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MID TERM EXAMINATIONS – November 2024

Programme	: B.Tech.	Semester	: Interim Semester 2024-25
Course Title	: Database Management Systems	Course Code	: CSE3001
Date/Session	: 7 Nov 2024/Session I	Slot	: A14+D11+D12
Time	: 1 ½ hours	Max. Marks	: 50

Answer all the Questions

Q.No.	Sub. Sec.	Question Description	Marks
1	(a)	Given an entity-relationship (ER) diagram, identify weak entity sets and explain the concept of total and partial participation. How would weak entity sets be implemented in a relational schema?	10
2	(a)	What is data independence in a database system? Discuss the difference between logical data independence and physical data independence, providing examples.	10
3	(a)	Explain the structure of relational databases. What is a domain in the context of a relational database, and how is it used in defining relations?	10
4	(a)	Using the concept of multi-valued dependencies, explain the need for Fourth Normal Form (4NF). How does 4NF resolve issues related to multi-valued dependencies in relational schemas?	10
5	(a)	Describe the difference between Data Manipulation Language (DML) and Transaction Control Language (TCL) in SQL. Explain the importance of TCL commands like COMMIT, ROLLBACK, and SAVEPOINT in ensuring data integrity during transactions.	10