

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2023

B.Tech-VII Semester (BIBT)

COURSE CODE (CREDITS): 18B1WBI731(3)

MAX. MARKS: 35

COURSE NAME: Computational Systems Biology

COURSE INSTRUCTORS: Dr. Raj Kumar

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems

- Q1. Elucidate the role of XML in Systems Biology applications and examine whether XML meets the criteria to be considered a programming language? (CO-3) [2]
- Q2. Outline the steps involved in crafting an XML declaration? (CO-3) [2]
- Q3. Elaborate on the role served by Document Type Definitions (DTDs) in XML documents? (CO-3) [2]
- Q4. Provide insights into the distinctions between an XML element and an XML attribute? (CO-3) [3]
- Q5. Create a simple XML document representing information about a book, including title, author, and publication year. (CO-4) [5]
- Q6. Provide a concise overview of how models are defined in SBML? (CO-5) [3]
- Q7. Give a brief account of various types of protein-protein interactions, and also enumerate some methods employed for identifying PPIs? (CO-4) [3]
- Q8. Describe the network drawing algorithm employed by the STRING database? (CO-4) [3]
- Q9. Provide a short summary of tasks involved in curating BioCyc databases? (CO-5) [3]
- Q10. Provide concise summaries for the following: (CO-5) [3×3]
- a) Escher
 - b) CellML
 - c) HPRD