1. Explain the steps in the process of designing a database for an application domain.
2. Consider the following requirements for a university database and draw an ER diagram.
   * A Person has a NIC (unique), age and a name.
   * Professor is a Person with the following attributes: rank and research specialty.
   * Projects have a project number (unique), a sponsor (e.g. NSF), a starting date, ending date and a budget.
   * Graduate students are also persons. Graduate students need to store information about the degree program (e.g. MSc. or PhD.) that they are enrolled.
   * Each project is managed by one professor (known as the project’s principal investigator).
   * A project must have a principal investigator.
   * Each project is worked on by one or more professors (known as co-investigators).
   * Professors can manage and/or work on multiple projects.
   * Each project is worked on by one or more graduate students (known as project’s research assistants).
   * Graduate students can work on multiple projects.
3. Draw an EER diagram to cater the requirements in the given scenario.

The members of an online auctioning site are identified by a unique member id. Their names, email addresses, phone numbers and postal addresses should be maintained. A member may be a buyer or a seller. A buyer has a shipping address and a seller has a bank account number and a routing number. Items are posted by a seller. When the seller posts the item a bid may be placed by buyers. A bidding price and the time of bid placement is recorded. The person with the highest bid price is declared as the winner and the buyer can then buy the item. Items are identified by a unique item number assigned by the system. Items are also described by an item title, an item description, a starting bid price and bidding increment. Item has a category with a category number. A category is identified by the category number and the item number together.