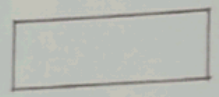
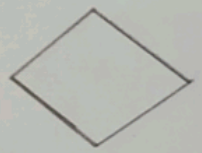
* Entity:-



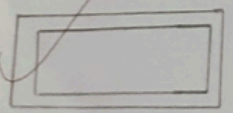
* Attributes:-

* Relationship:-



* Multivalued Attribute:-

* Weak Entity:-



* Derived Attribute:-

TASK - 1.2

Study of E.R Model & Draw of E.R Models.

What is E.R Model:-

- The Entity-Relationship (ER) Model is a high-level Conceptual data model used to visually represent the structure of a database. It helps in designing database by entities, attributes and the relationships between them.

Components in ER Model:-

1. Entity:-
   - Represents a real-world object (or) Concept.
   - Can be physical (or) Conceptual.
   - Denoted by Rectangle.
2. Attributes:-
   - Properties (or) Details of an entity.
   - Can be simple, Composite, Calculated (derived), (or) multivalued.
   - Denoted by "ovals" Connected to entities.
3. Entity Set:-
   - A Collection of similar types of entities.
   - For example, all students in a university.
4. Relationship:-
   - Describes how entities are related to each other.
   - For example, a student enrolls in a Course.

• Denoted by diamond shape.

5. Relationship Set :-

• A Collection of similar types of relationships.

6. Cardinality :-

• Specifies the number of instances of one entity related to another.

• Types : one-to-one (1:1), one-to-many (1:N), Many-to-Many M:N.

Example of E-R Model :-

• Entity : Student

• Attribute : Student ID, Name, Age.

• Relationship : Student enrolls in Course.

• Cardinality : one student can enroll in many Courses. (1:N).

* Shapes that used in ER model :-

• Rectangle = Entity

• oval = Attribute

• Diamond = Relationship

• Doubel oval = Multivalued Attribute

• Dashed oval = Derived Attribute.

• Double Rectangle = weak entity.

• Double Diamond = Identifying Relationship.

Advantages of ER Model:-

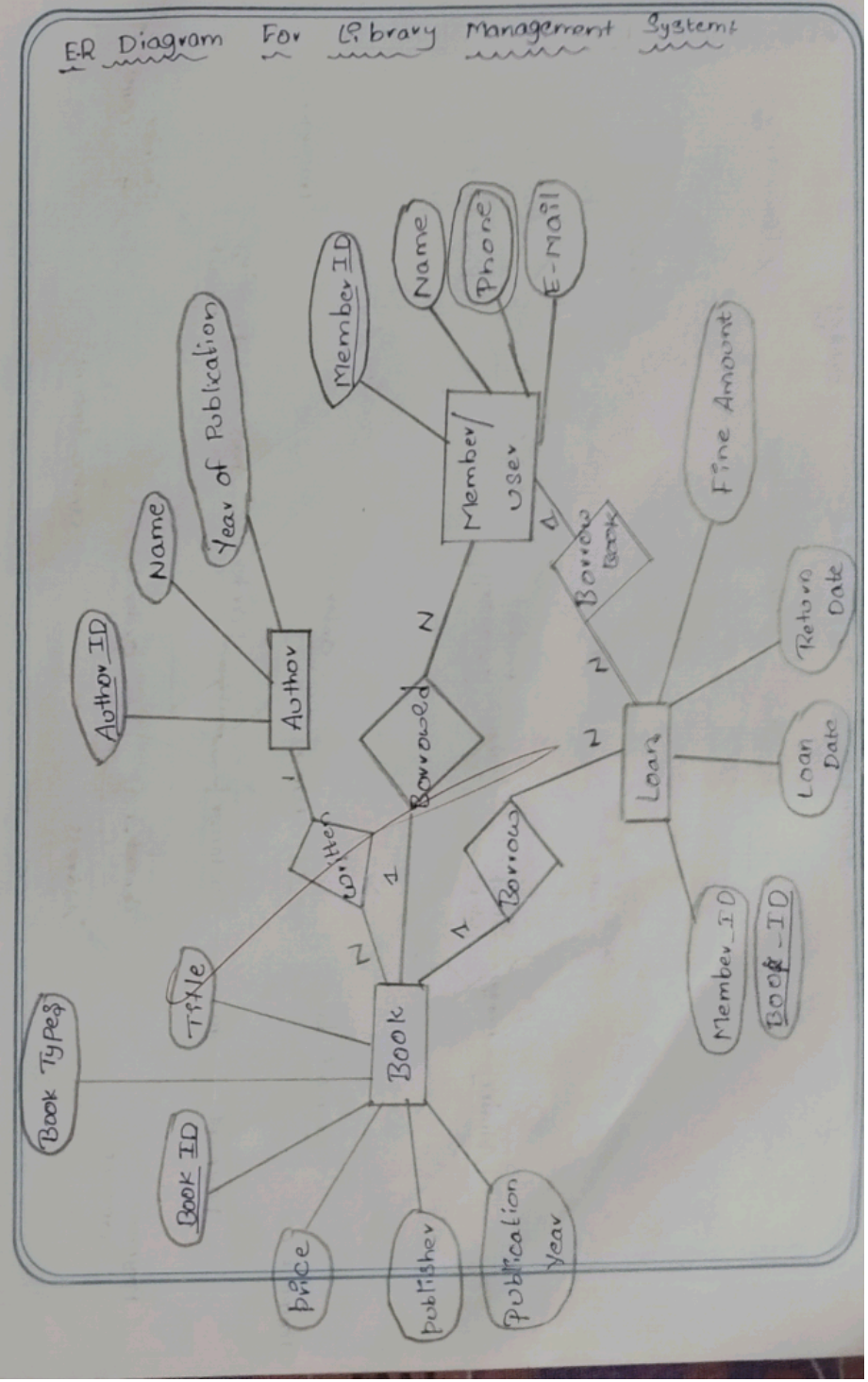
- Simple and intuitive
  → Easy to understand and interpret, even for non-technical users.
- Graphical Representation.
  → uses diagrams which make database design clear and visual.
- Clear Structure.
  → Helps organize data systematically and defines relationships explicity.
- Good for Database Design.
  → Serves as a blueprint for Creating the actual database schema.
- Encourage Communication.
  → Facilitates Communication between database designers and Stakeholders.

