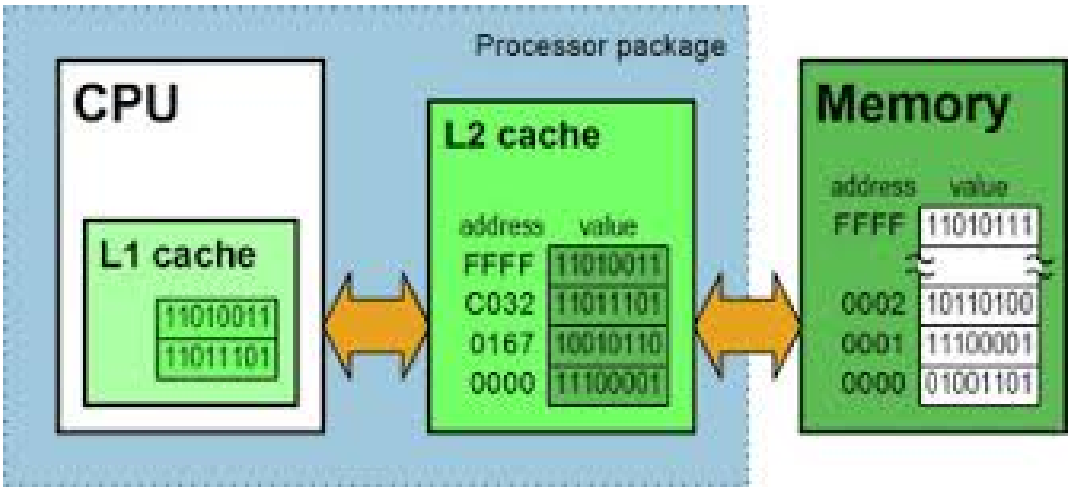
NIELIT GORAKHPUR

Course Name: O Level (2nd Sem) **Subject:** Introduction to ICT Resources
Topic: Cache Memory **Date:** 19-03-2020

Cache Memory



Introduction:

1. Cache Memory is a special very high-speed memory.
2. Cache memory is costly than main memory or disk memory.
3. Cache memory is acts as a buffer between RAM and the CPU.
4. It holds frequently requested data and instructions so that they are immediately available to the CPU when needed.
5. Cache Memory is used to speed up and synchronizing slower devices with high-speed CPU. So that it can reduce the average time to access data from the Main memory.
6. The cache is a smaller and faster memory which stores copies of the data from frequently used main memory locations.

Type of Cache Memory:

There are various different independent caches in a CPU, which store instructions and data.

There are mainly two type of Cache memory. They are -

1. **Primary Cache (L1)–**
   - Primary cache is always located on the processor chip.
   - It is referred to as the level 1 (L1) cache.
   - This cache is small and its access time is comparable to that of processor registers.
   - Primary cache is placed between the processor (CPU) and the secondary cache (L2).

2. **Secondary Cache(L2) –**
    - Secondary cache is also located on the processor chip.
    - Secondary cache is placed between the primary cache and the rest of the memory.
    - It is referred to as the level 2 (L2) cache.
    - Secondary cache is bigger than Primary cache but smaller than RAM.
    - L2 cache is faster than RAM but slower than Primary cache.

Exercise:

1: What is Cache Memory?
2: How Many Type of Cache Memory?
3: Write different between L1 Cache and L2 Cache.
4: Where cache memory placed?