

COURSE TITLE: **DBMS**
Class: **BSE – 4**
Course Instructor: **ENGR. BUSHRA FAZAL KHAN**
Assignment Date : **30th APRIL 2024**
Assignment Due Date : **7th MAY 2024**

COURSE CODE: **CSC-411**
Shift: **Morning**
Max. Marks: **[6 Marks:CLO4]**

For each of the following narratives, draw an ERD diagram which indicates the entities and their attributes (if noted). Identify and label significant relationships between pairs of entities.

Question #1

Create a Crow's Foot ERD for each of the following descriptions. (Note that the word "many" is meant to mean "more than one" in a database modelling environment.)

- a) Each of the MegaCo Corporation's divisions is composed of many departments. Each of the departments has many employees assigned to it, but each employee works for only one department. Each department is managed by one employee, and each of these managers can manage only one department at a time.
- b) During some period of time, a customer can rent many videotapes from the BigVid store. Each of the BigVid's videotapes can be rented to many customers during that period of time.
- c) An airline can be assigned to fly many flights, but each flight is flown by only one airline .
- d) The KwikTite Corporation operates many factories. Each factory is located in a region. Each region can be "home" to many of KwikTite's factories. Each factory employs many employees, but each of these employees is employed by only one factory.
- e) An employee may have earned many degrees, and each degree may have been earned by many employees.

Question #2

Pick and Shovel Construction Company is a multi-state building contractor specializing in medium-priced town homes. Assume that Pick and Shovel's main entities are its customers, employees, projects and equipment.

A customer can hire the company for more than one project, and employees sometimes work on more than one project at a time. Equipment, however, is assigned to only one project at a time. Draw an ERD showing those entities.

Question #3

FastFlight Airlines is a small air carrier operating in three north-eastern states. FastFlight is in the process of computerizing its passenger reservation system.

The following data items have been identified: reservation code, flight number, flight date, origin, destination, departure time, arrival time, passenger name, seat number, reservation agent number and reservation agent name. For example, flight number 303, which is scheduled every Tuesday and Thursday, leaves Augusta, Maine, at 9:23am and arrives in Nashua, New Hampshire at 10:17am.

You can assume that the Fast Freight reservation system will detect automatically whether empty seats are available. Draw the Entity Relationship Diagram for this system.