Seat No. : _____

MB-225

May-2025

Int. M.Sc. (CA & IT), Sem.-II

Fundamental of Data Base Management System (DBMS)

Time : 1 Hours] **[Max. Marks : 25**

1. Define the following : (any **Five**) **5**
   (1) Relational Schema
   (2) Super Key
   (3) Default
   (4) Joins
   (5) BCNF
   (6) Indexing
   (7) Update
   (8) SQL

2. Answer the following : (any **Five**) **10**
   (1) Describe ACID properties with an example.
   (2) Explain weak and strong entity sets with example.
   (3) What is a view in SQL and how is it useful ?
   (4) What are the advantages of DBMS ?
   (5) Explain the concept of normalization with example.
   (6) What are the different types of File Organization.
   (7) Different constraints used in DBMS.
   (8) Differences between Trivial and Nontrivial FD.

3. Answer the following : **5**
   (1) Given relation R(W,X,Y,Z) with functional dependencies :
   $WY \rightarrow XZ$, $Y \rightarrow W$, $WZ \rightarrow X$. Check whether the relation is in BCNF. If not, decompose it.

   OR

   (1) Given relation R(A,B,C,D) with functional dependencies :
   $A \rightarrow B$, $B \rightarrow C$, $C \rightarrow D$. Find Relation is 2NF.
   (2) Find the minimal cover of the following functional dependencies :
   $\{A \rightarrow BC, B \rightarrow C, AB \rightarrow C\}$

4. Answer the following : (Any **Two**) **5**
   (1) Explain the architecture of DBMS with a neat diagram.
   (2) What are the different users in DBMS ?
   (3) What are different features Extended ER diagram ?
   (4) Illustrate the differences between centralized and distributed databases.
