

## CS6106 - DATA BASE MANAGEMENT SYSTEMS

(Week 2 – 14.02.2024)

### SPOT

A university registrar's office maintains data about the following entities:

- (a) courses, including number, title, credits, syllabus, and prerequisites;
- (b) course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom;
- (c) students, including student-id, name, and program; and
- (d) instructors, including identification number, name, department, and title.

Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled.

Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.

Consider the main entity sets are student, course, course-offering and instructor. The entity set course-offering is a weak entity set dependent on course.

- a. Consider the attribute types as D.O.B and age for the student's entity. Find what attribute type will fit for these attributes.
- b. Consider the attribute types as Phone number for the Instructor entity. Find what attribute type will fit for these attributes.
- c. Identify the relationship between courses, under and post graduate entity. Find what type of relationship is used in it.

Under Graduate Entity: Attributes are branch name

Post Graduate Entity: Attributes are branch name, UG Specialization

The assumptions made are:

- d. a class meets only at one particular place and time. This E-R diagram cannot model a class meeting at different places at different times.
- e. There is no guarantee that the database does not have two classes meeting at the same place and time