

Mid Semester Examination – 2019
School of Computer Engineering
Kalinga Institute of Industrial Technology (KIIT) Deemed to be University
Subject: Database Management System (CS-2004)

Time: 1½ Hrs

Full Marks: 20

(Answer any Four Questions including Question No. 1)

- | | | |
|----|---|-----|
| 1. | a) Difference between Primary key, super key, candidate key.
b) Explain the importance of logical designing before the physical designing of database.
c) Explain the importance of logical designing before the physical designing of database.
d) Differentiate between Theta join and Equi join.
e) Differentiate between Cartesian product and join operations. | 1×5 |
| 2. | Describe the three-schema architecture. Why do we need mappings between schema levels? Also, differentiate between logical data independence and physical data independence. | 5 |
| 3. | Write short notes on unary and binary operations in relational algebra with suitable. | 5 |
| 4. | Draw the entity-relationship diagram for the hospital as given below:
The database maintains the details of doctors (identified by unique docid along with docname, design and specialization) who are enrolled to departments; one doctor can enrol to one department only. Employees (identified by unique empid along with empname and mobno) are working in the departments; one employee can work in a single department only. Each department is identified through unique deptno along with deptname and location. There is a registration process required for all patients to a department before they treated by any doctor. Patient details must contain unique pid, pname, address (can be decomposed to street, city and pin), age and contactno. Employees are managing the patients. One patient can be treated by multiple doctors; also one doctor can treat multiple patients. Make necessary assumptions. Also, convert the E/R diagram into relational schema. | 5 |
| 5. | Employee (<u>empno</u> , ename, dept, doj, mob)
Customer (<u>cno</u> , cname, city, mobno, interest)
Deal (<u>empno</u> , <u>cno</u> , date, category)
Solve the following queries by using relational algebra / sql.
a) Display the customers' names staying in 'BBSR'.
b) Find the employees' names dealing in 'Fashion' category.
c) Find the customers' names, who are dealing with all the customers.
d) Find the customers, who are dealing the customers with 'Designer Handbags' interests.
e) List the customers' names dealing to the 'BBSR' customers in the year 2018. | 5 |