

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER MCA DEGREE EXAMINATION, DECEMBER 2017

Course Code: RLMCA205

Course Name: DATABASE MANAGEMENT SYSTEMS

Max. Marks: 60

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

		Marks
1	How is data abstraction possible in a data base system?	(3)
2	What is the relationship between super key, candidate key and primary key ?	(3)
3	How can we test for empty relations using SQL?	(3)
4	Explain the issues associated with using an insert statement with view	(3)
5	Discuss insertion, deletion, and modification anomalies with examples	(3)
6	What is multivalued dependency? When does it arise?	(3)
7	Discuss the ACID properties of a Transaction	(3)
8	What is a timestamp? How does system generate timestamp?	(3)

PART B

Answer six questions, one full question from each module and carries 6 marks.

Module I

- 9 Explain in detail the role of E-R diagram in expressing the overall logical structure of a data base graphically. (6)

OR

- 10 a) Describe the role played by Data Base Administrator. (3)
 b) What do you mean by Specialization? How is it classified? (3)

Module II

- 11 a) Discuss entity integrity and referential integrity constraints? Why each is considered important? (3)
 b) Define the terms Domain, Tuple, Relation schema, Relation Data Base Schema. (3)

OR

- 12 Explain in detail about various set operations in Relational Algebra. Also explain the pre-requisite conditions for performing some of these operations. (6)

Module III

- 13 Explain in detail about various constructs used in association with 'where' clause in nested sub queries. (6)

OR

- 14 a) Differentiate between Left Outer Join, Right Outer Join and Full Outer Join with suitable examples. (3)
 b) Discuss the various constructs used for Procedures or Functions in SQL. (3)

Module IV

- 15 a) What is a functional dependency? What are the possible sources of the information that defines the functional dependencies that hold among the attributes of a relation schema? (3)
- b) Differentiate between Boyce- Codd Normal Form and 3NF. (3)

OR

- 16 Define first, second, and third normal forms when only primary keys are considered. How do the general definitions of 2NF and 3NF, which consider all keys of a relation, differ from those that consider only primary keys? (6)

Module V

- 17 a) Discuss the need of concurrency control with informal examples. (3)
- b) Compare between Binary locks and Read/Write locks. (3)

OR

- 18 Discuss the Problems of dead lock and starvation and the different approaches to deal with the problem. (6)

Module VI

- 19 Explain in detail about frequent pattern tree algorithm. (6)

OR

- 20 Discuss in detail the data modelling used for data ware house. (6)
