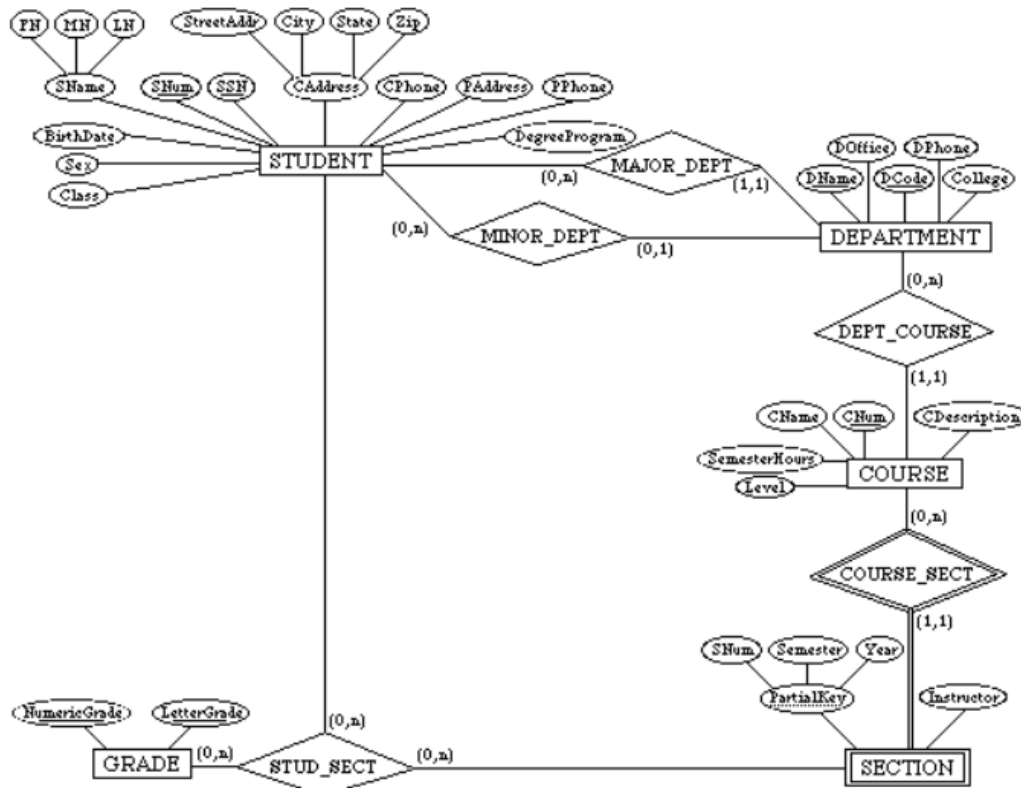**1. *Answer:***

Possible candidate keys include the following (Note: We assume that the values of the
Semester attribute include the year; for example "Spring/94" or "Fall/93" could be
values for Semester):

1. {Semester, BuildingCode, Room#, TimePeriod, Weekdays} if the same room cannot
be used at the same time by more than one course during a particular semester.
2. {Univ_Section#} if it is unique across all semesters.
3. {InstructorName, Semester} if an instructor can teach at most one course during each
semester.
4. If Univ_Section# is not unique, which is the case in many universities, we have to
examine the rules that the university uses for section numbering. For example, if the
sections of a particular course during a particular semester are numbered 1, 2, 3, ...,
then a candidate key would be {Course#, Univ_Section#, Semester}. If, on the other
hand, all sections (of any course) have unique numbers during a particular semester
only, then the candidate key would be {Univ_Section#, Semester}.

2. *Answer:*

Discussed in class...

3. *Answer:*

4. *Answer:*

(1) The database represents each AIRPORT, keeping its unique AirportCode, the AIRPORT Name, and the City and State in which the AIRPORT is located.

(2) Each airline FLIGHT has a unique number, the Airline for the FLIGHT, and the Weekdays on which the FLIGHT is scheduled (for example, every day of the week except Sunday can be coded as X7).

(3) A FLIGHT is composed of one or more FLIGHT LEGs (for example, flight number CO1223 from New York to Los Angeles may have two FLIGHT LEGs: leg 1 from New York to Houston and leg 2 from Houston to Los Angeles). Each FLIGHT LEG has a DEPARTURE AIRPORT and Scheduled Departure Time, and an ARRIVAL AIRPORT and Scheduled Arrival Time.

(4) A LEG INSTANCE is an instance of a FLIGHT LEG on a specific Date (for example, CO1223 leg 1 on July 30, 1989). The actual Departure and Arrival AIRPORTs and Times are recorded for each flight leg after the flight leg has been concluded. The Number of available seats and the AIRPLANE used in the LEG INSTANCE are also kept.

(5) The customer RESERVATIONs on each LEG INSTANCE include the Customer Name, Phone, and Seat Number(s) for each reservation.

(6) Information on AIRPLANEs and AIRPLANE TYPEs are also kept. For each AIRPLANE TYPE (for example, DC-10), the TypeName, manufacturing Company, and Maximum Number of Seats are kept. The AIRPORTs in which planes of this type CAN LAND are kept in the database. For each AIRPLANE, the AirplaneId, Total number of seats, and TYPE are kept.