1.Construct an ER diagram for a car insurance company whose customers own one or more cars each. Each car has associated with it zero to any number of recorded accident.

2.Design ER 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.

3.Extend the above ER diagram to track the same information for all teams in a league.

5. Draw an ER diagram for database showing bank. Each bank can have multiple branches and each branch can have multiple accounts and loans. 2023 TU

6. Draw an ER diagram for the following scenario. Make any assumption if necessary.

A university has a many Departments. Each departments have multiple teachers and one among them is head of department. Each department offers multiple courses, each being taught by a single teacher. Therefore, one teacher belongs to only one department. Further, A student may enroll for many courses offered by different departments. A particular course can be offered by only one department.

7. Draw ER diagram on the basis of following scenario assuming your own attributes. This system stores various information about driver, bus, tickets and customer. Driver drives bus, customer travel from one place to another by bus. Driver check the ticket of each customer for validity. Each customer must have ticket to travel by the bus.

8. The XYZ department store maintain database system containing information about customers, items, order, departments in the store, employees and suppliers of merchandise. Identify the different entity set, attributes set and relationship set. Construct ER diagram from the given scenario assuming your attributes and entity as per need.

9. Mrs. Sunaina Pathak is the manager of an art gallery. She wants an online application to keep track of the artists, paintings, customers, orders and payments details. It is known that the admin should store the information of artists and their paintings. Multiple artists can participate to make a painting. A customer can place an order of any number of paintings but must pay in a single installment.

10. Consider a university database for the scheduling classrooms for final exams. This database contains data about course, section, room.

* 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 ER diagram illustrating the use of all three entity sets.

12. Draw and ER diagram of the following problem. Mention any assumptions

A dealer deals with multiple petroleum gas companies (Baba Gas, Shyam Gas, etc). A customer can take one of more gas cylinders. A customer number, fullname, email address, phone and address are attributes of customer. A customer can order multiple cylinders of one or more companies. Each order has a unique order id, delivery date, delivery address and delivery status. The payment for each order has to be made immediately after the delivery.

13. A company stores information about employee(ssn, phone, salary), department(dno, name, budget) and children of employee(childid, name, age). Create ER diagram using given entities in previous sentence make your own assumptions about the relationships between the entities.

14. SoftNEP Pvt Ltd, an IT Firm provides multiple services to its client. A client can take multiple services with a service start date and service end date. A client has to pay annual to renew the service for another year. Draw the ER model for the given scenario(assume any relavant facts if necessary).

15. Design ER model of a database for a worldwide package delivery company(e.g. DHL or FED EX). The database must be able to keep track of customers(who ship items) and customers( who receive items), some customers may do both. It is known that every order has a one time payment. Choose appropriate attributes and list all assumptions made(if any).

16. Design a database using ER diagram for a mobile shop. This mobile shop maintains information about entities: customer, mobile, bills, and login

* Customer has attributes: cid, cname, address, phone, type, the cname is composed of first\_name, middle\_name, and last\_name.
* Mobile has attributes: model, name, brand, IMEIno. A customer may purchase one or more mobile and request only one bill for payment.
* Login has attributes: userid and password.
* Bill has attributes: billno, cname, amount

State any assumptions made in the design of the E-R diagram.

17. Travel agency maintains the database of passengers traveling on aircrafts in specific routes. Each passenger is assigned in at most one aircraft and one aircraft can contain more than one passenger. An aircraft can travel in only one route but one route can contain one or more aircrafts. Passenger have id(unique), name(composite), phone(multivalued), birth date and age. Route has number(unique) and distance. Aircrafts have regno(unique), name and capacity. Draw ER diagram which represents the given scenario.