

**Computer Science & Engineering AI & ML**  
**BACHELOR OF TECHNOLOGY (CBCS - 2023)**  
**B. Tech. Sem-III CS&E-A&M : WINTER : 2024**  
**SUBJECT: DATABASE MANAGEMENT SYSTEMS**

Day : Wednesday  
Date : 11/12/2024

W-29211-2024

Time : 10:00 AM-01:00 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 Design complete architecture of Data Base management system, explain each block. [10]

**OR**

Q.1 Construct an ER diagram for Airlines reservation systems with proper attributes. [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 operations 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 types and examples. [10]

**OR**

Q.4 Design lossless design and explain in brief. [10]

Q.5 Differentiate between DBMS and RDBMS. [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 sequential File Organization with diagram also write advantages and disadvantages. [10]

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