

Code No: 823AC

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA III Semester Examinations, March/April - 2022****DATA BASE MANAGEMENT SYSTEMS****Time: 3 Hours****Max.Marks:75**

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

- - -

- 1.a) What is meant by ER model? Explain how an ER diagram can be converted into relations.
- b) Explain about the selection and projections operations in the relational algebra with suitable example. [7+8]
- 2.a) Explain the difference between External, Internal and Conceptual schemas. Explain how these schemas are related to the concepts of logical and physical data independence.
- b) Explain the responsibilities of DBA. [7+8]
- 3.a) Explain SQL, Nested queries and correlated nested queries.
- b) What are aggregate operators in SQL? Explain. [7+8]
- 4.a) What is Functional Dependency? Explain 3NF with an example.
- b) Explain Lossless join decomposition. [7+8]
- 5.a) Explain in detail about ACID properties of a transaction.
- b) Explain about Concurrent execution of transactions. [8+7]
- 6.a) Define 2NF. Illustrate with an example.
- b) Contrast ARIES with Shadow-page based recovery schemes. [7+8]
- 7.a) Give a comparison of three file organizations. Briefly discuss about RAID.
- b) Distinguish among Cluster, Primary, and Secondary indexes. [7+8]
- 8.a) Distinguish various File Organization Techniques.
- b) Explain briefly about ISAM. (Indexed Sequential Access Methods). [7+8]

--ooOoo--