

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-III Semester (BT/BI)

COURSE CODE (CREDITS): 25B11BI312(3)

MAX. MARKS: 15

COURSE NAME: Bioinformatics Data Management

COURSE INSTRUCTOR: Dr. Shikha Mittal

MAX. TIME: 1 Hour

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks																												
Q1	A university stores student information in separate Excel files maintained by different departments. Two departments modify the same student's phone number differently. What DBMS problem is illustrated here? Explain how a DBMS can reduce this problem.	[I]	(3)																												
Q2	Consider an entity EMPLOYEE with attributes: Employee_ID, Name, Address, Phone An employee can have multiple phone numbers. Should Phone be represented as a simple or multivalued attribute? Explain.	[II]	(2)																												
Q3	a. What is the difference between a super key and a candidate key? Give an example. b. Mapping cardinalities c. DDL and DML	[I, II]	(6)																												
Q4	EMPLOYEE <table><tr><th>emp_id</th><th>name</th><th>dept</th><th>salary</th></tr><tr><td>101</td><td>Asha</td><td>HR</td><td>45000</td></tr><tr><td>102</td><td>Ravi</td><td>IT</td><td>60000</td></tr><tr><td>103</td><td>Neha</td><td>IT</td><td>75000</td></tr><tr><td>104</td><td>Aman</td><td>HR</td><td>50000</td></tr><tr><td>105</td><td>Riya</td><td>Sales</td><td>55000</td></tr><tr><td>106</td><td>Karan</td><td>IT</td><td>60000</td></tr></table> a. Write a query to find employees whose salary is greater than the average salary of all employees. b. Write a query to find employees whose names starts with A	emp_id	name	dept	salary	101	Asha	HR	45000	102	Ravi	IT	60000	103	Neha	IT	75000	104	Aman	HR	50000	105	Riya	Sales	55000	106	Karan	IT	60000	[II]	(4)
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