

# DEPARTMENT OF COMPUTER ENGINEERING

## COMPUTER PRACTICES LABORATORY

The Computer Practices Laboratory, designated for students, Department of Computer Engineering, offers vital resources for enhancing programming skills.

It is backed by a Data Center, ensuring network connectivity among all Intel core i7-8TH GEN CPU@3.70 GHz, 16 GB RAM, 256 GB HDD LCD Monitor Computer Systems, all Intel core i3-4170 CPU@3.70 GHz, 4 GB RAM, 500 GB HDD ,HCL LCD Monitor, Computer Systems, all Intel core i5-4170 CPU@3.70 GHz, 4 GB RAM, 500 GB HDD ,LCD Monitor, Computer Systems and all Intel Pentium Dual core CPU,2 GB RAM,500 GB HDD, LCD Monitor, Computer Systems. The lab is equipped with HP Laser Printer, CANON MF 3010 Printer, a centralized UPS system, and 100 MBPS Campus-wide network with OFC backbone connecting all systems. It provides an air-conditioned environment and unlimited internet access. Both Computer Practices and Computer Programming Laboratory classes are held in this facility.



## **CENTER OF EXCELLENCE:**

The COE Laboratory at the Department of Computer Engineering underwent an upgrade in 2023, thanks to funding from EDUNET, transforming into an Open Source Laboratory. Its primary objectives include advancing technological research and providing hands-on training. With a focus on bridging the gap between academia and industry. This facility also serves as a hub for practical classes on design Engineering. It is backed by a Data Center, ensuring network connectivity among all Intel core i7-8TH GEN CPU@3.70 GHz, 16 GB RAM, 256 GB HDD LCD Monitor Computer Systems. Additionally, it is outfitted with HP ProLiant DL120 G6 Server, HP laser printer, and offers unlimited internet access, all within a comfortable, air-conditioned environment.



## **CLOUD COMPUTING AND CYBER SECURITY LABORATORY**

The Department of Computer Engineering has a robust Cloud Computing and Cyber Security Laboratory. This facility serves as a vital resource for students looking to deepen their understanding of cloud computing and cybersecurity. Equipped with cutting-edge technology, including Intel core i7-8TH GEN CPU@3.70 GHz, 16 GB RAM, 256 GB HDD, LCD Monitor, Computer Systems along with other essential peripherals like HP Laser Printers and a Centralized UPS system, the lab provides a conducive environment for learning. It also offers unlimited internet access and operates within a comfortable, air-conditioned space.



## **MOBILE APPLICATION LABORATORY**

The Computer Engineering Department has a fully functional Mobile Laboratory dedicated to enriching students' skills in mobile application development, ensuring network connectivity across all computers, this facility is equipped with Intel Core i5 processors. It also includes Canon Laser Jet Printers, a centralized UPS system, and offers unlimited internet access within a comfortable, air-conditioned environment. The Mobile Application Development Laboratory conducts practical classes for students pursuing Computer Engineering, providing hands-on experience in mobile app development.





## **PROJECT LABORATORY**

The Computer Engineering Department houses a comprehensive Project Laboratory dedicated to various project endeavors, including full projects, mini projects, hackathons, and Science Day projects. This facility serves as a crucial resource for students to advance their knowledge across multiple domains such as Mobile Application Development, IoT, Cloud Computing, Cybersecurity, Artificial Intelligence, and Big Data Analytics. Supported by Data Center ensuring LAN connectivity among all computers, the laboratory is well-equipped with Intel Core i5 processors. Additionally, it includes HP Laser Jet Printer, a centralized UPS system, and provides unlimited internet access.



## **AI & IOS LABORATORY**

The Computer Engineering Department has set up an AI and IOS Laboratory, aiming to enhance students' understanding of AI, Machine Learning, Deep Learning, and the IOS platform. Both faculty and students in CE make use of this lab to conduct research and work on their final year and mini projects related to AI, Machine Learning, Deep Learning, and mobile app development for IOS.



