

# Assignment-1 (B)

An **Entity-Relationship (E-R) Diagram** for the **Department of Information Technology (IT)**

## Entities and Attributes

### 1. Department

- Department\_ID (Primary Key)
- Department\_Name
- Location
- Head\_of\_Department (HOD)

### 2. Faculty

- Faculty\_ID (Primary Key)
- Name
- Designation
- Email
- Phone
- Specialization
- Department\_ID (Foreign Key)

### 3. Student

- Student\_ID (Primary Key)
- Name
- Email
- Phone
- Enrollment\_Year
- Program (e.g., B.Tech, M.Tech)

- Department\_ID (Foreign Key)

#### **4. Course**

- Course\_ID (Primary Key)
- Course\_Name
- Credits
- Department\_ID (Foreign Key)
- Faculty\_ID (Foreign Key)

#### **5. Research\_Project**

- Project\_ID (Primary Key)
- Title
- Start\_Date
- End\_Date
- Faculty\_ID (Foreign Key)
- Department\_ID (Foreign Key)

#### **6. Lab**

- Lab\_ID (Primary Key)
- Lab\_Name
- Location
- Department\_ID (Foreign Key)

#### **7. Admin\_Staff**

- Staff\_ID (Primary Key)
- Name
- Designation
- Email
- Phone
- Department\_ID (Foreign Key)

## Relationships

- A **Department** has many **Faculty** members, **Students**, **Courses**, **Research\_Projects**, and **Labs**.
- A **Faculty** member can teach multiple **Courses** and guide multiple **Research\_Projects**.
- A **Student** enrolls in multiple **Courses**.
- A **Research\_Project** is handled by one or more **Faculty** members.
- A **Lab** belongs to a single **Department** but can be used by multiple **Students** and **Faculty**.
- **Admin\_Staff** members are assigned to a **Department**.

Department of Information Technology ERD

