KIIT Deemed to be University
Online Mid Semester Examination(Autumn Semester-2020)

Subject Name & Code: DBMS (CS-2004) **Applicable to Courses:** CSCE

Full Marks=20 **Time:1 Hour**

SECTION-A(Answer All Questions. All questions carry 2 Marks)

Time:20 Minutes **(5×2=10 Marks)**

Question No	Question Type(MCQ/SAT)	Question	Answer Key(if MCQ)	CO Mapping
Q.No:1(a)	SAT	The logical design of a database is called _____.		CO1
	SAT	_____ model represents an entity set as a class.		CO1
	SAT	_____is set of all possible data values.		CO1
	SAT	To access information from a database, you need a _____.		CO1
Q.No:1(b)	SAT	Differentiate between a character field that contains a NULL value and a character field that contains a single blank space.		CO2
	SAT	What is primary key? How do the properties of a primary key differ from those of a candidate key?		CO2
	SAT	Differentiate between a composite key and a composite attribute. How would each be indicated in an ER diagram		CO2
	SAT	What are the reasons for introducing the concepts of superclasses and subclasses in ER model?		CO2
Q.No:1(c)	SAT	Data dictionary is not maintained by the user – justify.		CO3
	SAT	Specification of entity integrity and referential integrity is important in a database – justify.		CO3
	SAT	Can foreign key column accept NULL value – justify.		CO3
	SAT	Whether "Union Compatibility" is a compulsory condition for basic set operations – justify.		CO3
Q.No:1(d)	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to arrange the employee names in descending manner of their experience.		CO3
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year)		CO3

		Write the SQL statement to arrange the employee names in ascending manner of their age.		
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to display did, dname and budget of each dept. Display '0' in case the budget is not available.		CO3
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to display did, dname for the depts with more than 5lakhs budget.		CO3
Q.No:1(e)	**SAT**	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to add 'city' column to Emp table.		CO3
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to modify the budget of 'D101' to 10 lakhs.		CO3
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to remove the primary key of Work table.		CO3
	SAT	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Write the SQL statement to change the 'doj' column to 'joining_date'.		CO3

SECTION-B(Answer Any One Question. Each Question carries 10 Marks)

Time: 30 Minutes **(1×10=10 Marks)**

Question No	Question	CO Mapping
Q.No:2	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Answer the following queries using Relational algebra operators: i. Find the enames of the employees working in all depts. ii. Display the ename and the dname in which the	CO3

	employee is working. iii. Find the enames of the employees who worked in the year 2000. iv. Find the enames of the employees who worked in 'CSE' dept. v. Find the enames of the employees who get salary of minimum 1 lakh and joined before '01-Jan-2010'.	
Q.No:3	Discuss the advantages and disadvantages of Entity-Relationship model, Relational model and Object-oriented model. Also, justify the statement: "Normally, ER diagram is constructed before the construction of Relational schema and Object-oriented schema".	CO1
Q.No:4	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Answer the following queries using SQL statements: i. Find the employees getting 50000 as salary. ii. Find the dept details whose contact_no is missing. iii. Find the employees working in 'CSE' dept. iv. Find the ename, age and doj of employees working in deptid 'D101'. v. Display the ename and the dname in which the employee is working.	CO3
Q.No:5	Draw the ER diagram for one university: There are multiple departments present in the university. Each department has one unique did along with dname, location and contact_no. Many employees (identified by unique eid along with ename, doj, salary and contact(s)) working in the departments; one employee can work in a single department. Many students registered into different departments, one student can register into one department only. We are interested to keep unique roll, sname, mob_no, address (can be decomposed into street, city & pin)) of each student. Each department has many classrooms. Each classroom has a roomno, capacity and floor; roomno is not sufficient for the unique identification of the classroom, rather roomno along with did will form the unique identifier. Employees are managing the students. Faculty members (type of employees) are teaching to students in different classrooms. The remaining employees are engaged in official works. Make necessary assumptions. Identify the primary and foreign keys. Then convert the above ER diagram into relational schemas.	CO2
Q.No:6	Emp (eid, ename, salary, age, doj) Dept (did, dname, budget, contact_no) Work (eid, did, year) Answer the following queries using relational calculus expressions: i. Find the enames of the employees working in all depts. ii. Display the ename and the dname in which the employee is working. iii. Find the enames of the employees who worked in the year 2000. iv. Find the enames of the employees who worked in 'CSE'	CO3

	dept. v. Find the enames of the employees who get salary of minimum 1 lakh and joined before '01-Jan-2010'.	

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