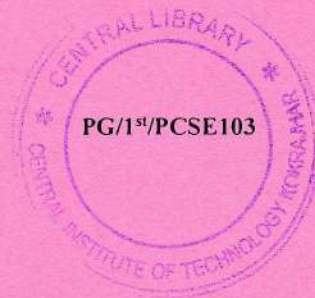


Total number of printed pages:3

2021



**ADVANCED DBMS**

FULL Marks: 100

Time: Three hours

*The figures in the margin indicate full marks for the questions.*

*Answer any five questions*

1.
  - a. Answer in short 3X5=15
    - (i) What is the purpose of Database Management System?
    - (ii) What is logical Data Independence?
    - (iii) What do you mean by simple and composite attribute?
    - (iv) What do you mean by referential integrity?
    - (v) What is cardinality ratio in RDBMS?
  - b. Discuss briefly about the various characteristics of a database system 5
2.
  - a. Explain Insert Anomaly, Delete Anomaly and Update Anomaly with suitable examples. 10
  - b. What is normalization? Define 1NF, 2NF, 3NF and Boyce Codd Normal Form. 10
3.
  - a. Draw a state diagram and discuss the typical states that a transaction goes through during execution. 10

b. What is concurrency control? Discuss Lost Update Problem, Temporary Update Problem and Incorrect Summary Problem with proper examples. 10

4.

a. Consider the following relations: 15

Works (Pname, Cname, Salary)

Lives (Pname, Street, City)

Located\_In (Cname, City)

Manager (Pname, Mgrname)

Where Pname: person name, Cname = Company name and

Mgrname = Manager name

Write the SQL query for the following:

i. List the names of the people who work for the company. Wipro along with the cities they live in.

ii. Find the people who work for the company 'Infosys' with a salary more than Rs. 50000/-. List the names of the people, along with street and city addresses.

iii. Find the names of the persons who. live and work in the same city.

iv. Find the persons whose salaries are more than that of all of the, Oracle' employees.

v. Find the names of the companies that are located in every city where the company 'Infosys' is located.

b. What are the physical, logical and view level data abstraction? 5

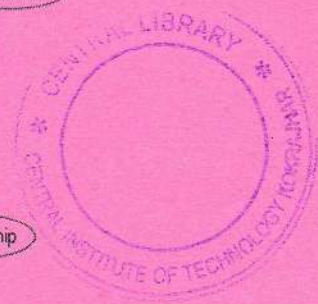
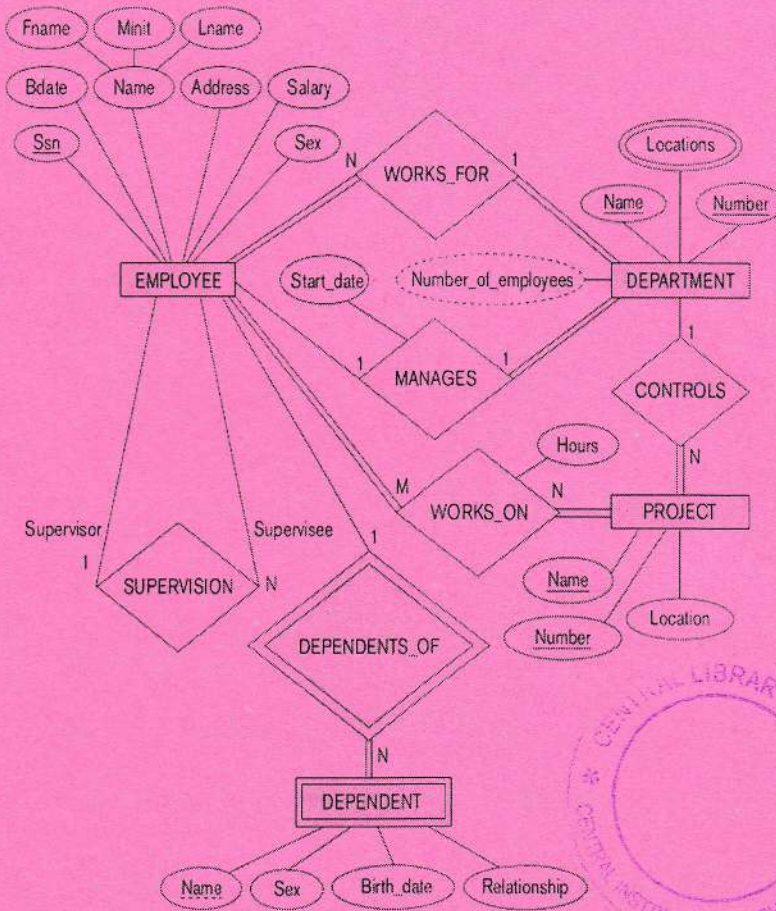
5.

a. What is functional dependency? Explain its types in details. 5

b. Convert the following ER schema into Relational schema. Also indicate the primary and foreign keys in relations.

15

The ER conceptual schema diagram for the COMPANY database.



6. write short note (any four)

- i. Query Optimization
- ii. Database languages.
- iii. Hierarchical DBMS
- iv. Two-phase locking
- v. Role of DBA

5x4=20

