Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER MCA DEGREE EXAMINATION, DECEMBER 2018

Course Code: RLMCA205

Course Name: DATABASE MANAGEMENT SYSTEMS

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions, each carries3 marks. Marks

1	With the help of a diagram explain the different levels of data abstraction?	(3)
2	What is Theta join operation. Define natural join operation giving an example.	(3)
3	Distinguish between HAVING and WHERE clause in SQL with example?	(3)
4	Write down the general form of schema definition in SQL? Give an example.	(3)
5	Define BCNF? Why is it rarely used than 3NF?	(3)
6	Which are the main axioms of functional dependencies?	(3)
7	What is starvation in concurrent transaction execution?	(3)
8	Describe the importance of timestamps in concurrency control? How timestamps are created?	(3)

PART B

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

Module I

9	Write briefly on any six advantages of database approach over conventional file based approach.	(6)

OR

10	How specialization differs from generalization? Explain with the help of an E-R diagram?	(6)

Module II

11	What is the need for *outer join* operation in relational algebra. Explain various outer join operations.	(6)

OR

12	Write on any six fundamental operations in relational algebra, giving examples.	(6)

Module III

13 List and explain the various components of SQL language? (6)

OR

14 Illustrate Union, Intersection and Difference operations in SQL. How are they done with nested subquery. Give examples. (6)

Module IV

15 Consider the schema R = (A, B, C, D, E) together with the functional dependencies: (6)

A -> C

A, B -> D

C, D -> E

Suppose we decompose R into R1 = (A, B, C, D) and R2 = (A, D, E) Prove that this decomposition is a losslessjoin decomposition.

OR

16 Consider the following table *staff(name, dept, dept_loc*). Whether the above table is in 3NF? If not, state all anomalies of it and change to 3NF? (6)

name	**dept**	**dept_loc**
smith	402	100
jones	401	200
turner	400	200
king	402	100
olson	401	200

Module V

17 What is conflict serializability? Explain how to determine whether a schedule is conflict serializable or not. (6)

OR

18 Write on various possible states of transactions and ACID properties? (6)

Module VI

19 "Frequent Pattern Tree Algorithm uses association rules".Justify the statement? (6)

OR

20 Distinguish between data mining and data warehousing. (6)

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