Faculty of Engineering and Technology

University of Lucknow

Subject Name:	**Database Management System**
Branch:	**BCA/2nd Year**

ASSIGNMENT

1. What do you mean by constraint in database? Explain types of constraints with suitable example.
2. Explain join and type of join with suitable example.
3. Discuss the concept of view with suitable example.
4. What is triggers? Explain need of using trigger.
5. List and explain fundamental operation of relational algebra.
6. Explain Tuple Relation Calculus.
7. Write SQL syntax for creating table EMP(EMPNO,ENAME,SALARY,JOINING_DATE,DESIGNATION). Write SQL syntax for insert two rows in table, delete one row from table, update salary and view whole table.
8. Consider the following relations:
   Student (ssn, name, address)
   Course (code, title)
   Registered (ssn, code)
   Write Relational Algebra expression and SQL queries for following queries:
   I. List the codes of courses for which no student is registered
   II. The titles of courses for which no student is registered.
   III. SSNs of students who are registered for both 'Database Systems' and 'Analysis of Algorithms'.
   IV. List of courses in which all students are registered.
   V. Names of students and the titles of courses they registered to.
9. What is Functional dependency? Explain various types of Functional dependency.
10. What do you mean by loss-less decomposition? Explain with suitable example how functional dependencies can be used to show that decompositions are loss-less.
11. What do you mean by normalization? Explain 1NF, 2NF and 3NF with suitable example.
12. Consider the relational schema R (A, B, C) and FD's {A→B, B→C}. Is the decomposition of R into R1 (A, B) and R2 (B, C) lossless?
13. What do you mean by decomposition of a relation? Consider the relational schema R(A,B,C,D,E,F) and FD's {A→BC, C→A, D→E, F→A, E→D}
    Is the decomposition of R into R1(A,C,D), R2(B,C,D) and R3(E,F,D) lossless?
14. What is transaction? Draw a state diagram of transaction showing its states.
15. Explain ACID properties of a trasaction with suitable example.

16. What are schedules? What are differences between conflict serializability and view serializability?
17. What is recovery and atomicity of transaction? Explain Log based recovery.
18. Write a short note on two phase locking protocol. What are its advantages and disadvantages?
19. What is concurrency? What are the three problems due to concurrency?
20. Explain various Concurrency Control Techniques in detail.