JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2023

B.Tech-III Semester (BI)

COURSE CODE (CREDITS): 20B11BI311   **MAX. MARKS: 25**

COURSE NAME: Bioinformatics Data Management

COURSE INSTRUCTORS: Dr. Shikha Mittal   **MAX. TIME: 1 Hour 30 Minutes**

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. Normalize the give database upto 3NF – [CO-4] **(4 marks)**
Employee (empid, empname, phone, skill, salary, deptno, deptname, jobno, jobtitle)

Q2. Write syntax for Create, Alter, Drop and Rename table commands. [CO-2 & CO-3] **(4 marks)**

Q3. Explain briefly insertion, updation and deletion anomalies in database. [CO-3 & CO-4] **(3 marks)**

Q4. Write SQL query for following consider table – [CO-2 & CO-3] **(4 marks)**
EMP (empno, deptno, ename, salary, Designation, joiningdate, DOB, city)
   i)   Display names of employees whose experience is more than 10 years
   ii)   Display age of employees
   iii)   Display average salary of all employee
   iv)   Display name of employee who earned highest salary

Q5. Explain generalization and specialization with examples. [CO-3] **(2 marks)**

Q6. To design a nucleotide sequence database, several types of constraints are needed. Explain the constraints that will be required for the database design. [CO-4 & CO-5] **(4 marks)**

Q7. Briefly explain – [CO-1, CO-2 & CO-4] **(4 marks)**
(A) Pattern matching
(B) Functional and transitive dependency