

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- 2026

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

COURSE CODE (CREDITS): (25B11CI313):

MAX. MARKS: 15

COURSE NAME: Database Management System

COURSE INSTRUCTOR: Dr. Amit, Dr. Amol, Dr.Rohit, Mr. Gaurav, Ms. Nitika 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	Consider the given figure of ER diagram of Airline Reservation and extract the schema with possible constraints of each relation.	2	3
Q2	Provide the structure of 3-tier architecture and the concept of data independence with an example of each.	1	3
Q3	Differentiate the followings terms of ER Diagram: - Multi-valued and Derived Attributes - Referential and Participation Constraints - Recursive Relationship	2	3
Q4	Suppose you are given an ER diagram of a company containing multiple entities and relationships, including identifying relationships with specified cardinalities. Explain the following concepts with respect to the given ER diagram: Weak entity and composite key.	2	3
Q5	Consider the following schema, in which Sup_SSN is taking reference from SSN and D_Number is taking reference from the dept table which is not shown here. Answer the followings: EMP: (SSN, bdate, name, address, salary, sex, Sup_SSN, D_Number) - If we delete an employee in the EMP table then what kind of violations may encounter and how we can handle it. - Apply a constraint in which the salary is not less than 50K and not more than 100K.	1	2 1