* 1. The problem statement given below is, for a Database for a **University** Student‑Course‑Registration system which you have been tasked to design and develop:

Assume you have been hired by the **Department** of Computer Science here at Maharishi International University, to design and develop a software solution named, **eRegistrar**; which is a system that will enable its **students** to register online for **courses**, as well as track their progress toward completion of their **degree**.

The department conducts admission of students into its degree programs, in 4 quarterly entries. Upon admission, students are offered enrollment into one of (currently) two Computer Science areas of specialization, namely **Data Sciences** and **Web Applications**. In addition to the areas of specialization, students are also placed into one of two tracks (**FPP or MPP)**, at the inception of their program, depending on the grades they score in a pretest.

When a student first enrolls, he/she uses the eRegistrar to create a plan of study that lists the courses he/she plans on taking to satisfy his/her particular degree program, and is also assigned a **faculty advisor**. The eRegistrar will verify whether or not the proposed plan of study satisfies the requirements of the degree that the student is seeking.

Once a plan of study has been established, then, during the registration period preceding each semester, students are able to view the **schedule of classes** online and choose whichever classes they wish to attend, indicating their preferred section (i.e. the course as well as the **block** and **faculty**), especially if the class is offered by more than one professor.

When a student submits their registration for classes, the eRegistrar system will verify whether or not the student has satisfied the necessary prerequisites for each requested course by referring to the student's online **transcript** of courses completed and **grades** received (the student may also review his/her transcript online at any time).

A student is registered for their selected class(es), if and only if: (a) the prerequisites for the requested course(s) are satisfied, (b) the course(s) comply/complies with the student's plan of study requirements, and (c) there is room available in each of the class(es).

If (a) and (b) are satisfied, but (c) is not, the student is placed on a first-come, first-served wait-list. If a class/section that he/she was previously waitlisted for becomes available (either because some other student has dropped the class or because the seating capacity for the class has been increased), the student is automatically enrolled in the **waitlisted class**, and an email message to that effect is sent to the student. It is the student’s responsibility to drop the class if it is no longer desired; otherwise, he/she will be billed for the course. Students may drop a class up to the end of the first week of the semester in which the class is being taught.

The CSRegistrar, who is a Computer Science department staff, will be the main operator of the eRegistrar system, and she is responsible for initially assigning students to their respective tracks and faculty advisors. She is also responsible for allocating classes to respective **classrooms**, which are located in various buildings across the university campus. She is also responsible for receiving and managing requests for **change of class**, which are sent-in by students, through the eRegistrar system.

In this assignment, you will use the attached document which contains a detailed description of the system requirement for the Computer Science department here at MIU. You are required to carefully read and understand the information given, analyze the data needs and use Entity-Relationship modeling technique to produce a first draft of a suitable Database (data) model for the CS department.

Note: The eRegistrar's data requirement  when analyze fully, will result in a fairly large database model. For this Assignment, you are NOT expected to analyze/design it in full. You design may show just a subset of the entities/relationships (i.e. present in your design just the major/significant entities; may be, 5 to 10, only). In your analysis, also consider/come-up with and list-out some examples Questions (i.e. queries) that the database/system users (i.e. CSRegistrar, Students, Faculty etc.) in the CS Department will be interested in using the database/system to answer.

Note 2: In your ERD, make sure to show Entities, Relationships and some Attributes. You may also show the multiplicities.

When done, submit an E-R diagram of your design/model. Include/mention any assumptions you make.