

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-III Computer Science & Engineering AI & ML : SUMMER : 2025
SUBJECT: DATABASE MANAGEMENT SYSTEMS

Day : Friday
Date : 16/05/2025

S-29211-2025

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagram **WHEREVER** necessary.
- 4) Use of Non-programmable **CALCULATOR** is Allowed.
- 5) Assume suitable data if necessary.

-
- Q.1 Construct an ER diagram for Railway Reservation systems with proper attributes and their constraints. [10]
- OR
- Q.1 Draw complete Architecture of DBMS and explain each block. [10]
- Q.2 Explain specialization and generalization with diagram. [10]
- OR
- Q.2 Explain DBMS mapping with help of diagram also explain each type. [10]
- Q.3 Create a student_details table ADD details into table and perform following operation on it: [10]
- | | |
|--------------|-------------|
| i) ALTER | ii) SELECT |
| iii) ORDERBY | iv) GROUPBY |
- OR
- Q.3 Create a EMP_DETAILS table ADD details into table and perform following operations on it: [10]
- | | |
|----------------------------|----------------|
| i) ADD NEW COLUMN (SALARY) | ii) MIN SALARY |
| iii) MAX SALARY | |
- Q.4 Explain Normalization with its advantages and also give example of BCNF. [10]
- OR
- Q.4 Design lossless design and explain in brief. [10]
- Q.5 Explain relational calculus with example. [10]
- OR
- Q.5 Create a student_details table also create student_marks table and perform following operations on it: [10]
- | | | |
|--------------|----------------|-----------------|
| i) Left join | ii) Right join | iii) Inner join |
|--------------|----------------|-----------------|
-
- Q.6 Explain Buffering of Blocks in DBMS along with its features. [10]
- OR
- Q.6 Explain in brief data fragmentation their importance and features. [10]

* * * * *