

**Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
ECONOMICS, FARMAGUDI, PONDA-GOA
B.C.A. CBCS (SEMESTER-III) REGULAR EXAMINATION, NOVEMBER 2023
DATABASE MANAGEMENT SYSTEM (CAC-110)**

Duration: 2 Hours

Marks: 60

*Instructions: 1) Figures to the right indicate Full Marks.
2) All Questions are compulsory.*

- Q.1.A) Define the following:** **5X1=05**
- a. Three level Architecture
 - b. ODBC
 - c. Logical Model
 - d. Database Normalization
 - e. Locks

- Q.1.B) Match the Following and Rewrite the Matched Pairs:** **5X1=05**

1) DDL	A) Managing and controlling the transactions in a database.
2) Centralized system	B) Repository of information gathered from multiple sources.
3) Data warehouse	C) Create and Modify the Structure of database.
4) TCL	D) Device controllers connected to a common system bus.
5) Knowledge Database	E) Use database concepts and models to store and retrieve knowledge.

- Q.2. Answer the following:**

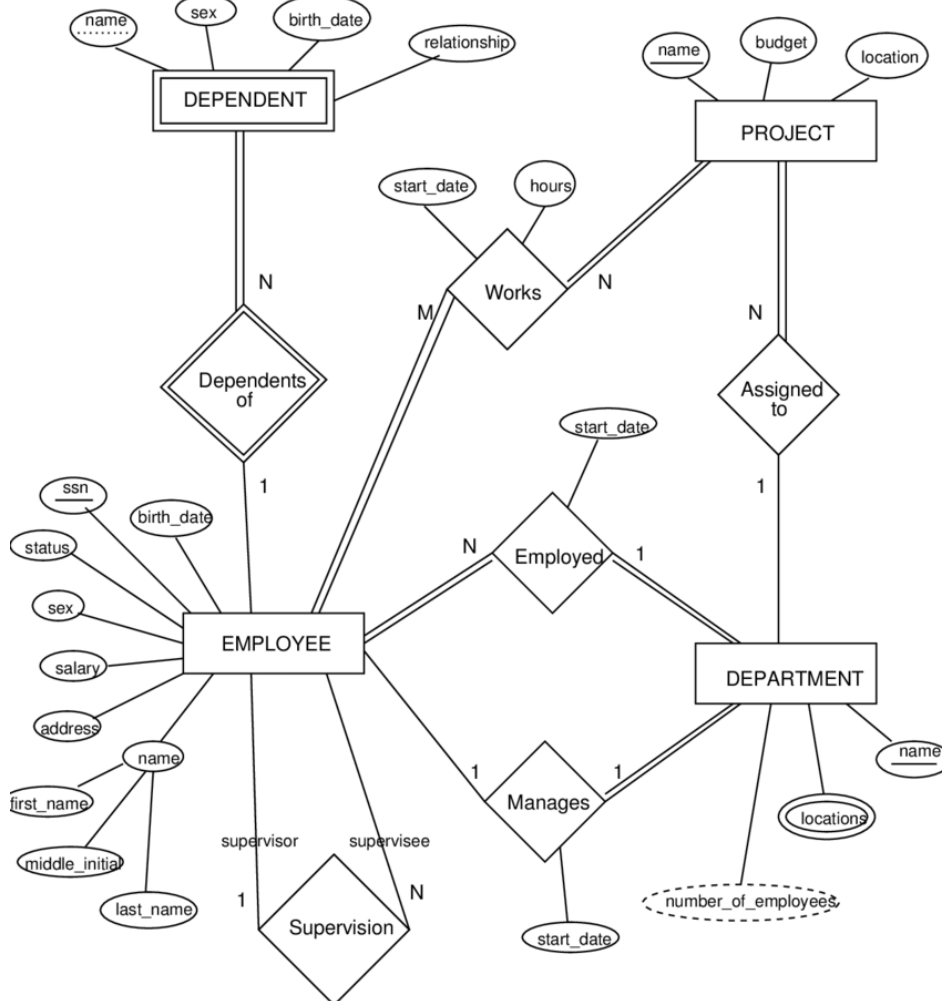
- A) What is Database Management System? **02**
- B) Explain the working of Relational data model with diagram. **03**
- C) Illustrate the use of E-R diagram for college database. **05**

- Q.3. Answer the following:**

- A) Differentiate between two tier and three tier architecture (four points each). **02**
- B) Explain the use of mobile database system. **03**

C) Convert the given E-R diagram to relational model.

05



Q.4. Answer the following:

- A) What is primary key? Give an example of primary key constraints. 02
- B) Explain lossy join decomposition with example. 03
- C) Discuss the use of 1NF in data normalization process. 05

Q.5. Answer the following:

- A) Give an example of Functional dependency and transitive dependency. 02
- B) Explain **any three** ACID properties of transaction processing system. 03
- C) Check if the given relation is in 3NF or not? 05
 R (A, B, C, D, E, F)
 FD: {AB -> CDEF, BD -> F}

Q.6. Answer the following:

A) What are participation constraints? 02

B) Check whether the given schedule is conflict serializable or not? 03

T1	T2	T3
R(A)		
	W(A)	
W(A)		
		W(A)

C) Explain the different types of integrity constraints with the help of 05 examples.
