

School of Computer Science and Engineering

Lab Details

Central Computing Lab:

Central Computing Lab is one of the largest computing facilities of MUJ comprising of 120 workstations. One HP Z210 Workstation with 8GB DDR3 RAM and 119 Desktop PCs with 4GB DDR3 RAM provide a strong computational capability in the lab. Some of the tools available are Orell DDL 60 User License Server, Turbo C/C++ and Oracle VM Virtual Box 5.0.14, Ubuntu.

Database Lab:

The Database Lab consists of the latest version of Oracle APEX Platform for RDBMS (relational database management systems) practical. This platform provides high performance, reliability, and scalability. The various practices in the lab include the fundamental requirement of working with relational database concepts, SQL for database creation, management, access controls, stored procedures, and triggers. The lab provides a strong formal foundation in database concepts, technology, and practice to the participants to groom them into well-informed database application developers.

Software Engineering Lab:

Software Engineering Lab Consists of 30 computers with software tools like Rational Rose (30 licenses) to understand the software design process. Students will be able to implement concepts using these tools and participate in drawing up the project plan.

Networking Lab:

Networking lab is equipped with a few groups of computer network systems designed for the students to learn the concepts of the communication technologies in LANs and WANs, and in Routing and Switching. The goal of this lab is to investigate issues in wireline and wireless networks, mobile computing, and multimedia, and to find solutions to the technical problems in

these areas. Some of the tools installed in lab are C++, Dev C++, Java Runtime environment, packet tracer, Wireshark etc.

Systems Software Lab:

The goal of this lab is to provide facilities for students to understand and implement the principles in the design and implementation of operating systems software. The laboratory facilitate student to get familiarization with UNIX system calls for process management and inter-process communication, Critical Section Problems, process scheduling, Disk scheduling, File Management, and other operating system tasks through simulation / implementation.

Computing Research Lab:

Computing Research Lab is an environment concerned with the discovery and systematic structuring of Knowledge wherein the students\researcher develop, design, derive and operate devices, tools, machines of economic value, thereby contributing to the open community This lab has tools related to wide variety of fields related to statistical analysis, machine learning algorithms, text analysis, planning, testing and training tools that "mimics" the behavior of a real time communication networks. Some of the tools are as follows: IBM SPSS Statistics, QUAL NET SERVER 6.2, MATLAB SERVER, MINITAB SERVER, RATIONAL ROSE SERVER, ABAQUS SERVER 6.14, CATIA V6 SERVER, Xilinx.

Big Data Lab:

Big Data Lab has 30 systems having high-end computing facilities with the latest INTEL XEON PHI PROCESSORS, 8 GB RAM, 500 GB HDD and many more. The specialized NVIDIA CUDA graphics card named as Quadro-600 has been installed in the machines to enable the students to learn the latest GPGPU or many core architecture-based programming to experience the computing power which is required to deal with heavy data and complex algorithms to solve the problem. OPENGL being another highlight of the lab, where students have an exposure to the field of Computer Vision and Graphics.

Internet of Things Lab:

Internet of Things lab provides the students and faculty members with the capability of working with electronic hardware that is at par with industry. This lab supports teaching and research in embedded systems and re-configurable hardware technology. We are engaged in research on architecture, design, and tools for networking, and embedded computing and communication systems. Our current interests include wireless sensors, IoT, Network security etc. IoT lab has various advanced data processing units like Intel Galileo, Intel Edison, Raspberry Pi, Arduino, Digital Storage oscilloscopes, Digital signal generators, Function generators, Biomedical sensors, Wireless modules such as GPS, GSM, RFID transmitter and receiver, Bluetooth modules, etc.

Advanced Computing Lab (VMWare) Lab:

Manipal University Jaipur has been recognized by VMware as an Academic Partner and termed as VMware IT Academy. The VMware IT Academy program is an international network of agreed colleges and universities that offers, students and faculty, access to high quality educational content, discounted certifications, and hands on experience with VMware technologies used by 97% of Fortune Global 500 companies and 500,000+ customers.

VMware IT Academy content can also be included in the courses of Cloud Computing, Operating System, Computer Networks, and Information Security. During these courses, students can acquire enough knowledge and practice so that in addition to completing the course work, they can further aspire to appear for certification exams. The partnership allows access to faculty and students to online content and certification vouchers at 70% discount which is great advantage to MUJ fraternity. For a practical demonstration of cloud, we have Dell T440 servers.

Cyber Security Lab:

The Cyber security lab aims at equipping the students with the necessary knowledge and skills to protect their information assets. The lab offers a complete hands-on experience to the students by providing a bunch of open-source and professional tools. The open-source tools include Kali Linux tools such as Nmap, Wireshark, Python tools such as nuclei, hydra, lynis, sublist3r, and Professional tools such as Nessus Professional and Burpsuite Professional,

Forensic tools such as Encase, FTK Imager, Oxygen, etc. The students can enhance their practical knowledge by utilizing these tools. Moreover, the hands-on experience will help the students in cracking various certification exams such as CEH, CHFI, ECSA, CISO, CND, Security+, etc. The systems have 8GB RAM, dual boot machines (Windows and Kali Linux), and Virtual Machines inside Windows OS.

Deep Learning Lab:

Deep Learning lab will be utilized for the implementation of various machine learning and artificial intelligence-based applications in various courses being taught in the school. It will also be beneficial for the implementation of various research-based work for the faculties, students, and scholars of the school. Various applications of interdisciplinary work carried across various departments in the university for the implementation of various applied artificial intelligence work can also be carried out in this lab. This lab is equipped with 35 high-end HP Z2-Workstations, with Intel's core i7-10700 2.9 GHz Processor, NVIDIA 5GB QDR P2200 4DP graphics card, 16GB-DD4 3200 RAM, 512GB M.2 PCI-E NVME Solid State Drive (SSD).