Institute of Information and Communication Technology
BSc in Software Engineering; January 2019; DBMS; Term Test 1; Marks: 20; Time: 40 minutes

Consider the following relational schema and write SQL query to answer the following questions (any ten):

classroom(building, room_number, capacity)
department(dept_name, building, budget)
course(course_id, title, dept_name, credits)
instructor(ID, name, dept_name, salary)
section(course_id, sec_id, semester, year, building, room number, time slot id)
teaches(ID, course_id, sec_id, semester, year)
student(ID, name, dept_name, tot cred)
takes(ID, course_id, sec_id, semester, year, grade)
advisor(s_ID, i_ID)
time_slot(time_slot_id, day, start_time, end time)
prereq(course_id, prereq_id)

1. Find the names of all departments with instructor, and remove duplicates.
2. Find the course ID, semester, year and title of each course offered by the Comp. Sci. department .
3. Find the names of all instructors who have a higher salary than some instructor in 'Comp. Sci'.
4. Find the names of all instructors with salary between $90,000 and $100,000.
5. Find the names of all departments whose building name includes the substring 'Watson'.
6. Give a 5 percent salary raise to instructors whose salary is less than average.
7. Update all instructors with salary over $100,000 receive a 3 percent raise, whereas all others receive a 5 percent raise.
8. Insert a course CS-437 in the Computer Science department with title "Database Systems", and 4 credit hours.
9. Add all instructors to the *student* relation with tot_creds set to 0.
10. Delete all tuples in the instructor relation pertaining to instructors in the Finance department.
11. Delete all tuples in the *instructor* relation for those instructors associated with a department located in the Watson building.
12. Find all departments where the total salary is greater than the average of the total salary at all departments.