



R17

Code No: 843AA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

MCA III Semester Examinations, February - 2021

DATABASE MANAGEMENT SYSTEMS

Time: 2 hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) Discuss the Entity-Relationship Model. Explain with suitable examples.
b) Compare and contrast the DDL and DML. [8+7]
2. Explain the following:
a) Null values
b) Outer joins
c) Triggers [5+5+5]
- 3.a) How do you develop Security and authorization with SQL? Explain.
b) Write a short note on logical connectivity. [7+8]
4. Describe the set operations of relational algebra, including union (U), set difference (-) and cross-product (X). For each, what can you say about the cardinality of their input and output tables? [15]
5. Briefly explain the properties of decompositions in detail. [15]
- 6.a) Define transaction. Explain the state diagram of a transaction in detail.
b) What is serializability? Explain. [7+8]
7. Discuss two-phase lock based protocol and time-stamped protocol and compare them with suitable examples. [15]
- 8.a) How does a B+ tree index handle the search, insert and delete?
b) Explain the primary indexing and secondary indexing. [7+8]

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