

NIELIT Gorakhpur

Course Name: O Level (2nd Sem)

Subject: ICT

Topic: Expansion slot

Expansion slot:-An expansion slot refers to any of the slots on a motherboard that can hold an expansion card to expand the computer's functionality, like a video card, network card, or sound card. The expansion card is plugged directly into the expansion port so that the motherboard has direct access to the hardware. However, since all computers have a limited number of expansion slots. There have been several types of expansion slots, but the most popular one used today is PCIe. While some newer computers still have PCI and AGP slots, PCIe has basically replaced all of the older technologies.

Sound Card:-It is referred to as an audio output device, sound board, or audio card. A sound card is an expansion card or IC for producing sound on a computer that can be heard through speakers or headphones. Although the computer does not need a sound device to function, they are included on every machine in one form or another, either in an expansion slot or built into the motherboard (onboard).

NIC:-A network interface card (NIC) is a hardware component, typically a circuit board or chip, which is installed on a computer so that it can connect to a network. Modern NICs provide functionality to computers such as support for I/O interrupt, direct memory access (DMA) interfaces, data transmission etc. A NIC provides a computer with a dedicated, full-time connection to a network by implementing the physical layer circuitry necessary for communicating with a data link layer standard, such as Ethernet or Wi-Fi. Each card represents a device and can prepare, transmit and control the flow of data on the network.

The network card operates as a middleman between a computer and a data network. For example, when a user requests a web page, the

computer will pass the request to the network card which converts it into electrical impulses. Those impulses are received by a web server on the internet and responds by sending the web page back to the network card as electrical signals. The card gets these signals and translates them into the data that the computer displays.

PCI Express:- PCI Express, technically Peripheral Component Interconnect Express but often seen abbreviated as PCIe or PCI-E, is a standard type of connection for internal devices in a computer. Generally, PCI Express refers to the actual expansion slots on the motherboard that accept PCIe-based expansion cards and to the types of expansion cards themselves. PCI Express has all but replaced AGP and PCI, both of which replaced the oldest widely-used connection type called ISA.

Graphics Card :-A graphics card is a type of display adapter or video card installed within most computing devices to display graphical data with high clarity, color, definition and overall appearance. A graphics card provides high-quality visual display by processing and executing graphical data using advanced graphical techniques, features and functions. A graphics card is also known as a graphics adapter, graphics controller, graphics accelerator card or graphics board.

The images you see on your monitor are made of tiny dots called pixels. At most common resolution settings, a screen displays over a million pixels, and the computer has to decide what to do with every one in order to create an image. To do this, it needs a translator -- something to take binary data from the CPU and turn it into a picture you can see. Unless a computer has graphics capability built into the motherboard, that translation takes place on the graphics card. The graphics card accomplishes this task using four main components:

- 1-A motherboard connection for data and power
- 2-A processor to decide what to do with each pixel on the screen
- 3-Memory to hold information about each pixel and to temporarily store completed pictures

4-A monitor connection so you can see the final result

Exercise:-

1-Write short note on following

A-Graphic card

B-Sound Card

C-NIC

2-What is Expansion Slot