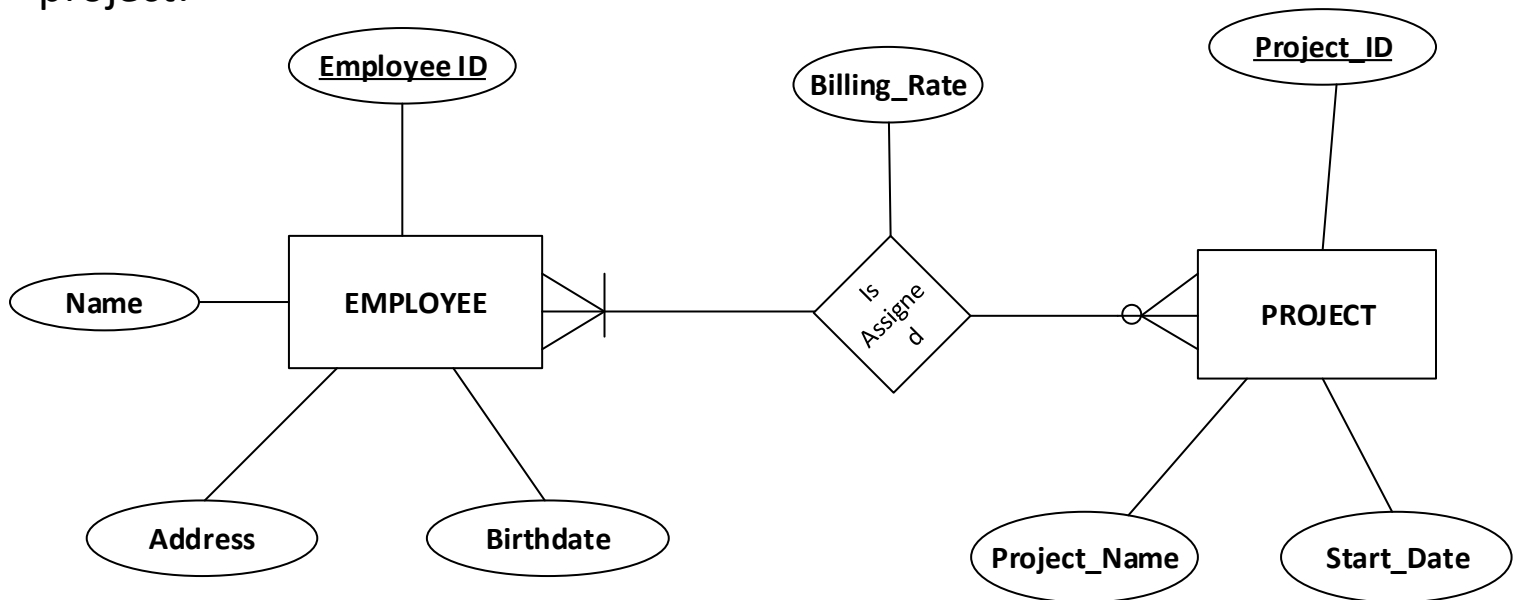


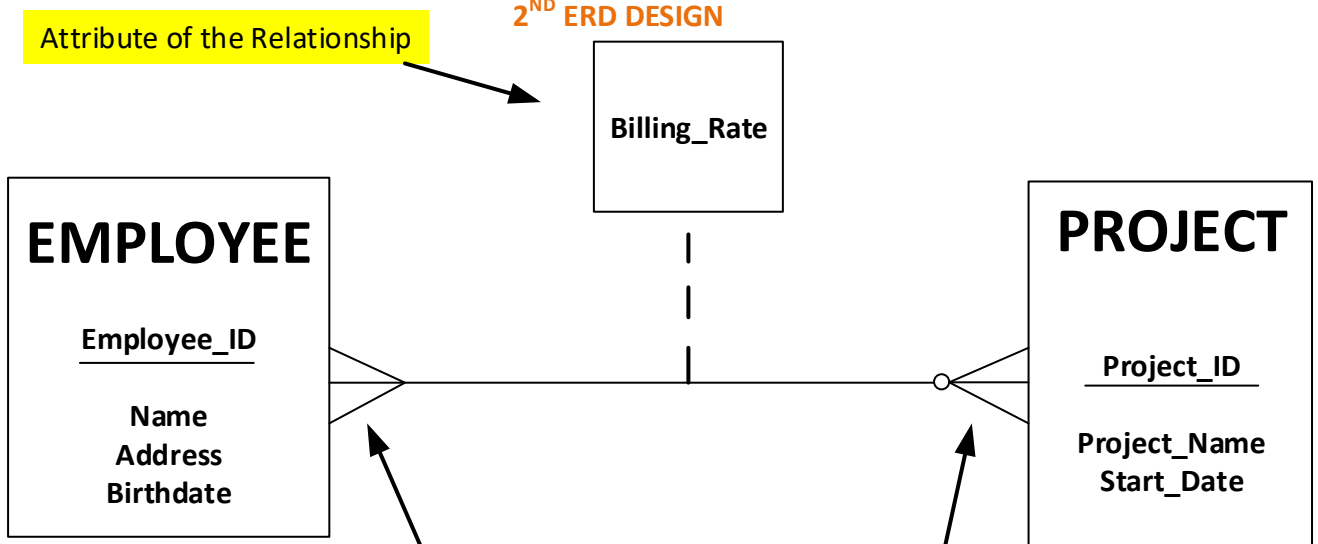
Question No1:

- A company has a number of employees. The attributes of EMPLOYEE include Emp_ID (identifier), Name, Address, and Birthdate.
- The company also has several projects. Attributes of PROJECT include Proj_ID (identifier), Proj_Name, and Start_Date.
- Each employee may be assigned to one or more projects, or may not be assigned to any project.
- A project must have at least one employee assigned to it, and may have any number of employees assigned to it.
- An employee's billing rate may vary by project, and the company wishes to record the applicable billing rate (Billing_Rate) for each employee when assigned to a particular project.

