Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER REGULAR AND SECOND SEMESTER SECOND YEAR DIRECT
MCA DEGREE EXAMINATION(R&S), MAY 2019
Course Code: RLMCA266
Course Name: ADVANCED DATABASE SYSTEMS

Max. Marks: 60   Duration: 3 Hours

PART A
Answer all questions, each carries 3 marks.   Marks

1	Explain any 2 technique to improve speed of access to blocks.	(3)
2	What is B^+ tree? Explain advantages of B^+ trees over Indexed Sequential Files.	(3)
3	What is the cost estimate when the Selection condition used is Linear Search?	(3)
4	Explain Self-Referential attribute with example.	(3)
5	What are the types of distributed database? Explain.	(3)
6	What is concurrency control in Distributed lock manager and mention the variants.	(3)
7	Write note on Cassandra consistency?	(3)
8	What is Collection and Document in Mongo DB? Compare with RDBMS.	(3)

PART B
Answer any one question from each module. Each question carries 6 marks.

Module I

9	Explain the various RAID levels with appropriate diagrams.	(6)

OR

10	Explain in detail various organization of files in records.	(6)

Module II

11	Perform the following Queries on B^+ trees.	(6)

    a) Identify record with search key value V.

    b) Handle records with duplicate search keys.

OR

12	Explain Dense and Sparse index with example.	(6)

Module III

13   What are the factors that contribute to the Query cost. Explain the algorithm for   (6)
      conjunctive selection by intersection of identifiers.

OR

14   Explain External Sorting Merge Algorithm.   (6)

Module IV

15   Explain Object Oriented Paradigm.   (6)

OR

16   Draw the ER diagram and their corresponding OO relationships for college   (6)
      admission database

Module V

17   Explain Distributed Database Architecture Models.   (6)

OR

18   Explain 2PC protocol with handling Failures   (6)

Module VI

19   Explain the concept of CAP theorem in Distributed Database Design.   (6)

OR

20   What is the purpose of Mongo DB? Explain the commands to create a database   (6)
      and to create collection with examples.

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