NETWORKING & SYSTEM ADMINISTRATION LAB

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Aim

Identify the major components of motherboards, ram modules, daughtercard, bus slots,SMPS, internal storage devices and interfacing ports?

Procedure

MOTHERBOARD :-

A motherboard provides connectivity between the hardware components of a computer, like the processor (CPU), memory (RAM), hard drive, and video card. There are multiple types of motherboards, designed to fit different types and sizes of computers**.**

Each type of motherboard is designed to work with specific types of processors and memory, so they don't work with every processor and type of memory. However, hard drives are mostly universal and work with the majority of motherboards, regardless of the type or brand.

RAM MODULE :-

RAM stands for random-access memory.It is volatile .that is it losses its content when power is shut down.It is used to speed up the memory access time.

Different types of memory modules are:-

1.Single Inline Memory Module (SIMM)

2. Dual Inline Memory Module (DIMM)

3.Small Outline DIMM(SO-DIMM)

1.SIMM:-

Single Inline Memory Module (SIMM) is a small circuit board that can hold a group of memory chips.

Typically, SIMMs hold up to eight or nine RAM chips.

It is a type of memory module containing RAM used in computers from the early 1980s to the late 1990s.

SIMMs come in 2 varieties: 30-pin and 72-pin

All 30-pns SIMMs are 8-bit memory and all 72-pin SIMMs are 32-bit memory On any given read cycle, a 30-pin SIMM delivers 8 bits of data◊ and whereas 72-pin SIMM delivers 32 bits.

Physically SIMM is constructed with a single notch cut into the lower edge of the module

2.DIMM:-

A DIMM or dual in-line memory module comprises a series of dynamic random-access memory integrated circuits.

These modules are mounted on a printed circuit board and designed for use in personal computers, workstations and servers.

DIMMs began to replace SIMMs (single in-line memory modules) as th e predominant type of memory module as Intel P5- based Pentium processors began to gain market share.

3.Small Outline DIMM:-

Notebook computers and other computers that require much smaller components don't use standard RAM packages like the SIMM or the DIMM.

Instead, they can use much smaller memory form factor called Small Outline DIMM (SO-DIMM).

SO-DIMMs (also written SODIMMs) are a smaller alternative to a DIMM, being roughly half the size of regular DIMMs.

SODIMMs are often used in systems which have space restrictions such as notebooks, high-end upgradable office printers, and networking hardware like routers

DAUGHTER CARDS:-

A daughtercard or daughterboard is a type of circuit board that gets added to an existing one. Its name is appropriate for its use, since it is connected to a “motherboard” or “main board.” The motherboard is the primary circuit board for a device.

Some daughtercard designs are made so that engineers can add functionality to a device without requiring a lot more room inside its housing.

Like a motherboard, a daughterboard has sockets, pins, plugs and connectors to be attached to other boards.

BUS SLOTS:-

An expansion slot is a socket on the motherboard that is used to insert an expansion card (or circuit board), which provides additional features to a computer such as video, sound, advanced graphics, Ethernet or memory.

An expansion slot is a connection or port inside a computer on the motherboard

AGP - Video card.

AMR - Modem, sound card.

CNR - Modem, network card, sound card.

EISA - SCSI, network card, video card.

ISA - Network card, sound card, video card.

PCI - Network card, SCSI, sound card, video card.

PCI Express - Video card, modem, sound card, network card.

VESA - Video card.

SMPS:-

SMPS stands for Switched-Mode Power Supply. It is an electronic power supply that uses a switching regulator to convert electrical power efficiently. It is also known as Switching Mode Power Supply. It is power supply unit (PSU) generally used in computers to convert the voltage into the computer acceptable range.

This device has the power handling electronic components that converts electrical power efficiently. Switched Mode Power Supply uses a great power conversion technique to reduce overall power loss.

INTERNAL STORAGE DEVICES:-

A storage device is any hardware capable of holding information either temporarily or permanently.

There are two types of storage devices used with computers: a primary storage device, such as RAM, and a secondary storage device, such as a hard drive.

Secondary storage can be removable, internal, or external.

Magnetic storage is one of the most common types of storage used with computers. This technology is found mostly on extremely large HDDs or hybrid hard drives.

Another common type of storage is optical storage, which uses lasers and lights as its method of reading and writing data.

Solid-state storage (flash memory) has replaced most magnetic and optical media as it becomes cheaper because it's the more efficient and reliable solution.

INTERFACING PORTS:-

As we know that we can connect multiple external devices with the computer system. Now, these devices are connected with the computer using Ports. The ports are the physical docking points present in the computer through which the external devices are connected using cables. A port is an interface between the motherboard and an external device of the computer. A port is basically a physical docking

point which is basically used to connect the external devices to the computer, or we can say that A port act as an interface between the computer and the external devices, e.g., we can connect hard drives, printers to the computer with the help of ports.

We can connect external devices to the computer with the help of ports and cables.

These are basically slots on motherboard where we connect external devices, or we can plug in external devices through cables.

Mouse, keyboards, printers, speakers are some examples of external devices that connected to the computer through ports.

There are different types of ports available:

Serial port

Parallel port

USB port

PS/2 port

VGA port

Modem port

FireWire Port

Sockets

Infrared Port

Game Port

Digital Video Interface(DVI) Port

Ethernet Port