

FACULTY OF ENGINEERING

B.E. (CSE) IV–Semester (AICTE) (Main & Backlog) (New) Examinations, August/September 2024

Subject: Database Management Systems

Time: 3 Hours

Max. Marks: 70

- Note:** (i) First question is compulsory and answer any four questions from the remaining six questions. Each question carries 14 Marks.
(ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.
(iii) Missing data, if any, may be suitably assumed.

1. a) What is the purpose of DBMS?
b) Define Primary key.
c) What is an ER-diagram?
d) Draw the Dense Index with an example.
e) What is Domain Relational Calculus?
f) Write a query for creating a table and dropping a table.
g) What is Aggregate function?
2. a) Draw and explain Three-Schema architecture.
b) Define Data Independence and List different types of database users.
3. a) Explain 1NF, 2NF, 3NF with examples.
b) Write about generalization and specialization with examples.
4. a) Differentiate between pessimistic and optimistic concurrency control schemes.
b) Define Transaction and Explain ACID Properties of transaction.
5. a) Discuss about Integrity Constraints over Relations.
b) Illustrate Selection and Projection Operations in Relational algebra with an example.
6. a) Write about the usability of 'group by' and 'having' clauses in SQL.
b) Differentiate between the multimedia and web databases.
7. a) Write Short notes on Domain Key Normal Form (DKNF).
b) Explain about Concurrency Control Problems.