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GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II– EXAMINATION – WINTER - 2016 Subject Code: 2720316 Date: 21/11/ 2016

Subject Name: Database Management System

Time: 2:30 pm to 5:00 pm

Total Marks: 70

07

07

14

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks
- Q.1 (a) Discuss disadvantages of file processing systems and advantages of Database 07 Management systems.
 (b) Explain Entity Relationship model with example. 07
- Q.2 (a) Define DBMS. Discuss about its various applications in detail.
 - (b) Explain with example grouping of data with GROUP BY and HAVING clause. 07 OR
 - (b) What is constraint in database? Explain types of constraints with suitable example.
- Q.3 Design database for admission procedure. Explain data requirements, entity sets, relationship sets for the same. Obtain E-R diagram for the Admission procedure in a university. An advertisement is issued giving essential qualifications for the course, the last date for recipient of application, and the fee to be enclosed with the application. A clerk in the registrar's office checks the received applications to see if mark sheet and the fee are enclosed and sends valid application to the concerned academic department. The department checks the application in detail and decides the applicant to be admitted, those to be put in the waiting list, and those to be rejected. Appropriate letters are sent to the registrar's office which intimates the applicant.

OR

Q.3 Design database for banking enterprise. Explain data requirements, entity sets, relationship sets for the same. Construct E-R diagram of bank which provides different kinds of bank accounts and loans, and operates number of branches.

Q.4 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 are getting maximum salary in each department

Q.4	 Consider the following database schema: DEPT (dno, dname, dlocation) EMPLOYEE (eno, ename, gender, city, dno, salary) Write sql queries for the following: Display the dept details of department 'ME'. Display ename and salary of employees whose salary is greater than Rs. Display the name of female employees whose dno is 20. Display the name of fall employees. Display the dno, dname, eno, ename of all employees whose dname is 'ME' and city is 'Mumbai'. Find out gender wise total number of employees. Display the name of employees who don't live in 'Mumbai' city. 	14
Q.5	What are aggregate functions? Explain them with examples.	14
Q.5	Define Normalization. Explain with general example for 1NF, 2NF, 3NF and BCNF	14
