HARDWARE LAB

Hardware Lab

Focuses on providing the knowledge of computer hardware processors, motherboard, memories, different add-on cards, and other peripherals like printers, plotters, and scanners. The students are trained for the assembly and disassembly of PCs.

Computational Resources

- **System : Hewllet Packard (HP) Pro Desk 600 SFF**
- **System Count: 30**
- **System Configration:**

1. **Hewlett-Packard**
2. **Intel Core i7 9700CPU**
3. **2.80 GHZ 2 core**
4. **RAM 2 GB**
5. **HDD 160 GB**

Star Topology in Hardware lab

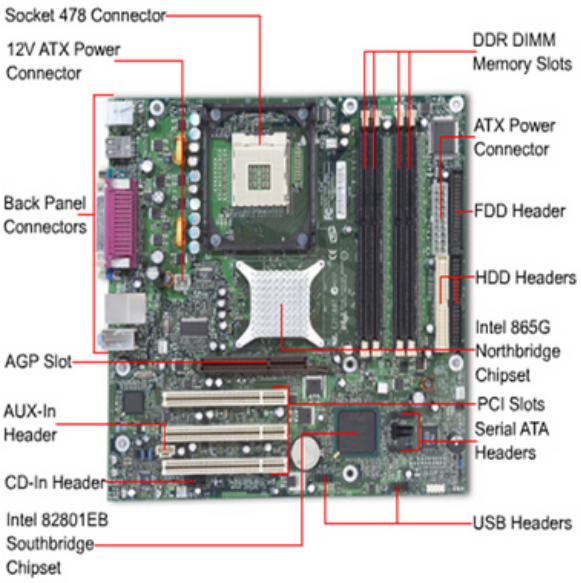
Softwares and Utility available:

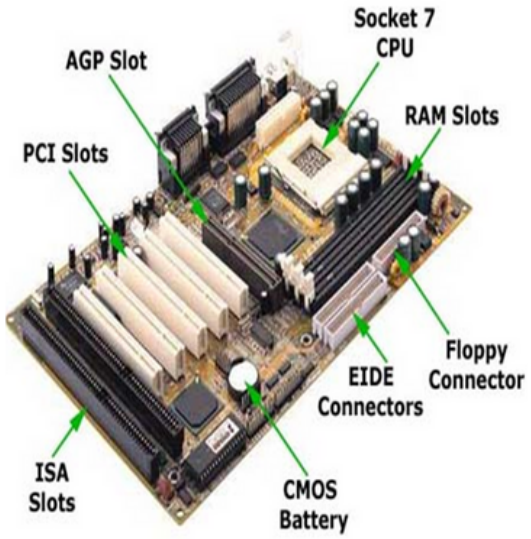
- **AnyBurn**
- **ISO to USB**
- **Virtual Box**
- **Nero**
- **HD Clone**
- **Magic Partition**
- **Window 10 pro IS0 image**
- **DriverPack Solution**
- **Data Recover Tool**

HARDWARE LAB

MAJOR EQUIPMENTS

- LAN Cable tester
- Crimping tool
- Cabinet (CPU) 15
- Wi-Fi USB Cards
- Digital Multimeter
- Wireless access points
- Screw Driver small - 01
- Screw Driver Large- 01
- VGA Card
- LAN Card
- Joystick card
- SMPS
- Switch
- Hard Disk
- DVD drive
- Various types of cables & connectors used in Computer networks
- Integrated & Non- Integrated Motherboard





HARDWARE LAB

LAB ETHICS

- Be on time for your assigned lab session.
- Make Proper entry in log register before taking your assigned system.
- Perform practical's as explained by the facilitator individually, ask for guidance from the facilitator when stuck.
- Aim to finish, at least one practical in a session
- After completion, shut down your systems properly.
- Collect your extensible if any like flash drive, mobiles, notebook, pen extra before you leave your station.
- Arrange the stools and chairs properly before you leave your assigned station and the lab.

In Charge

Prof. Smita Parte

Physical In Charge

Mr. Sanjay Arolia

HARDWARE LAB

COURSE OUTCOMES OF HARDWARE LAB

- CO1 Outline the features and functions of motherboard, BIOS and Storage devices.
- CO2 Assemble personal computer
- CO3 Create partitioning of hard disk.
- CO4 Install system and application software.
- CO5 Configure network, Printer, Scanner and other devices.
- CO6. Troubleshoot and Managing Systems

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HARDWARE LAB

List of Experiment

- Study the different parts of computer system.
- Study different parts of motherboard
- Study various types of connectors.
- Draw the pin details of various connectors.
- Study of CMOS setup and PC Troubleshooting.
- Partition and format the hard disc
- Installation of OS: Linux and windows
- Connect systems in network using switch
- Connect the systems in peer-to-peer network
- Configure e-mail client and e-mail server
- Configure browser for Internet access using proxy server
- Configure Virtual Private Network (VPN)
- Create Disk Image/Clone.
- Overclocking, Booting with USB/CD.
- Using Disk Defragrnenter, Check Disk and Disk Clean-up, Window restore point

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Skill based project

- Disassemble and assemble various components of the computer System.
- Install and Configure Windows/Linux Operating System.
- Boot System using USB/CD.
- Install and Configure Drivers and System software such as Printer drivers, Scanner Drivers,Sound and display drivers etc
- Install multiple operating system on a system.
- Create the clone of the hard disk.
- Connect few systems using network and IPaddress setting to configure network.
- To connect a multiple hard disk drive in a computer and then create a multiple volume.
- Troubleshoot system using Disk Defragmenter, Check Disk and Disk Clean-up, Window restore point.
- Study the details of editing the registry. Try the commands and observe its use.
- Install ApacheWeb server, MongoDB and other software's.

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COURSE OUTCOMES OF MICROPROCESSOR & INTERFACING

- CO1: differentiate the various types of instructions and addressing modes.
- CO2: identify the Hex codel Machine code of instructions in assembly language.
- CO3: perform interfacing of various peripheral devices and memory with microprocessor.
- CO4: demonstrate the arithmetic & Logical operation using instruction set of8086/8051 microprocessor.
- CO5: use of 8086/8051 for interfacing with l/O devices.
- CO6: Build the assembly language programs in 8086/8051 to solve the real world program.

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Physical Incharge

Mrs. Shiva Patel

HARDWARE LAB

List of Experiment

- Write an assembly language program to perform the addition of two 8-bit number using 8085/8086 instruction set.
- Write an assembly language program to find the sum of numbers in array of data using 8085/8086 instruction set.
- Write an assembly language program to perform the subtraction of two 8-bit number using 8085/8086 instruction set.
- Write an assembly language program to move data block starting at location 'X' to location 'Y' without overlap using 8085/8086 instruction set.
- Write an assembly language program to arrange set of 8-bit numbers starting at location in ASCENDING I DESCENDING order. Display the stored vector in address data field using 8085/8086 instruction set.
- Write an assembly language program to perform the multiplication of two 8-bit numbers using 8085/8086 instruction set.

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List of Experiment

- Write an assembly language program to find the larger number in array of data using 8085/8086 instruction set.
- Write an assembly language program to perform the division of two 8-bit numbers using 8085/8086 instruction set.
- Write an assembly language program to convert two BCD numbers in memory of the equivalent HEX number using 8085/8086 instruction set.
- Write an assembly language program to convert given hexadecimal number into its equivalent BCD number using 8085/8086 instruction set.
- Write an assembly language program to convert given hexadecimal number into its equivalent ASCII number using 8085/8086 instruction set.
- Write an assembly language program to convert given ASCII character into its equivalent hexadecimal number using 8085/8086 instruction set

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