

**GOA VIDYAPRASARAK MANDAL'S
GOPAL GOVIND POY RAITURCAR COLLEGE OF
COMMERCE AND ECONOMICS, PONDA-GOA
B.C.A CBCS (SEMESTER-III) EXAMINATION, JANUARY 2021
DATABASE MANAGEMENT SYSTEMS**

Duration: 2 hours

Marks: 30

Q1) Answer **any five** questions from the following (5*2=10)

1. Explain the drawbacks of traditional file systems.
2. Explain in brief Data Definition Language (DDL) and Data Manipulation Language (DML)
3. Differentiate between OLAP and OLTP.
4. State the advantages of distributed database.
5. Explain what are unary and binary relationship sets. Give one example each.
6. Check if the given schedules are view

the required steps.

Schedule1		
T1	T2	T3
Read(A)		
	Write(A)	
Write(A)		
		Write(A)

Schedule 2		
T1	T2	T3
Read(A)		
Write(A)		
	Write(A)	
		Write(A)

equivalent and write

7. What are prime and non-prime attributes? Consider a table Employee having attributes EmployeeID, EmployeeName, and DepartmentName with EmployeeID as the primary key. Identify the prime and non-prime attributes of this table.
8. What is a recoverable schedule? Give an example.

Q 2) Answer **any four** questions from the following (4*5=20)

1. With the help of a neat diagram, show the three level architecture of DBMS. Explain any two levels in detail.
2. State and explain the different types of data models.
3. ER diagram drawing for the following entities and relationships. Translate it to tables.
Entity1: Student **Attributes:** RollNo (Primary key), SName, PhNo (A multivalued attribute), and Email
Entity2: Course **Attributes:** CourseID (Primary Key), CourseName
Participation constraints: Every students has enrolled in one course
Cardinality: One Student can enroll in at the most one course. However, one course can be enrolled by any number of students

4. Explain the meaning of first normal form or 1NF. Consider the following table (5)

Student Name	Phone Number	State	Country
Student1	Ph1, Ph2	Goa	India
Student2	Ph3	Maharashtra	India

Bring this table in 1NF by

- a) Creating a table with a separate row for each entry.
 - b) Creating a table with a separate column for each value of the multivalued attribute.
 - c) Decomposing the original table
5. Define transaction and explain the ACID properties of a transaction.
 6. Write a short note on mobile database.