARKS: 15**

COURSE NAME: Python for Bioinformatics

COURSE INSTRUCTOR: Dr. Shikha Mittal   **MAX. TIME: 1 Hour**

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

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

(c) Use of calculators is not allowed

Q.No	Question	CO	Marks
Q1	a. Write a program to count A, T, G, C in a DNA sequence. b. Write a program to add two numbers entered by the user.	III	(4)

Q2	Predict the output of the following –
	 a. `dna = "ATGC"`
	 `comp = ""`
	 `for base in dna:`
	 `if base == "A":`
	 `comp += "T"`
	 `elif base == "T":`
	 `comp += "A"`
	 `elif base == "G":`
	 `comp += "C"`
	 `elif base == "C":`
	 `comp += "G"`
	 `print(comp)`
	
	 b. `list1 = [10, 20, 30]`
	 `list1.append(40)`
	 `print(list1)`
	
	 c. `s = "bioinformatics"`
	 `print(len(s))`
		II, III	(3)

Q3	a. Differentiate between list, tuple and sets b. Usage of Input and print function with example c. Typecasting in python	I	(6)
Q4	Explain data types and operators in python with examples.	I	(2)