Birla Institute of Technology and Science, Pilani, Pilani Campus
Department of Computer Science and Information Systems
II-Semester, 2020-2021
Database Systems (CS F212)
Outline Solution and Marking Scheme to Question-5 of the Mid-Semester Test (Regular)

A. Select Emp.e_no, Emp.e_name from WORKS WRK JOIN EMPLOYEE Emp using(e_no) join COMPANY CMP using(c_name) where Emp.city = CMP.city AND CMP.c_name in (select c_name from WORKS group by c_name having count(e_no) > 10)

B. Select e.e_no, e.e_name, w.c_name from EMPLOYEE e, WORKS w where e.e_no = w.e_no and w.salary < ALL(select salary from WORKS where c_name = 'The Signature')

C. Select c_name from COMPANY CMP where city in (select Emp.city from WORKS WRK join employee EMP using(e_no) where WRK.salary > all(select avg(salary) from COMPANY CMP1 join WORKS WRK1 where CMP1.c_name <> WRK1.c_name order by CMP1.city)

D. Update table COMPANY CMP set CMP.city = 'Surat' where CMP.c_name = 'Radhika Electronics Pvt. Ltd.';
Insert into EMPLOYEE(e_no, e_name, e_address, city, mgr_cd) values(12345, 'Cheeranjiv Patel', 'House#125, Ring Road, Near Railway Station', 'Surat', 12345);
Update table EMPLOYEE emp set emp.mgr_cd = 12345 where e_no in (select e_eno from WORKS where c_name = 'Radhika Electronics Pvt. Ltd.');

E. Delete from EMPLOYEE emp where e_name in (Select e_name from EMPLOYEE group by mgr_cd having count(e_name<6)) and e_name in (Select E1.e_name from EMPLOYEE E1 join WORKS W1 using (e_no) where W1.salary < (Select W2. salary from WORKS W2 join EMPLOYEE E2 on E2.mgr_cd = W2.e_no));

Marking Scheme: Depending on the extent of correctness and completeness 0, 1, 2, 3 or 4 marks have been awarded for each part. The outline solution given above is indicative, and students' attempts producing almost correct results despite having variations in their approach to solving the problem, have been awarded with the marks appropriately. For instance, some students have used JOIN extensively while some other have used IN or nested constructs, etc.