

Computing Facilities

Computer Science & Engineering Department is housed in Learning Center: Computer Science building in Thapar Institute. The Learning center has six different floors named as Level 00, Mezzanine, Level 01, Level 02, Level 03 and Level 04. The blocks designated for use by the department are designed to provide a high degree of flexibility of use in keeping with the rapidly changing nature of engineering development. The analysis of attainment of student outcomes each year requires new hardware, software and testing equipment. All the program laboratories have at least dual uses: for course teaching and for student projects as the need requires. Several of the laboratories are also used for faculty and student research. MATLAB R2016A/Simulink, Scilab, Octave, Rational Rose, HP functional testing tool, IBM Rational Architecture, Oracle, Microsoft SQL server, Microsoft Software Development Tools, Arduino, NetSim, SAP (ABAP), JAVA, R, NLTK, Python, C, C++, GNS3, KEIL, Cloudera, Dev-C++, MS Office, Perl, Icarus Verilog, Eclipse, XCTU, lex, yacc, Virtual-box software packages are used by students in their coursework and in their Capstone and other projects.

Department is well supported by the provision of adequate and flexible space maintained by well equipped support staff. The department has 24 under graduate (UG), 4 post graduate (PG) computer labs. The department also has 5 research industry project labs (RIPL), 1 animation lab, 1 machine learning lab, 6 PHD student sitting and 5 post graduate thesis workspace.

The department has state-of-the-art computing infrastructure. Each lab is equipped with LAN ports, large display screens and are WiFi enabled. The details are mentioned in the following Table.

Table 7.4: Description of Computers (hardware and software) in the Department

Sr. No.	Name of Lab	Space, No. of Students	Operating System	Tools		Total Machines
				Hardware	Software	
1.	UG Lab-1	72sqm, 30	Window 10	Dell Optiplex 7440 AIO Processor: Intel Core-i7-6700 CPU @3.40 GHz, 4 Core, 8 Threads, RAM – DDR4 8GB 2133MHz, HDD – SATA 1 TB @ 7200RPM, DVD/RW – 8X DVD ROM Audio – Intel Display Audio (Realtek Audio) LCD – 24” Year-2016. Projector – 01 Printer – 01 Scanner – 01	Java, Eclipse, Rstudio, DevC++, Python, Perl, GCC-C++, Weka, VirtualBox, Arduino, MS Office, Flash Player, Adobe Reader, IBM Rational Rose, MatLab, Hadoop, iVerilog, Emu, Keil ,Orcale, NetSim, GNS3, Cuda, NLTK	30
2.	UG Lab-2	72sqm, 30	Window 10	Dell Optiplex AIO 9010, Intel core i5, RAM 6GB, HDD – SATA 1TB @ 7200RPM, DVD/RW – 8X DVD ROM Audio – Intel Display Audio (Realtek Audio) LCD – 24” Projector – 01 Printer – 01	-do-	30