1ST ERD DESIGN



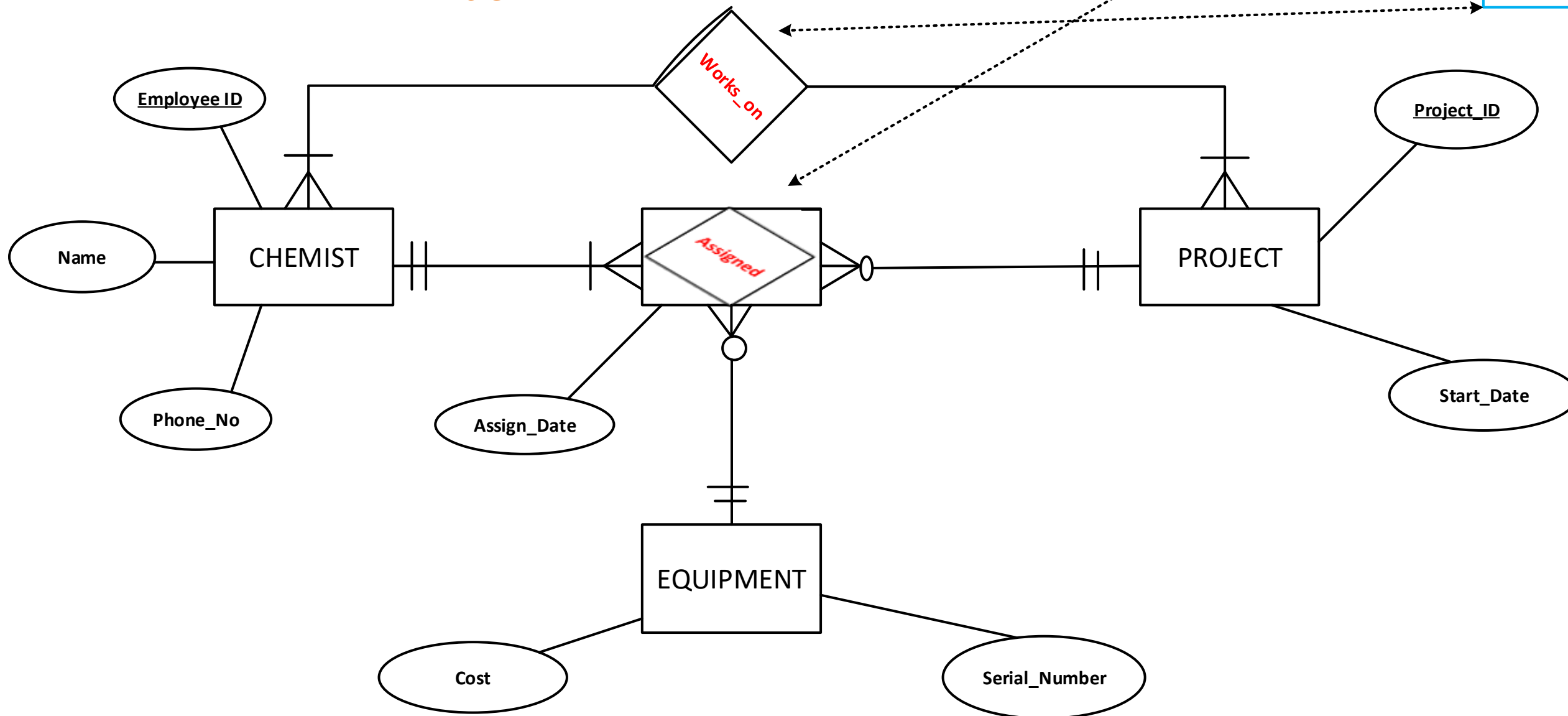
2ND ERD DESIGN



QUESTION NO:3rd

- A laboratory has several chemists who work on one or more projects. Chemists may also use certain kinds of equipment on each project. Attributes of CHEMIST include Employee_ID (identifier), Name, and Phone_no.
- Attributes of PROJECT include Project_ID (identifier) and Start_Date.
- Attributes of EQUIPMENT include Serial_no. and Cost.
- The organization wants to record Assign_Date – that is, the date when a give equipment item was assigned to a particular chemist working on a specified project.
- A chemist must be assigned to at least one project and one equipment item.
- A given piece of equipment need not be assigned, and a given project need not be assigned either a chemist nor a piece of equipment.

ERD DESIGN



All three entities participate in an assignment. However, EQUIPMENT and PROJECT do not need to participate in any assignments. All entities can have multiple assignments.

This relationship was created to show what projects a chemist works on. In the case where no equipment is used for a project, there would be no way of showing an assignment using the Assigned relationship.

QUESTION NO 4rth:

- A College course may have one or more scheduled sections, or it may not have a scheduled section.
- Attributes of COURSE include Course_ID (identifier), Course_Name, and Units.
- Attributes of SECTION include Section_Number and Semester_ID.
- Semester_ID is composed of two parts: Semester and Year.
- Section_Number is an integer that distinguishes one section from another for the same course but it does not uniquely identify a section.

ERD DESIGN