* Disadvantages of E.R Model:-

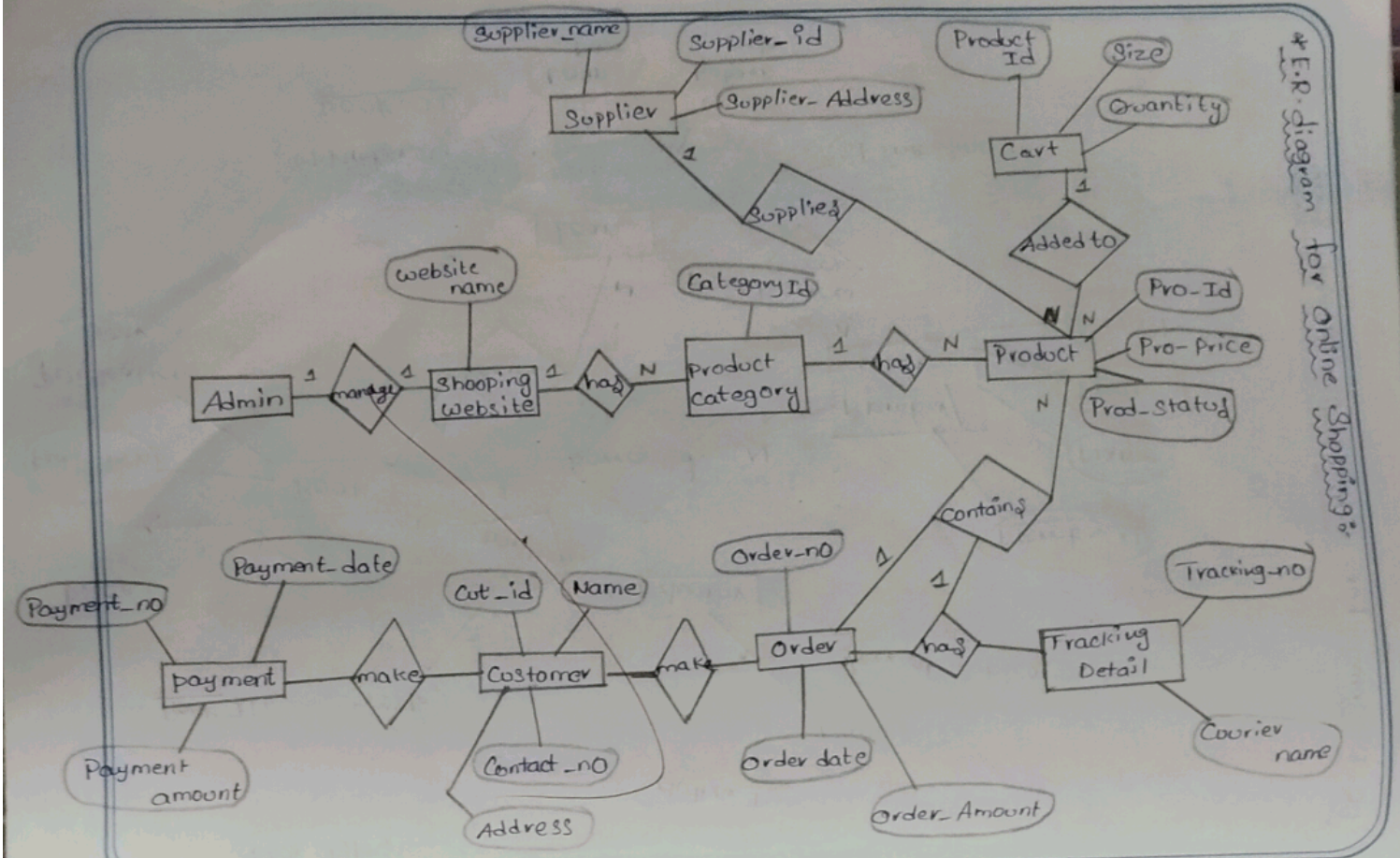
1. Limited to Conceptual Design:-
   - It doesn't handel physical database design details like indexes, storage, (or) performance.
2. Complexity with large Databases:-
   - ER diagrams Can become very Complex and difficult to manage for large systems.
3. No Standard Notation:-
   - Different tools and textbooks may use slightly different symbols (or) Conventions.

