

Roll No.....

CS-503 (GS)**B.E. V Semester**

Examination, December 2017

Grading System (GS)**Database Management System**

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. What is DBMS? Explain basic architecture of DBS?
2. Draw E-R diagram for Library management system and convert into set of table schema.
3. We have following relations:
EMP(empno, ename, jobtitle, managerno, hiredate, sal, comm, deptno) DEPT (deptno, dname, loc)
Answer the following queries in SQL.
 - i) Find the Employees working in the department 10, 20, 30 only.
 - ii) Find Employees whose names start with letter A or letter a.
 - iii) Find Employees along with their department name.
 - iv) Find Employees whose manager is KING.
 - v) Find the Employees who are working in Smith's department.
 - vi) Find the Employees who get salary more than Allen's salary.
 - vii) Display employees who are getting maximum salary in each department.

4. Consider the employee data. Give an expression in SQL for the following query :
Employee(employee-name, street, city)
Works(employee-name, company-name, salary)
Company(company-name, city)
Manages(employee-name, manager-name)
 - i) Find the name of all employees who work for State Bank.
 - ii) Find the names and cities of residence of all employees who work for State Bank.
 - iii) Find all employee in the database who do not work for State Bank.
 - iv) Find all employee in the database who earn more than every employee of UCO Bank.
5. How relational algebra is different from relational calculus?
6. Consider a relation R with five attribute A,B,C,D,E having following dependencies: $A \rightarrow B$, $BC \rightarrow E$ and $ED \rightarrow A$
 - i) List all keys for R
 - ii) In which normal form table is justify your answer.
7. Explain functional dependencies and its types with example.
8. Answer any four of the following:
 - a) What do you mean by aggregation?
 - b) What do you mean by check constraints?
 - c) What is dangling tuple problem?
 - d) Define locks.
 - e) What is the difference between OODBMS and RDBMS?
 - f) What is triggers?
