To design an Entity-Relationship (ER) diagram for a MySQL database system that manages employee information, department details, and department locations, follow these steps:

Entities and Relationships

1. **Entities**:
    - **Employee**
    - **Department**
    - **Location**
2. **Relationships**:
    - **Works In**: An employee works in one department.
    - **Located In**: A department is located in one location.
    - **Accommodates**: A location can accommodate multiple departments.

Attributes

1. **Employee**:
    - `EmployeeID` (Primary Key)
    - `Name`
    - `Position`
    - `HireDate`
    - `DepartmentID` (Foreign Key, references Department)
    - `LocationID` (Foreign Key, references Location)
2. **Department**:
    - `DepartmentID` (Primary Key)
    - `DepartmentName`
    - `LocationID` (Foreign Key, references Location)
3. **Location**:
    - `LocationID` (Primary Key)
    - `LocationName`
    - `Address`
    - `City`
    - `State`
    - `ZIPCode`

ER Diagram

Here's how the ER diagram would be structured:

Entities and Their Attributes

1. **Employee**:
    - `EmployeeID` (PK)
    - `Name`
    - `Position`
    - `HireDate`
    - `DepartmentID` (FK)
    - `LocationID` (FK)
2. **Department**:
    - `DepartmentID` (PK)
    - `DepartmentName`
    - `LocationID` (FK)

3. **Location**:
    - `LocationID` (PK)
    - `LocationName`
    - `Address`
    - `City`
    - `State`
    - `ZIPCode`

Relationships

1. **Works In**:
    - **Relationship**: An employee works in exactly one department.
    - **Type**: Many-to-One (Many Employees work in One Department)
    - **Foreign Key**: `DepartmentID` in Employee refers to `DepartmentID` in Department.
2. **Located In**:
    - **Relationship**: A department is located in exactly one location.
    - **Type**: Many-to-One (Many Departments are located in One Location)
    - **Foreign Key**: `LocationID` in Department refers to `LocationID` in Location.
3. **Accommodates**:
    - **Relationship**: A location can accommodate multiple departments.
    - **Type**: One-to-Many (One Location accommodates Many Departments)

ER Diagram Representation

Here is a textual representation of how the ER diagram would be laid out: