CRITERION 6

Facilities and Technical Support

CRITERION 6	Facilities and Technical Support	80

6.1 Adequate and well-equipped laboratories and technical manpower (40)

The Department of Computer Science and Engineering has well established laboratories with necessary hardware and software for enriching the practical knowledge of the students with creative engineering programs / exercises. Over and above the students can develop variety of applications with the support and guidance of the faculty members.

Sl. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	LAB-1	60	✓ Raspberry Pi3(1GB RAM, 32GB secondary memory, Logitech-Mouse Keyboard, Monitor (22 inches) ✓ Projector ✓ Software Package – Ubuntu	32 Hours/Week	Mr. Muralidhara. K	Lab Assistant	M.Sc in Computer Science
2	LAB-2	30	✓ LENOVA Intel core I3 3.2Ghz 8GB, 1TB, Lenova-22" ✓ Projector ✓ Software Package - Windows, Android, C++, Java, Mat Lab, Lab View, VMware.	34 Hours/Week	Ms. Meher Afroz	Programmer	B.E, (M.Tech)
		30	✓ Acer, Intel core I5, 8GB RAM, 1TB HDD ✓ Projector ✓ Software Package - Windows, Android, C++, Java, Mat Lab, Lab View, VMware.				

3	LAB-3	60	✓ Lenovo - I3 processor 3.30 GHz ,4GB RAM, 500GB HDD, 19" Monitor, USB keyboard and mouse ✓ Projector ✓ Software Package - Fedora, Virtual Machine, Python, Java	34 Hours/Week	Mr. Nabisaheb Arif Gulbarga	Lab Instructor	Diploma in CSE
4	LAB-4	60	✓ Lenovo - I3 processor 3.30 GHz ,4GB RAM, 500GB HDD, 19" Monitor, USB keyboard and mouse ✓ Projector ✓ Software Package - Auto Cade, MS-Project, Code Block, Node JS	32 Hours/Week	Mr. Ram Murthy	Lab Instructor	ITI
5	LAB-5	60	✓ Lenovo & Acer - I3 processor 3.30 GHz ,4GB RAM, 500GB HDD, 19" Monitor, USB keyboard and mouse ✓ Projector ✓ Software Package – Windows, Virtual Machine, Ansys Lab, Java, Solid Edge, Oracle, Fedora, C++	32 Hours/Week	Mrs. Soumya	Lab Instructor	B.Tech in CSE
6	PROJECT LAB	10	✓ Acer, Intel core I5, 8GB RAM, 1TB HDD ✓ Projector ✓ Software Package - Windows, Android, C++, Java, Mat Lab, Lab View, VMware.	32 Hours/Week	Mrs. Soumya	Lab Instructor	B.Tech in CSE
7	MICRO - PROCESS OR LAB	60	✓ HCL-22- P IV 2.4GHz, Original Intel mother board, 128 MB Ram, 1,44MB FDD, 40 GB HDD, Multi Media Keyboard, HCL Mouse, 10/100 Mbps Ethernet Card, 15" Color Monitor, ATX Cabinet with SMPS. On board AGP and Sound``` Zenith-11 - Intel Pentium Core 2 DUO, 1.86GHz, Original Intel Mother Board, 512 MB RAM, 1.44MB FDD, 80 GB HDD, CD ROM Drive, Zenith Multimedia Keyboard, Zenith USB Optical Mouse, 10/100 MBPS Ethernet Card ✓ 15" AOC LCD color Monitor, ATX Cabinet with	10 Hours/Week	Mrs. Sunitha G	Lab Instructor	Diploma

