Roll Number:

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B.Tech-VII Semester [BT (BI Minor)]

COURSE CODE (CREDITS): 18B1WBI731 (3) MAX. MARKS: 15

COURSE NAME: Computational Systems Biology

COURSE INSTRUCTORS: Dr. Tiratha Raj Singh MAX. TIME: 1 Hour

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

Q1. Discuss the importantce of computational systems biology while analyzing biological networks. How this analysis could help in deciphering novel piece of information?

[CO:1-3; Marks: 3]

Q.2. Evaluate the importance of three crucial parameters used for TFBS analysis. Discuss the basis of these parameters while analysisng transcription factors. [CO:2, 3; Marks: 3]

Q.3. Write a description based evaluation of reverse engineering process for the annotation of biological networks.

[CO: 1,2; Marks: 2]

Q.4. Elaborate following terms *w.r.t.* biological systems:

(a) Top down and bottom up approaches (b) Path from genotype to phenotype

(c) Logical direction from Gene to Stimulon (d) System and its efficient handling

[CO: 1-3; Marks: 1*4=4]

Q.5. Realize how "GAL Regulon in Yeast" is a classical example of regulatory network systems to demonstrate a robust and functional biological model based system. [CO: 1, 2; Marks: 3]