



**SCHOOL OF COMPUTER ENGINEERING
KIIT DEEMED TO BE UNIVERSITY**

SPRING

SPRINGMID SEMESTER EXAMINATION-2020

Subject: Relational Database Management System

(CS-3044) Semester: 6th

Full Marks: 20

Time: 1.5Hours

Answer any Four questions including question No.1 which is compulsory.

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.

1.	Answer the following questions briefly.	(1x5)
a.	Differentiate between logical data independence and physical data independence.	
b.	At the time of data manipulation, the database system first consults with the data dictionary – Justify.	
c.	Discuss the role & responsibilities of DBA.	
d.	Discuss the requirements of strong entity set and weak entity set.	
e.	What is Aggregation? Discuss with example?	
2. a.	Differentiate between database systems and file system along with their advantages and disadvantages.	(2.5)
b.	Discuss the advantages and disadvantages of hierarchical model and network model. Also, differentiate between two data models.	(2.5)
3.a.	A university registrar's office maintains data about the following entities: (a) courses, including number, title, credits, syllabus, and prerequisites; (b) course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom; (c) students, including student-id, name, and program; and (d) instructors, including identification number, name, department, and title. Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.	(2.5)
b.	Convert the above ER model into Relational Model.	(2.5)
4.a.	What is a Join Clause? What is the difference between INNER JOIN and LEFT JOIN?	(2.5)
b.	Emp(empNo, name) Project(projectNo, pName, manager) Assigned_To(projectNo, empNo) Write Relational algebra query for: i) Obtaining the details of employees working on the database project ii) Finding the details of employees working on the 'comp01' and 'comp02' projects	(2.5)
5.a.	Discuss the different types of constraints applicable to Generalization/Specialization. Provide suitable examples to support your answer.	(2.5)
b.	What is a Key in a database? Which key is a set of one or more attributes taken collectively to uniquely identify a record?	(2.5)