| | | | SMPS, On-board AGP and Sound ADS-NIFC-01A Stepper motor I/F ADS-NFC-05 LOGIC CONTROL ADS-NIFC-06A DUAL DACC I/F ADS-HIFCC-09 keyboard ADS-AIFC-17 elevator I/F ALS-PCI-01 24 LINES digital I/O card Power supply 12V.1A) Power supply (5V.1A) Digital IC tester MME DIT 2040 mini max electronics Digital IC trainer kit ML444T Micro logics Digital IC trainer kit ML444T ADD Company2MHz signal generator JS-902 JS Instruments 3MHz signal generator JS-902 ADD Company DC Power supply unit ±15V,2Amps Uday Engineers DC regulated power supply (Dual) 0-30V,2Amps Uday Engineers DC regulated power supply(Dual) 0-30V,2Amps ADD Company Scientific 30MHz Oscilloscope HM 203G Scientech, 30MHz 2 channel 4 trace µF triggering Oscilloscope DC/AC voltmeter (20-200V) Uday Engineers, DC/AC voltmeter (0-30V) Universal systems
✓ DC/AC voltmeter (0-10V) ADD Company
✓ DC/AC Ammeter (0-200mA) Uday Engineers
✓ DC/AC Ammeter (0-200mA) Universal systems
✓ DC/AC Ammeter (0-250mA) Universal systems
✓ DC/AC Ammeter (0-10mA) ADD Company
✓ Temco decade resistance box Electrical & electronic devices Pvt. Ltd.
✓ Spring board
✓ Bread board | | | |

6.1 C. Additional Facilities created for improving the quality of learning experience in Laboratories

The quality of learning, quality of teaching and quality of interaction during teaching learning process are made more effective by providing additional facilities in the laboratories.

- **The details of additional facilities available in laboratories are given below,**

Table 6.1.13: Details of additional facilities available in laboratories

Sl. No.	Facility Name	Details	Reasons for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs and PSOs
1	LCD Projector	06 nos.	Flowcharts/Algorithms/Programs can be taught, to enhance the clarity of understanding.	During Lab Hours	IN drawing complex Flowcharts. Writing algorithms and understanding programs.	PO1, PO2, PO5, PO10 PSO1
2	Internet (Wi-Fi)	600Mbps	To enable students to collect, information related to recent technologies/trends in the interested areas.	Complete semester is opened to utilize	Gain knowledge apart from curriculum, with the24×7 access to learning resources.	PO1-PO7 PO10-12 PSO1-PSO3
3	White Board	Available for all the labs.	To enable students to understand the Analytical examples in easy way.	Available during Lab hours	Better Understanding of complex concepts and numerical.	PO5, PO10 PSO1
4	Lab manuals	Available for all the labs.	To enable students to understand the lab. Experiments/ programs in better way.	Complete semester is opened to utilize	Get exposed to the lab experiments/ programs and increases the capability of students to find alternate solutions.	PO1-PO4 PSO1-3
5	Dept. Library	Having collection of Text Books, Reference Books, Journals, Project / seminar reports.	To meet the needs of the students, To provide reference facilities, To refer contents related advanced topics for seminar, laboratory work, projects, To know about the past research activities undertaken by the students.	Complete semester is opened to utilize	Helps staff Students in understanding the concepts, preparing notes, etc.	PO1-PO!2, PSO1-PSO3

6.2 Laboratories Maintenance and overall ambience (10)

- Maintenance of the equipment / instruments / Computers etc., are carried out in a systematic way. In addition, overall maintenance of the laboratory is also given proper attention.

The details of laboratory maintenance are given below,

Sl. No.	Item	Details of maintenance	Person in charge
1	Equipment, Instruments	Preventive maintenance at regular intervals Breakdown maintenance and Calibration after maintenance.	Mrs. Sunitha G
2	Computers	Preventive maintenance at regular intervals Breakdown maintenance and followed by Inspection of A/c facility.	Mr. Murali
3	TV's, LCD projectors and smartboards	Preventive maintenance at regular intervals and Breakdown maintenance.	Mr. Mallesh
4	CCTV Cameras	Routine maintenance and breakdown maintenance as it need.	Mr. Chandra Shekar
5	Internet/Network Maintenance	Preventive maintenance at regular intervals and Breakdown maintenance.	Mr. Chidambaram
6	Air Conditioner Maintenance	Preventive maintenance at regular intervals Breakdown maintenance and followed by Inspection of A/c facility.	Mr. Mallesh
7	Electrical/Generator /UPS maintenance	Preventive maintenance at regular intervals.	Mr. Ram Babu
8	Laboratory Buildings	Maintenance of bulbs, fans, electrical fitting wiring etc., are continuously monitored.	Mr. Vengala Rao