* Library System.
* Online Shopping.
* Health Care.
* Ticket Booking.
* University Management System.

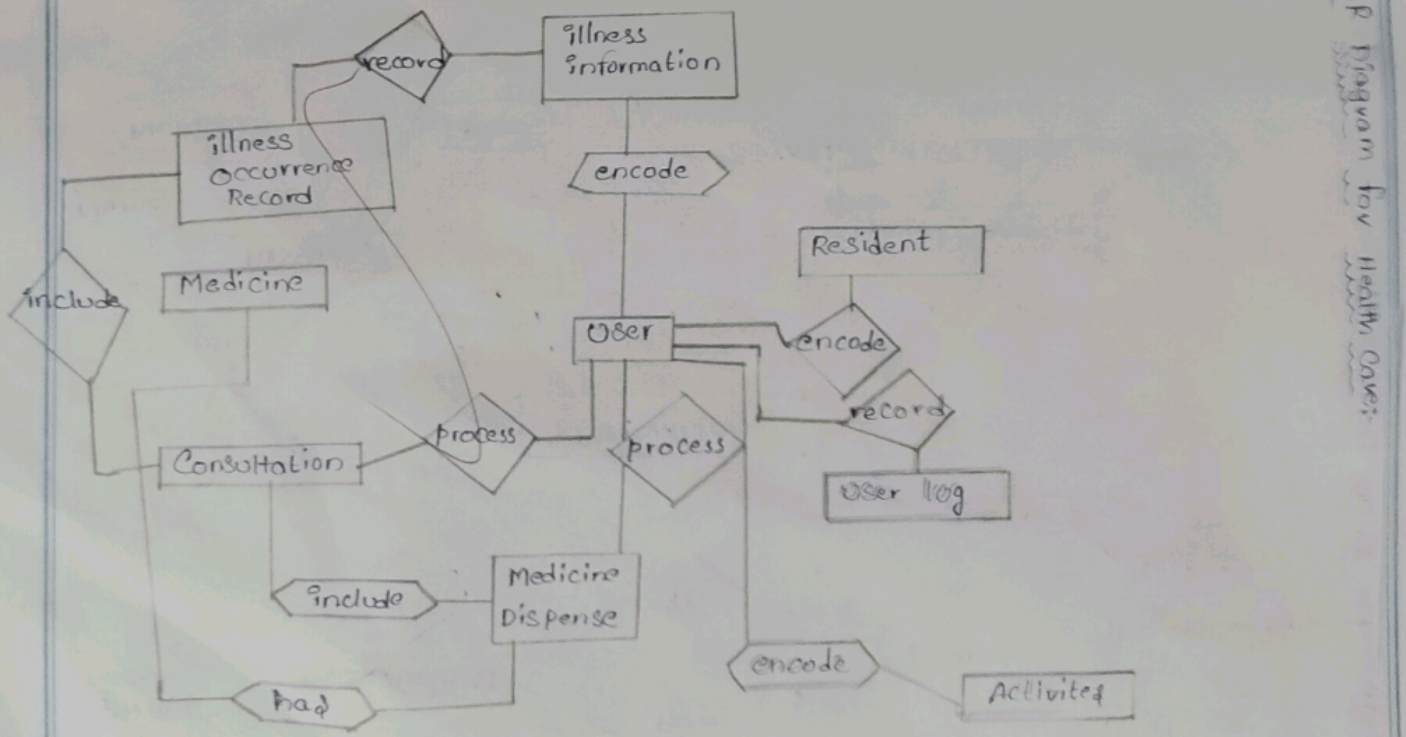
E-R Diagram For Library Management System



