

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

MSc-IV Semester (Biotechnology)

COURSE CODE: 20MSWBT433

MAX. MARKS: 15

COURSE NAME: Computational Systems Biology

COURSE CREDITS: 02

MAX. TIME: 1 Hour

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*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Marks are indicated against each question in square brackets.*

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Q1. Assess the paradigm shift in the essential essence of computational biology to computational systems biology. Also evaluate the drug process failures during last century and how system level approaches helped to overcome these obstacles. [3]

Q.2. Analyze the four point model of computational systems biology with a special relevance to enabling of technologies at computational and biology fronts. [3]

Q.3. Justify the comparison of a living system and non-living system through various parameters. Demonstrate crucial points to deal with a system in a fluent way. [3]

Q.4. Devise the process of reverse engineering with an interpretation towards achieving robustness, if applied on a system. Realize it through omics cascade. [3]

Q.5. Recognize the technical points of discussion for the key features of biological networks. If a task is given to you implement these features on biomolecular networks then on which biomolecular networks you apply all these features and how? [3]