**Due Tuesday 5 th February 2019**

**Question 1**

Draw an ERD for the following Scenario:

A Laboratory has several chemists who work on one or more projects. Chemists also may use certain kinds of equipment on each project. Attributes of CHEMIST includes EMPLOYEE\_ID (identifier), Name, Phone\_No. Attribute of PROJECT include Project\_ID (identifier), and Start\_Date. Attributes of EQUIPMENT include Serial\_No and Cost. The organization wishes to record Assign\_Date, which is the date when a given equipment was assigned to a particular chemist working on a specific project. A chemist must be assigned at least to one project and one equipment item. Any given equipment item need not be assigned, and a given project need not be assigned either a chemist or an equipment item.

**Question 2**

Draw an ER diagram for each of the following situations. On the diagram be sure to identify the cardinality, and optionality (for subtypes) of each relationship.

1. A company has a number of employees. Each employee may be assigned to one or more projects, or may not be assigned to a project. A project must have at least one employee assigned, and may have several employees assigned.
2. A university has a large number of courses in its catalog. Each course may have one or more other courses as prerequisites, or may have no prerequisites.
3. A college course may have one or more scheduled sections, or may not have a scheduled section.
4. A hospital patient has a patient history. Each patient has one or more history records (we assume that the initial patient visit is always recorded as an instance of the history). Each patient history record belongs to exactly one patient.
5. A video store may stock more than one copy of a given movie. It is also true that the store may not have a single copy of a paticular movie.