

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	Vertical Major: -MJ2
Exam Event:- Winter 2024 (FSH)	Marks: -30
Date: - 16/11/2024	Duration: - 01:00 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) 10M

1. Compare a file system with a database system.
2. Illustrate the three levels of data abstraction.
3. Demonstrate the following operations with syntax and examples:
 - i. Creating a database
 - ii. Using a database
 - iii. Working with tables
4. Apply your knowledge of ER diagrams to convert regular entity types and weak entity types into relational tables. Use examples to illustrate the conversion.

Q2. Answer the following questions. (Any 2 out of 4) 10M

1. Evaluate character manipulation function with example.
2. Explain how the selection operation works in relational algebra with an example
3. Write fundamental operations of relational algebra? Explain cross product with example
4. Assess the effectiveness of using the *Difference Operator* for filtering data in scenarios where unique tuples are needed.

Q3. Answer the following questions. (Any 2 out of 4) 10M

1. Apply the concept of data independence and explain its types with relevant examples.
2. Demonstrate how to add and remove data in a table using the INSERT and DELETE statements. Explain each statement's syntax and illustrate with examples of inserting a new row and deleting selected rows from a table.
3. Explain case manipulation function with example. Evaluate left outer join with example.
4. What are relational constraints? Evaluate it's types in a database.