SYSTEM CONFIGURATION			
Sl. No	System	Item Description	Number of Systems
01	Dell PowerEdge T440	Tower Server with Intel Xeon Bronze 3204 (1.92 GHz/6-core/8.25MB/85W)/16 DIMMS Slots/1 x 8GB RDIMM Memory/ Up to 8, 3.5" Hot Plug Hard Drives/ 1 x 1TB 7.2K RPM SATA 6Gbps 512n 3.5" Hot-plug Hard Drive/PERC H330 RAID Controller/DVD+/-RW/Single Hot-plug 495W Power Supply/iDrac9	01

03	HP ProLiant DL120 G6 Server	<ul style="list-style-type: none"> <li>• Processor - 1 x Intel Xeon Quad Core X3430 2.4GHz CPU</li> <li>• Memory - 3x 2GB DDR3 RAM</li> <li>• Hard Drives - <ul style="list-style-type: none"> <li>○ 2x 500GB SATA 7.2K 3.5" Hard Drive</li> <li>○ 2x 2TB SATA 7.2K 3.5" Hard Drives</li> </ul> </li> <li>• 1x HP Smart Array P411 SAS RAID Controller Card With 512MB Cache + Battery 462918-001</li> <li>• Optical Drives - None</li> <li>• 1x 400W Power Supply</li> </ul>	01
04	UPS	<p>Numeric Make 50KVA UPS</p> <p>10 KVA UPS</p> <p>3 KVA UPS</p> <p>1 KVA UPS</p>	
05	PROJEC TOR	SONY PROJECTOR	17
08	Printers	<p>CANON MF 3010</p> <p>HP 1020</p> <p>EPSON LX 300+</p> <p>HP 3030</p> <p>SAMSUNG ML 1610</p> <p>HP 1015</p> <p>Hp 1020 PLUS</p>	09

		Hp 1020 PLUS Hp 1020 PLUS	
09	Network printer/copiers/scanner	TOSHIBA( Shareable)	03
10	Network	100 MBPS Campus-wide network with OFC backbone connecting 500 systems	Supports 500 nodes
11	Internet facility	100 mbps broadband line from BSNL	01
12	Internet facility 1	50 mbps internet leased line from ishan netsol	

## DATA CENTRE

The AIT Data Center adheres to the highest standards of security and functionality, incorporating features such as raised access flooring for optimal organization and maintenance. Employing a star topology, all blocks are interconnected with the Data Center serving as the central hub for Networking, Systems, Windows Server and Linux Systems, Telecommunications, and the upkeep of the campus telephone network. Its robust infrastructure and facilities encompass:



**Servers:** 1.Tower Server with Intel Xeon Bronze 3204 (1.92 GHz/6-core/8.25MB/85W)/16 DIMMS Slots/1 x 8GB RDIMM Memory/ Up to 8, 3.5" Hot Plug Hard Drives/ 1 x 1TB 7.2K RPM SATA 6Gbps 512n 3.5" Hot-plug Hard Drive/PERC H330 RAID Controller/DVD+/-RW/Single Hot-plug 495W Power Supply/iDrac9

2.HP ProLiant DL120 G6 Server

**Internet Line Connectivity:**100 mbps broadband line from BSNL

**Router:** Robust Routing Engine separates data and control planes to allow deployment of consolidated routing and security devices.

**Switches:**The Laboratories are equipped with switches that are linked to the Data Center via optical fiber connections.

**Firewall:** All-in-one solution that consolidates Security, routing, switching, and WAN connectivity in computer systems.

## **Services Provided**

The Data Center oversees the network infrastructure, including Firewalls and Core switches, and diagnoses any issues with network-connected computers.

It conducts troubleshooting on Hardware and Operating systems to identify problems and develops appropriate scripts for effective debugging.

The team analyzes connectivity issues, resolves hardware and software issues, and installs new servers and advanced systems to optimize processes.

It manages user accounts, making necessary changes and creating or deleting accounts as required. Additionally, it supports contractors in administering systems and assists technicians with hardware and software applications.



The Data Center provides students access to common IT Facilities such as Login Authentication, Secure Internet, Knowledge Assets, Digital Repository System, and Digital Syllabus Contents, among others.