

**MTech in Data Science**  
**IIT Palakkad**  
**DS5003A : Data Engineering**

**0800-0850**

**Test 2 (18 Oct 2024)**

**Marks : 10**

**Instructions**

1. Write your answers neatly in Blue/ Black ink. Do not use pencil / Red ink. If your answer is not legible, you will not get any marks for that.
2. Doubts and questions will not be answered during the exam. If you have to make any assumption about unspecified things, write the assumption clearly with justification.
3. Answer all parts of a question together. If the parts of a single question are not together, then only the first part will be evaluated. Other parts will not get any marks.

1. What is database management systems ? What are advantages and disadvantages of DBMS (2+2 over file systems ?
2. branch(branch\_name, branch\_city, assets) (3+3  
customer(customer\_name, customer\_street, customer\_city)  
loan(loan\_number, branch\_name, amount)  
borrower(customer\_name, loan\_number)  
account(account\_number, branch\_name, balance )  
depositor(customer\_name, account\_number)

Consider the schema in the above question and answer following.

- a. Write an SQL query to find the names of the customers who have an account but not a loan.
- b. Write an SQL query to list the names of the customers who have account in the same city where they live.