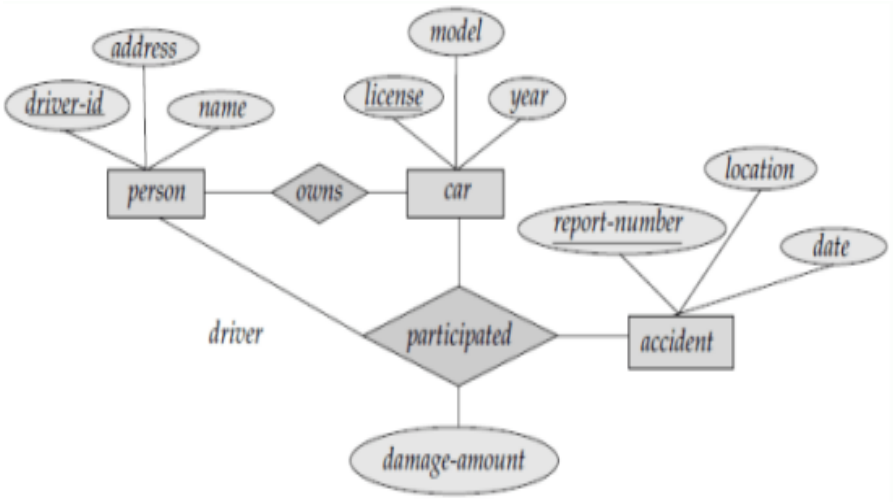
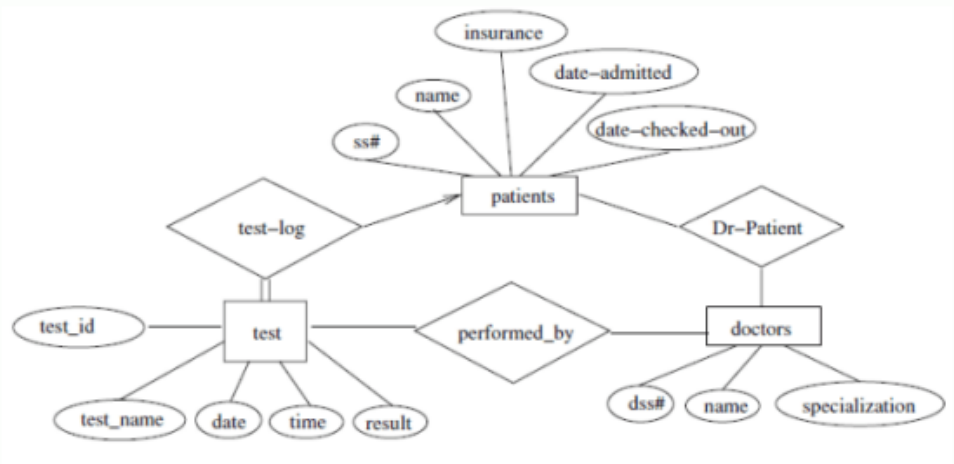
Question bank for MSE

			2M
		1)	Summarize user of database
		2)	Draw diagram for level of abstraction
		3)	Summarize Data integrity with example
		4)	Define role of Transaction manager
		5)	Recall physical and logical data independence
		6)	Define data redundancy and inconsistency
		7)	What is schema
		8)	Summarize Data isolation with example
		9)	Define role of Concurrency control manager
		10)	Recall logical data independence
		11)	Summarize user of database
		12)	Summarize Data integrity with example
		13)	What are the responsibilities of DBA
		14)	Define role of storage manager
			10 M
		1)	Company organized into DEPARTMENT. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Department may have several locations. · A department controls a number of PROJECT. Projects have a unique name, number and a single location. · Company's EMPLOYEE name, ssno, address, salary, sex and birth date are recorded. An employee is assigned to one department, but may work for several projects (not necessarily controlled by her dept). Number of hours/week an employee works on each project is recorded; The immediate supervisor for the employee. · Employee's DEPENDENT are tracked for health insurance purposes (dependent name, birthdate, relationship to employee).
		2)	Consider a university database for the scheduling of classrooms for -final exams. This database could be modeled as the single entity set exam, with attributes course-name, section number, room-number, and time. Alternatively,

			one or more additional entity sets could be defined, along with relationship sets to replace some of the attributes of the exam entity set, as · course with attributes name, department, and c-number · section with attributes s-number and enrollment, and dependent as a weak entity set on course · room with attributes r-number, capacity, and building Show an E-R diagram illustrating the use of all three additional entity sets listed.
		3)	Designing an ER (Entity-Relationship) diagram for a Restaurant Management System involves identifying the key entities, their attributes, and the relationships between them with mapping cardinality constraints.
		4)	Construct an alternative E-R diagram that uses only a binary relationship between students and course-offerings. Make sure that only one relationship exists between a particular student and course-offering pair, yet you can represent the marks that a student gets in different exams of a course offering.
		5)	Design an E-R diagram for keeping track of the exploits of your favorite sports team. You should store the matches played, the scores in each match, the players in each match and individual player statistics for each match. Summary statistics should be modeled as derived attributes.
		6)	Designing an ER (Entity-Relationship) diagram for a Restaurant Management System involves identifying the key entities, their attributes, and the relationships between them with mapping cardinality constraints.
		7)	Illustrate join operation in detail
		8)	 Construct appropriate tables for the above ER Diagram ?

		9)	 Construct appropriate tables for the above ER Diagram ?.
		10)	Illustrate select, project, union, set difference, cartesian product with example
		11)	Solve the SQL query "To create table for department and employee using not null, primary key, foreign key"
		12)	Illustrate relational algebra with example
		13)	Solve the SQL query "To create table for instructor using not null, primary key, foreign key"
		14)	Suppose you are given the following requirements for a simple database for the National Hockey League (NHL): · the NHL has many teams, · each team has a name, a city, a coach, a captain, and a set of players, · each player belongs to only one team, · each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records, · a team captain is also a player, · a game is played between two teams (referred to as host_team and guest_team) and has a date (such as May 11th, 1999) and a score (such as 4 to 2). Construct a clean and concise ER diagram for the NHL database.
		15)	A university registrar's office maintains data about the following entities: 1. courses, including number, title, credits, syllabus, and prerequisites; 2. course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom; 3. students, including student-id, name, and program; 4. 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.

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