Ambience of Labs and other workplaces in the Department

- All labs, seminar halls, restrooms, staffrooms, classrooms etc., are well ventilated and permit sufficient light and air.
- All labs and classrooms, seminar halls are provided with good quality seating arrangement for students.
- Teaching and supporting staff are provided with cabins with quality furniture such as chairs and tables, cupboard, racks and computers, intercom etc.,
- Good quality drinking water is made available to both students and staff in the department (RO).
- Rest rooms with necessary facilities to girl students.
- Hygienic and ISO 2000 certified canteen facility is available for both staff and students.
- Lift facility in department to facilitate easy movement of staff and students to all the floors.
- All the labs, classrooms, and other parts of the buildings are maintained in clean and tidy condition by well-trained housekeeping personnel.
- The department is facilitating handicap toilets for both the staff and students.
- Library is kept opened for 24/7hours.

6.3 Safety measures in laboratories (10)

Table 6.3.1: Details of Safety Measures in Labs

Sl. No.	Name of the Laboratory	Safety measures
1	LAB-1	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.
2	LAB-2	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.
3	LAB-3	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.

4	LAB-4	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.
5	LAB-5	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.
6	PROJECT LAB	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering. • Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.
7	MICROPROCESSOR/ MICROCONTROLLER	• First aid box, fire extinguisher is kept in the laboratory • Display a Do's and Don'ts board in each laboratory. • MCB (Miniature Circuit Breaker) to protect electrical equipment's from damages. • CCTV Surveillance. • Keep the aisles and corridors clear. • Sophos Firewall for web filtering.

		• Periodical servicing of the lab equipment. • Computers should be turned off properly before leaving the lab.

6.4 Project Laboratory (20)

The following facilities are available to the students to carry out their project work.

1. In CSE department, an exclusive lab with 10 computers is available for project work to be carried out by students of all semesters.
2. Project Laboratory enables UG students to obtain hands-on experience and to realize their project ideas as executable projects.
3. Several successful projects have been carried out by students in this lab.
4. Students use this lab to compete in several Hackathons and have won various awards across India.
5. High speed internet facilities are always available to these systems.
6. Final year project and mini project of all semesters are carried out in this lab.

Lab	Facilities	Utilization	Relevance to POs and PSOs
PROJECT LAB	✓ Acer, Intel core I5, 8GB RAM, 1TB HDD ✓ Projector Software Package - Windows, Android, C++, Java, Mat Lab, Lab View, VMware.	UG / Ph.D Scholars	PO6, PO7, PO9, PO11, PO12

Table 6.4.1: Extra facilities available to the students

Sl. No.	Name of the facility	Nature of work	Utilization
1	Technical Training Platform from NASSCOM (National Association of Software and Service Companies)	Memberships, Student Chapters, Webinars, Conferences	UG / Ph.D Scholars
2	BCIC (Bangalore Chamber of Industry and Commerce)	Memberships, Student Chapters, Webinars, Conferences	UG / Ph.D Scholars
3	CISCO Networking Academy	CCNA R&S (Routing & Switching), DEVNET	UG / Ph.D Scholars
4	BLUE PRISM RPA Licensed Software	Robotic Process Automation	UG / Ph.D Scholars
5	ENTUPLE TECHNOLOGIES	Internet of Things	UG / Ph.D Scholars
6	VMware	Virtualization	UG / Ph.D Scholars
7	AWS Cloud Platform	Cloud Computing	UG / Ph.D Scholars
8	Salesforce Virtual Platform	Cloud Computing	UG / Ph.D Scholars
9	IFERP (Institute for Engineering Research and Publications	Memberships, Student Chapters, Webinars, Conferences	UG / Ph.D Scholars