JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
T-1 EXAMINATION, Feb 2020
B. Tech. (Biotechnology) IV Semester

COURSE CODE: 18B11BT413   **MAX MARKS: 15**
COURSE NAME: Introduction to Bioinformatics   **MAX. TIME: 1 Hr.**

Note: All questions are compulsory. Attempt all questions of a particular section at one place.
Answer each question to the point.

1. Answer the following: (CO1, CO2)

    a. What are the major databases? (1.5 marks)

    b. What do you understand by primary and secondary database? (1.5 marks)

    c. Name any two nucleotide databases? (1.5 marks)

    d. What is BLAST? Where do you find its applications? (1.5 marks)

2. What are substitution matrices? What do the scores in the matrices represent? Discuss BLOSUM matrices. (3 marks) (CO2)

3. In BLOSUM62 matrix, a Tryptophan-Tryptophan substitution has a score of 11 while Leucine to Aspartic acid substitution has a score of -4. Interpret and discuss. (3 marks) (CO2)

4. What is a dot matrix plot? Discuss. How would you detect sequence inversions using a dot matrix plot? (3 marks) (CO2)