

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular/Supplementary Summer Examination – 2023

Course: B. Tech. Branch : CSE(AI&DS)/AI&DS Semester : IV

Subject Code & Name: BTAIC402 Database Management System

Max Marks: 60 Date: 15-7-2023 Duration: 3 Hr.

Instructions to the Students:

- 1. All the questions are compulsory.*
- 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.*
- 3. Use of non-programmable scientific calculators is allowed.*
- 4. Assume suitable data wherever necessary and mention it clearly.*

	(Level/CO)	Marks
Q.1 Solve Any Two of the following.		12
A) What is DBMS? Explain the need of DBMS. Write any 3 application of DBMS	R/CO1	6
B) What are the disadvantages of file processing system?	R/CO1	6
C) With the help of block diagram, describe the basic architecture of a database management system.	R/CO1	6
Q.2 Solve Any Two of the following.		12
A) Define Normalization. Explain 1NF, 2NF, 3NF with example.	K/CO2	6
B) What is ER model? Explain various symbols/components used in ER diagram.	U/CO2	6
C) Explain in detail the Data Model and its types.	U/CO2	6
Q.3 Solve Any Two of the following.		12
A) Differentiate between RDBMS and NoSQL databases.	K/CO3	6
B) Explain in detail about CAP theorem.	U/CO3	6
C) Describe the properties of Key-Value Store.	U/CO3	6
Q.4 Solve Any Two of the following.		12
A) Discuss characteristics of columnar databases.	U/CO4	6
B) Describe distributed database system with suitable diagram	U/CO4	6
C) Elaborate suitable use cases of document databases.	A/CO4	6
Q.5 Solve Any Two of the following.		12
A) Explain various graph representation techniques (data structures) with suitable examples.	U/CO5	6
B) Explain LSM trees in detail.	U/CO5	6
C) Explain properties of graph database model.	U/CO5	6

***** End *****