

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular & Supplementary **Summer Examination – 2024**

Course: B. Tech. Branch : Artificial Intelligence and Data Science Semester : IV

Subject Code & Name: BTAIC402 Database Management System

Max Marks: 60

Date: 14/06/2024

Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. Use of non-programmable scientific calculators is allowed.
3. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

Q.1 Solve Any Two of the following.

- A) Define Data, Big data, Database and DBMS? What is the purpose of DBMS Understand 6
- B) What do you mean by Three Schema Architecture and Data Independence Understand 6
- C) Explain important characteristics of relational & non-relational database systems with example of each Understand 6

Q.2 Solve Any Two of the following.

- A) Explain The different types of Keys used in RDBMS with example Understand 6
- B) Draw ER diagrams for College Database. Apply 6
- C) Explain how SQL Commands are classified Apply 6

Q.3 Solve Any Two of the following.

- A) What to you mean by Distributed Data System and Explain it's need and advantages? Understand 6
- B) What are the different types of NoSQL Data Stores Understand 6
- C) Explain the CAP theorem of distributed databases. Understand 6

Q.4 Solve Any Two of the following.

- A) Explain about Graph Database in detail? Remember 6
- B) Consider the following table and answer the Cassandra queries (CQL). Apply 6

Teacher:

Tid	TName	TDepartment	Salary	Subjects-Teaching
-----	-------	-------------	--------	-------------------

- i) Creating keyspace "College" with replication factor 3.
 - ii) Creating table "Teacher" under College keyspace. Use list collection to store values of "Subjects-Teaching" column.
 - iii) Inserting one record in Teacher table.
 - iv) Updating Salary of Tid= 35000 to 40000.
 - v) Deleting all Teachers from "AIML" department.
 - vi) Adding City Column to Teacher table.
- C) What are the important features of Apache Cassandra and Explain in brief about CQL Remember 6

Q. 5 Solve Any Two of the following.

- | | | |
|--|----------|---|
| A) Explain Use cases of different databases in brief? | Apply | 6 |
| B) Define following terminologies of Graph database with example:
Relationship, directed graph, undirected graph, weighted graph, unweighted graph, degree of node. | Remember | 6 |
| C) What is PostgreSQL explain in detail | Remember | 6 |

***** End *****

49.248.161.250 2024-06-14 07:36:05 UTC