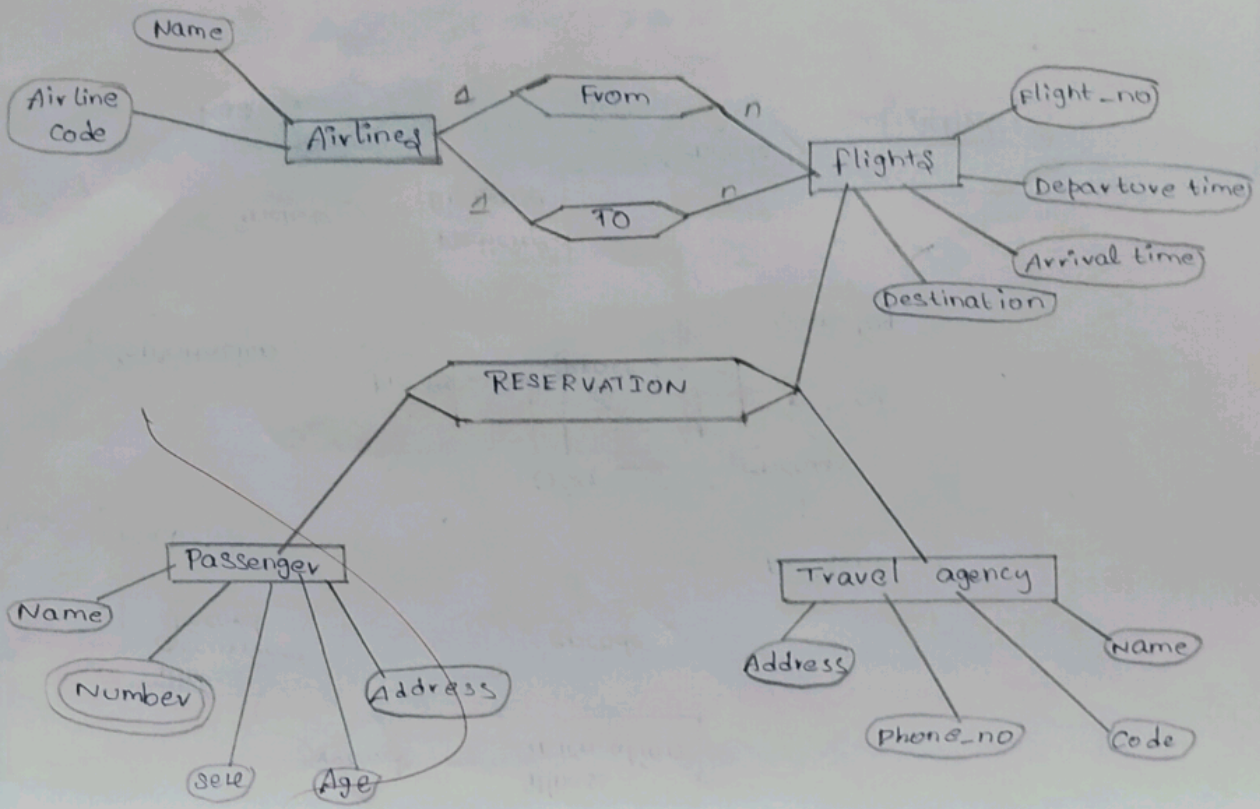
*E.R. diagram for online shopping:



