Experiment: 5

Consider following databases and draw ER diagram and convert entities and relationships to relation table for a given scenario.

Q1. A university registrar's office maintains data about the following entities:

(a) Courses (number, title, credits, syllabus, prerequisites)

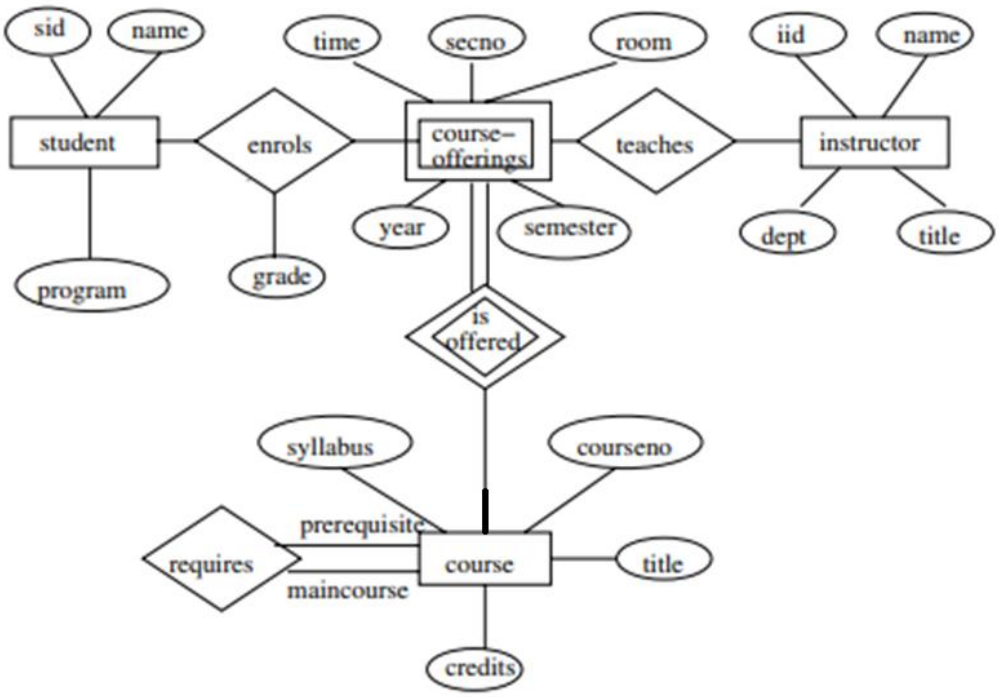
(b) course offerings (course number, year, semester, section number, instructor(s), timings, and classroom)

(c) students (student-id, name, program, date of birth)

(d) instructors (identification number, name, department, title)

(e) 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.



Q2. The flight database stores details about an airline's fleet, flights, and seat bookings.

Consider the following requirements list:

- The airline has one or more airplanes.
- An airplane has a model number, a unique registration number, and the capacity to take one or more passengers.

- An airplane flight has a unique flight number, a departure airport, a destination airport, a departure date and time, and an arrival date and time.
- One flight can have multiple bookings.
- Each booking details will store the ticket Number, fare
- Each flight is carried out by a single airplane.
- A passenger has given names, a surname, and a unique email address.
- A passenger can have multiple bookings.