

Code No: D- 2489/N/AICTE

FACULTY OF ENGINEERING

**B.E. CSE (AI & ML) IV-semester (AICTE) (Main) (New) Examination,
September/October – 2022**

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 Questions 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 database management systems? Why we need to use it.
(b) Define the terms; Relational Database, Tables.
(c) Explain the usage of composite primary key with an example.
(d) Define loss less join decomposition with example.
(e) Compare in between 3NF and BCNF
(f) What are two schedules conflict equivalent? What is conflict serialization schedule?
(g) Is it possible to pass parameters to trigger? Justify.
2. (a) Explain various functions of Database Administrator.
(b) What are various E-R design issues? Explain ER diagram with suitable example?
3. (a) What are integrity constraints? Define the primary key and foreign key constraints? How are these expressed in SQL?
(b) Distinguish between NULL and NOT NULL.
4. (a) How to destroy and alter tables in a DBMS?
(b) When is the decomposition of a relation schema R into two relation schemas X and Y said to be lossless-join decomposition? Why is this property so important? Give a necessary and sufficient condition to test whether a decomposition is Lossless-join.
5. (a) What is transaction? Explain the ACID properties of transactions.
(b) Describe the steps in crash recovery in ARIES.
6. (a) Explain database users, user interfaces, DBA and functions of DBA.
(b) Explain the differences between Stores procedures and triggers?
7. (a) Draw and explain three-tier schema architecture of database system
(b) Discuss the need for schema refinement. Explain the fourth and fifth normal form and inclusion dependencies.