*E.R Diagram for Health Care:

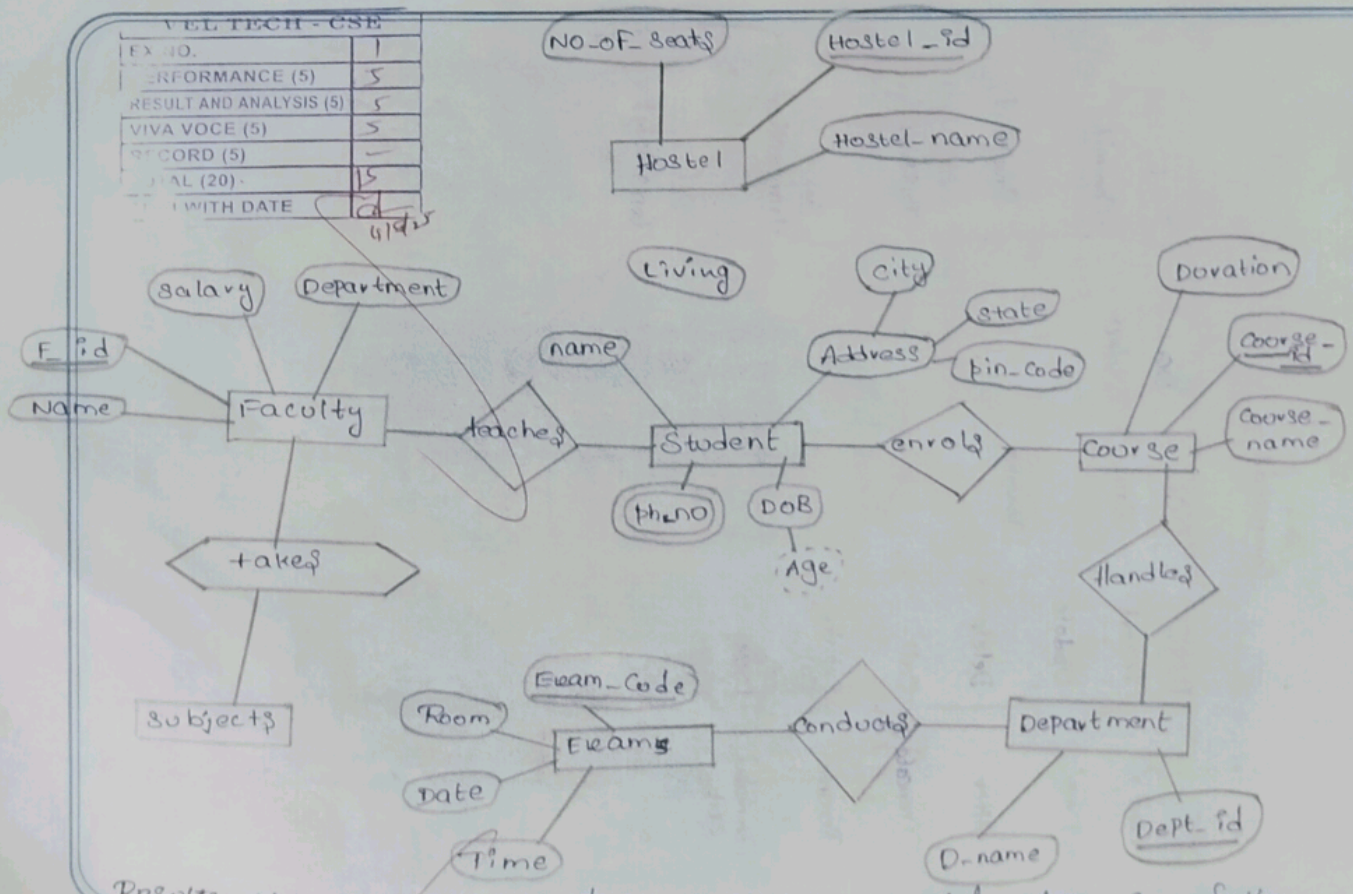


*E.R Diagram for Air Line ticket Booking:-



EX NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	—
TOTAL (20)	15
SIGN WITH DATE	4/4/25

*E.R Diagram for university Management system:-



Result:- Hence study and drawing of E.R model done sucessfully.