

# I.T Study Materials for Class 10

## (NCERT Based Revision Notes )

**Raushan Deep**

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### **1. What is normalization?**

Normalization is the process of minimizing redundancy and dependency by organizing fields and table of a database. The main aim of Normalization is to add, delete or modify field that can be made in a single table.

### **1. What is Denormalization.**

DeNormalization is a technique used to access the data from higher to lower normal forms of database. It is also process of introducing redundancy into a table by incorporating data from the related tables.

### **2. What are all the different normalizations?**

The normal forms can be divided into 5 forms, and they are explained below -.

- **First Normal Form (1NF):.**

This should remove all the duplicate columns from the table. Creation of tables for the related data and identification of unique columns.

- **Second Normal Form (2NF):.**

Meeting all requirements of the first normal form. Placing the subsets of data in separate tables and Creation of relationships between the tables using primary keys.

- **Third Normal Form (3NF):.**

This should meet all requirements of 2NF. Removing the columns which are not dependent on primary key constraints.

- **Fourth Normal Form (4NF):.**

Meeting all the requirements of third normal form and it should not have multi- valued dependencies.

### **3. What is a View?**

A view is a virtual table which consists of a subset of data contained in a table. Views are not virtually present, and it takes less space to store. View can have data of one or more tables combined, and it is depending on the relationship.

#### **4. What is an Index?**

An index is performance tuning method of allowing faster retrieval of records from the table. An index creates an entry for each value and it will be faster to retrieve data.

#### **5. What are all the different types of indexes?**

There are three types of indexes -.

- **Unique Index.**

This indexing does not allow the field to have duplicate values if the column is unique indexed. Unique index can be applied automatically when primary key is defined.

- **Clustered Index.**

This type of index reorders the physical order of the table and search based on the key values. Each table can have only one clustered index.