



**SNS COLLEGE OF TECHNOLOGY, COIMBATORE-35**

**(AN AUTONOMOUS INSTITUTION)**



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**19CST202-DATABASE MANAGEMENT SYSTEM**

## **UNIT-V**

### **PHYSICAL STORAGE AND MONGODB**

#### **Topic: Hashing**

#### **Hashing:**

Hashing is a DBMS technique for searching for needed data on the disc without utilising an index structure. The hashing method is basically used to index items and retrieve them in a DB since searching for a specific item using a shorter hashed key rather than the original value is faster.

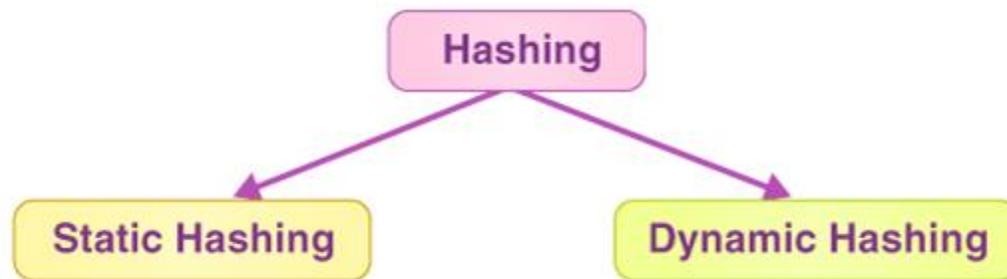
#### **Hash Organization**

**Bucket** – A bucket is a type of storage container. Data is stored in bucket format in a hash file. Typically, a bucket stores one entire disc block, which can then store one or more records.

**Hash Function** – A hash function, abbreviated as  $h$ , refers to a mapping function that connects all of the search-keys  $K$  to that address in which the actual records are stored. From the search keys to the bucket addresses, it's a function.

#### **Types of Hashing**

Hashing is of the following types:



## **Static Hashing**

Whenever a search-key value is given in static hashing, the hash algorithm always returns the same address. If the mod-4 hash function is employed, for example, only 5 values will be generated. For this function, the output address must always be the same. At all times, the total number of buckets available remains constant. Click here to learn more about [static hashing](#).

## **Dynamic Hashing**

The disadvantage of static hashing is that it doesn't expand or contract dynamically as the database size grows or diminishes. Dynamic hashing is a technology that allows data buckets to be created and withdrawn on the fly. Extended hashing is another name for dynamic hashing.

In dynamic hashing, the hash function is designed to output a huge number of values, but only a few are used at first.