CDAC Mumbai
PG-DAC Aug24 Batch (Juhu& Kharghar)
Lab Exam
Module 4: Database Technology

Time: 1:30hrs **Marks: 40**

Instructions:

- All queries must be written using MySQL.
- Ensure to use correct syntax and test your queries before submission.
- Marks are distributed as per the sub-questions.
- Mention the table structures, relationships, and logic in your queries.

Section A: (10 Marks)

1. (4 Marks)
   Create three tables (Residents, Flats, Maintenance) and insert records.

Residents Table:

- ResidentID (INT, PRIMARY KEY, AUTO_INCREMENT)
- FullName (VARCHAR(100))
- FlatID (INT, FOREIGN KEY REFERENCES Flats(FlatID))

Flats Table:

- FlatID (INT, PRIMARY KEY, AUTO_INCREMENT)
- FlatNumber (VARCHAR(10))
- Block (VARCHAR(10))

Maintenance Table:

- MaintenanceID (INT, PRIMARY KEY, AUTO_INCREMENT)
- FlatID (INT, FOREIGN KEY REFERENCES Flats(FlatID))
- Amount (DECIMAL(8, 2))

2. (2 Marks)
   Define the foreign key relationships between the tables.
3. (2 Marks)
   Fetch all residents from Block 'A' or maintenance amount above 2000.
4. (2 Marks)
   Fetch the first 5 maintenance records.

Section B: (15 Marks)

5. (2 Marks)
   Display total maintenance per block.
6. (2 Marks)
   Fetch FlatNumber and Amount of the flat with the highest maintenance fee.
7. (3 Marks)
   Create a view MaintenanceSummary showing FlatNumber and Amount. Update an amount using this view.
8. (2 Marks)
   Perform a LEFT JOIN between Flats and Maintenance tables.

9. (2 Marks)
   Create a temporary table for residents in Block 'B' and drop it after use.
10. (4 Marks)
    Write a procedure GetFlatInfo to return FlatNumber and TotalMaintenance.

Section C: (15 Marks)

11. (4 Marks)
    Calculate total maintenance fees for a block using a loop.
12. (4 Marks)
    Write a function to calculate discounted maintenance fees.
13. (2 Marks)
    Fetch flats with more than 3 residents using HAVING.
14. (2 Marks)
    Log changes in maintenance fees using a trigger.
15. (3 Marks)
    Fetch the second-highest maintenance fee.