

NIELIT Gorakhpur

Course Name: O Level (2nd Sem)

Subject: ICT

Topic: Jumper, CPU Clock

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Jumper:- A jumper is a removable wire or small plastic or metal plug whose absence or placement on a piece of hardware determines how the hardware is to be configured. It works by opening or closing part of a circuit.

A jumper is a small metal connector that acts as an on/off switch. Multiple jumpers are often used together to configure settings for a hardware device. Some jumpers are encased in a plastic switch, that can be toggled on or off. Other jumpers are plastic sleeves with metal linings that connect two metallic prongs together. When the sleeve is applied, the connection is on and it when it is removed, the connection is off. Jumpers are found in computer hardware as well as other types of electronic devices. A motherboard, for instance, may include jumpers that are used to enable different types of components. Hard drives commonly include jumpers that can enable or disable different features.



CPU Clock:- Every computer contains an internal clock that regulates the rate at which instructions are executed and synchronizes all the various computer components. The CPU requires a fixed number of clock ticks (or *clock cycles*) to execute each instruction. The faster the clock, the more instructions the CPU can execute per second. Clock speeds are expressed in megahertz (MHz) or gigahertz (GHz).

Factors that determine the performance of a computer

1. The type of microprocessor
2. The bus architecture
3. The nature of the instructions set
4. The amount of Random Access Memory (RAM)

CMOS Battery:- CMOS (complementary metal-oxide-semiconductor) is a chip on the motherboard that contains BIOS configuration, date, time and other information that the computer needs during startup. Normally, this information would be lost when the computer is shut down or loses power for some reason (dead battery, power failure, etc.). The CMOS battery supplies power to the CMOS chip, even when the computer is shut down. This battery is usually a watch type batter which can supply power for a year or more.

One of the most common signs that your CMOS battery is failing is your computer being unable to keep time and date even after being reset in the BIOS. Sometimes you will see error messages during boot such as, “CMOS checksum error” or “CMOS read error.”



Exercise :-

- 1- Why CMOS Battery is important for a computer?
- 2- What is CPU clock Explain?