

20IT4304 Database Management Systems
Assignment II questions from Unit III

S.No	Question	CO Mapping	BTL
1	a. Design an ER diagram for a BANK database schema b. Discuss the role of a high-level data model in the database design process	CO1	Apply
2	a. What is an entity type? What is an entity set? Give example each. Explain the differences among an entity, an entity type, and an entity set b. Develop an ER diagram for a UNIVERSITY database schema	CO1	Understand
3	a. Explain in detail 1 st , 2 nd and 3 rd Normal Forms with examples. b. Briefly explain the properties of Decomposition.	CO1	Remember
4	a. Discuss insertion, deletion, and modification anomalies. Why are they considered bad? Illustrate with examples b. Why should NULLs in a relation be avoided as much as possible? Discuss the problem of spurious tuples and how we may prevent it.	CO3	Analyze
5	Define Boyce-Codd normal form. How does it differ from 3NF? Why is it considered a stronger form of 3NF?	CO3	Understand
6	a. Consider the following universal relation. R={A, B, C, D, E, F, G, H, I, J} and the set of functional dependencies. F = { {A,B}->C, A-> {D, E}, B->F, F->{G, H}, D->{I, J} }. What is the key for R? Decompose R into 2NF and 3NF. b. Define fourth normal form. When is it violated? Why is it useful? 7M	CO3	Apply
7	a. Illustrate Join operations in relational algebra with example each. b. Demonstrate Division operation in relational algebra with an example.	CO2	Apply