

Program Name: Bachelor of Computer Science (HONS)

Course Code: CSC 1403

Course Name: Database Concepts

Assignment: 3

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**Question no. 1**

1. Identify the different kind of relationship between entities. Support you answer with justification whether the relationship is one-one, one-many, many- many.

**Answer:**

1. One-to-one Relationship:

* Employee and Payment
* Because each employee can only have one payment account or id, and each payroll can only belong to one person, each payroll is unique to them. Employees and vacations
* Employee and Recess
* Because one employee can issue for a leave which is unique to one employee only.

1. One-to-many Relationship

* Employee and Department
* The Employee table and the Department table have a one-to-many connection since each employee may only belong to one department at a time, but a department can have more than one employee at the same time.

1. Many-to-many Relationship

* Employee and Post
* Because one person may be allocated several tasks, and one task can be assigned to multiple employees at the same time.

1. Discuss idea of implementing many-many relationship while doing the physical database design.

In any connection, creating a many-to-many relationship is impossible. While it is easy to establish a many-to-many relationship in a logical model, it is far more difficult to create such a relationship in a physical model. When connecting two tables, the primary key of one table is the foreign key of the other, hence we can only join the tables by reference keys. However, connecting a many-to-many connection is not allowed since two separate primary keys may exist, which is not possible. The data in the database gets hazy. To avoid this difficulty, while creating the table physically, we may link two tables with many to many relationships, but there is a third table, referred to as the "Junction Table."

1. Draw an Enhanced entity-relationship (EER) so that you can plan databases more thoroughly. Make use of database design software to draw EER diagram and express the relationship in crow’s foot notation.

