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Unit 1 -Model Questions
B.Tech. (Vth Semester (CS & IT))
Database Management System(RCS-501)
Section-A

Sno	Question	Course Outcome	Bloom Taxonomy Level
1	Define weak entity set.	CO1	L1
2	Define participation constraints.	CO1	L1
3	Differentiate between candidate key and super key	CO1	L2
4	Define weak entity set.	CO1	L1
5	Define participation constraints.	CO1	L1
6	Let E_1 and E_2 be two entities in an E/R diagram with simple single-valued attributes. R_1 and R_2 are two relationships between E_1 and E_2, where R_1 is one-to-many and R_2 is many-to-many. R_1 and R_2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model? (a) 2 (b) 3 (c) 4 (d) 5	CO1	L3
7	Given the basic ER and relational models, which of the following is **INCORRECT**? (A) An attribute of an entity can have more than one value (B) An attribute of an entity can be composite (C) In a row of a relational table, an attribute can have more than one value (D) In a row of a relational table, an attribute can have exactly one value or a NULL value	CO1	L2
8	Define DDL and DML terms. (K1)	CO1	L1
9	Which of the following gives a logical structure of the database graphically? a) Entity-relationship diagram b) Entity diagram c) Database diagram d) Architectural representation	CO1	L1
10	Consider a directed line(->) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality a) One to many b) One to one c) Many to many d) Many to one	CO1	L1
11	What is a Data Model?	CO1	L1
12	Define Surrogate Key	CO1	L1

13	Write Symbol for following	CO1	L1
	(a)Relationship	CO1	L1
	(b) Derived Attribute	CO1	L1
	(c) Identifying Relationship	CO1	L1
	(d) Total Participation	CO1	L1
14	Define Degree of a Relation	CO1	L1
15	Define cardinality of a relation	CO1	L1
16	What is an Entity	CO1	L1
17	What is an Entity Type	CO1	L1
18	Define referential integrity	CO1	L1
19	Differentiate between Logical Data Independence and Physical Data Independence	CO1	L1
20	Define Aggregation	CO1	L1
21	Differentiate between Intension and Extension?	CO1	L1
22	What is Query Evaluation Engine ?	CO1	L1

Section-B

Sno	Question	Course Outcome	Bloom Taxonomy Level
1	Discuss the main characteristics of the database approach and how it differs from traditional file systems.	CO1	L3
2	Explain specialization and generalization with example.	CO1	L2
3	What are the responsibilities of the DBA and the database designers?	CO1	L1
4	What is the difference between the two-tier and three-tier client/server architectures?	CO1	L2
5	Describe the role of Database Administrator (DBA) in Database Management System.	CO1	L2
6	Explain the Network data model	CO1	L2
7	Explain all the types of users and administrator.	CO1	L2
8	Explain the generalization and aggregation with example.	CO1	L2
9	Explain various types of database languages	CO1	L2

Section-C

Sno	Question	Course Outcome	Bloom Taxonomy Level
1	Consider the following information about a university database: Professors have an SSN, a name, an age, a rank, and a research specialty. Projects have a project number, a sponsor name (e.g., NSF), a starting date, an ending date, and a budget. Graduate students have an SSN, a name, an age, and a degree program (e.g., M.S. or Ph.D.). Each project is managed by one professor (known as the project's principal investigator). Each project is worked on by one or more professors (known as the project's co-investigators) Professors can manage and/or work on multiple projects. Each project is worked on by one or more graduate students (known as the project's research assistants). When graduate students work on a project, a professor must supervise their work on the project. Graduate students can work on multiple projects, in which case they will have a (potentially different) supervisor for each one. Departments have a department number, a department name, and a main office. Departments have a professor (known as the chairman) who runs the department. Professors work in one or more departments, and for each department that they work in, a time percentage is associated with their job. Graduate students have one major department in which they are working on their degree. Each graduate student has another, more senior graduate student (known as a student advisor) who advises him or her on what courses to take.	CO1	L4
2	Design and draw an ER diagram that captures the information about the university. Use only the basic ER model here; that is, entities, relationships, and attributes. Be sure to indicate any key and participation constraints.	CO1	L4
3	Explain database system architecture.	CO1	L4
4	Draw an E-R diagram for a hospital with a set of patients and a set of medical doctors; with each patient a log of the various conducted tests is also associated.	CO1	L4
5	A University registrars office maintains data about the following entities: - Courses including course_number, title, credits, syllabus and prerequisites. Course Offerings including course_number, year, semester, section_number, instructor, timing and classroom. Students including student_id, name, and program. Instructor 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.	CO1	L4