CT -01

Course Title: Database Management System

1. Write about the advantages over conventional file processing systems? Describe three levels of Data Abstraction. 2.5+2.5
2. Write some five of each DDL and DML commands. 3
3. Define the keys: i) Candidate key ii) Foreign key iii) Unique key. 3
4. Differentiate between Schema and Instance. 2
5. Consider the relation

   Student (Student_id, name, GPA, Major)

   Scholarship (Stu_ref_id, amount, date) 3

   i) Write an SQL query to fetch the no. of Students for each MAJOR subject in the descending order.

   ii) Display the details of students who have received scholarships, including their names, scholarship amounts, and scholarship dates.

   instructor (id, name, dept_name, salary)

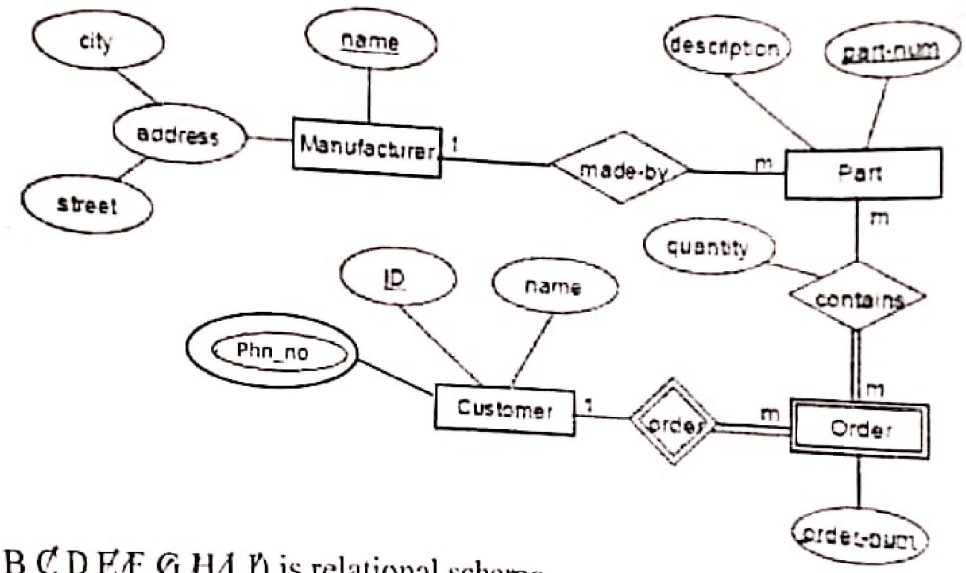
   iii) Write an SQL query to find the departments that have the highest average salary. 3

   iv) Update the salary of instructors with salary over 80,000/- receive a 3% raise, whereas all other receive a 5% raise.

CT -02 Time: 40 min

Course Title: Database Management System

1. Convert the ER diagram into relational schema. 1



2. Suppose R(A B C D E F G H I J) is relational schema set of functional dependency FDs: AB→ C, AD→ GH, BD→ EF, A→ I, H→ J Find out the relation R is in 2NF or not? If not decompose it in 2NF. 10