

Anjuman Islam Janjira Degree College of Science Murud-Janjira, Raigad-402401 Affiliated to University of Mumbai	
Class: -F.Y.B.Sc C.S	Subject: - Fundamentals of Database System
Semester:- I Additional	Vertical Major- MJ2
Exam Event:- (FH) Summer 2025	Marks: -30
Date: - 17/04/2025	Duration: - 01 Hours

- N.B. –**
- 1 – All questions are compulsory.**
 - 2 – All questions have internal choice.**
 - 3 – Figures to the right indicate full marks.**

Q1. Answer the following questions. (Any 2 out of 4).

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1. Define a database and list the advantages of a database management system.
2. Explain the characteristics of a DBMS.
3. Design an ER diagram for a hospital system that manages patient information and medical doctor assignments, including test and examination records.
4. Convert the following types of attributes into relational database columns with examples:
 - a. Simple attributes
 - b. Composite attributes
 - c. Multi-valued attributes
 - d. Derived attributes.

Q2. Answer the following questions. (Any 2 out of 4).

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1. Can you explain the relational model and describe how attributes, tuples, and domains are used in it.
2. demonstrate how to use Union and Intersect in MySQL set operations.
3. What are the different types of keys in a database
4. What are some common date functions used in databases?

Q3. Answer the following questions. (Any 2 out of 4).

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1. Identify and explain the components of a database system.
2. Explain N-tier architecture and justify its advantages.
3. What are five arithmetic functions in databases, and what do they do?
4. Explain partition product of relation algebra operation