

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

B.Tech-I Semester (CSE/IT/ECE/CE)

COURSE CODE(CREDITS): 20B11BI311(4)

MAX. MARKS: 15

COURSE NAME: Bioinformatics Data Management

COURSE INSTRUCTORS: Dr. Shikha Mittal

MAX. TIME: 1 Hour

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. List 4 significant differences between a file processing system and DBMS. (CO-1) [2]

Q2. Consider the relational database of Figure given below: (CO-1) [4.5]
employee (person name, street, city)
works (person name, company name, salary)
company (company name, city)

Give an expression in the relational algebra to express each of the following queries:

- A. Find the names of all employees who work for "First Bank Corporation".
- B. Find the names and cities of residence of all employees who work for "First Bank Corporation".
- C. Find the names, street address, and cities of residence of all employees who work for "First Bank Corporation" and earn more than \$10,000

Q3. Briefly explain ER model and notations used for entity, relationship, attributes, and primary key. (CO-2) [3]

Q4. Explain different types of keys in DBMS. (CO-2) [2.5]

Q5. Explain the following: (CO-2) [3]

- A. Difference b/w Physical Data Independence and Logical Data Independence
- B. DDL and DML with examples
- C. Multi valued and composite attributes