				Scanner – 01		
3.	UG Lab-3	72sqm, 30	Window 10/Linux	Dell Optiplex 7010 Processor : i7-3770 3rd Gen @3.40GHz RAM : DDR3 6GB HDD : SATA 500GB @7200RPM DVDRW : 18x TFT : 18.5” , Non Touch Year – 2013 Projector – 01 Scanner – 01	-do-	30
4.	UG Lab-4	72sqm, 30	Window 10/Linux	Dell Precision Tower 3620 Processor : i7 @3.40GHz RAM : 16GB HDD : 1TB DVDRW : 16AES TFT : 27’ , Non Touch Year – 2016 Projector – 01	-do-	30
5.	UG Lab-5	78sqm, 30	Window 10/Linux	Dell workstation T-5600 Processor : Intel Xeon e5 2650 2.6GHz, RAM - DDR3 8GB 1600MHz HDD - SATA 500GB @7200RPM, Nvidia Card GPU Computing, DVD/RW - 8X DVD ROM N/W - 1GB, LCD - 19” Windows Starter, Year – 2014	-do-	30
6.	UG Lab-6	86sqm, 30	Window 10/Linux	Dell workstation T-5600 Processor : Intel Xeon e5 2650 2.6GHz, RAM - DDR3 8GB 1600MHz HDD - SATA 500GB @7200RPM, Nvidia Card GPU Computing, DVD/RW - 8X DVD ROM N/W - 1GB, LCD - 19” Windows Starter, Year – 2014	-do-	30
7.	UG Lab-7	66sqm, 30	Window 10/Linux	Dell Optiplex 7440 AIO Processor: Intel Core-i7-6700 CPU @3.40 GHz, 4 Core, 8 Threads, RAM – DDR4 8GB 2133MHz, HDD – SATA 1 TB @ 7200RPM, DVD/RW – 8X DVD ROM Audio – Intel Display Audio (Realtek Audio) LCD – 24” Pre Installed Windows 10 Home Single Language	-do-	30
8.	PG Lab-1	125sqm, 30	Mac OS Sierra/Linux	Mac Machine Processor - 4.0 GHz Intel Core i7 RAM - 16GB (1867 MHz DDR3) Graphic Card - AMD Radeon R9 M395 with 2GB Graphics TFT - 27" Retina, 5K display Storage - 2TB Mouse - Apple Magic Mouse Keyboard - Apple Magic Keyboard Year – 2016 Printer – 01	X-Code, Open office, Virtual box, eclipse, Weka.	30
9.	UG	72sqm, 30	Window	Dell Optiplex 7440 AIO	Java, Eclipse, Rstudio,	30

	Lab-8		10/Linux	Processor : Intel Core-i7-6700 CPU @3.40 GHz, 4Core, 8 Threads, RAM - DDR4 8GB 2133MHz, HDD - SATA 1TB @7200RPM, Intel HD Graphics 530, DVD/RW - 8X DVD ROM Audio - Intel Display Audio (Realtek Audio) LCD - 24" Pre Installed Windows 10 Home Single Language, Year – 2016 Projector – 01 Printer – 01	DevC++, Python, Perl, GCC-C++, Weka, VirtualBox, Arduino, MS Office, Flash Player, Adobe Reader, Rational Rose, MatLab, Hadoop, iVerilog, Emu, Keil ,Orcale, NetSim, GNS3	
10.	UG Lab-9	72sqm, 30	Window 10/Linux	Dell Optiplex 7440 AIO Processor : Intel Core-i7-6700 CPU @3.40 GHz, 4Core, 8 Threads, RAM - DDR4 8GB 2133MHz, HDD - SATA 1TB @7200RPM, Intel HD Graphics 530, DVD/RW - 8X DVD ROM Audio - Intel Display Audio (Realtek Audio) LCD - 24" Pre Installed Windows 10 Home Single Language, Year – 2016 Projector – 01	-do-	30
11.	UG Lab-10	72sqm, 30	Window 10/Linux	Dell Optiplex 7440 AIO Processor : Intel Core-i7-6700 CPU @3.40 GHz, 4Core, 8 Threads, RAM - DDR4 8GB 2133MHz, HDD - SATA 1TB @7200RPM, Intel HD Graphics 530, DVD/RW - 8X DVD ROM Audio - Intel Display Audio (Realtek Audio) LCD - 24" Pre Installed Windows 10 Home Single Language, Year – 2016 Projector – 01	-do-	30
12.	UG Lab-11	72sqm, 30	Window 10/Linux	Dell Optiplex 7440 AIO Processor : Intel Core-i7-6700 CPU @3.40 GHz, 4Core, 8 Threads, RAM - DDR4 8GB 2133MHz, HDD - SATA 1TB @7200RPM, Intel HD Graphics 530, DVD/RW - 8X DVD ROM Audio - Intel Display Audio (Realtek Audio) LCD - 24" Pre Installed Windows 10 Home Single Language, Year – 2016 Projector – 01	-Do-	30
13.	UG Lab-12	72sqm, 30	Window 10/Linux	Dell Optiplex 7440 AIO Processor : Intel Core-i7-6700 CPU @3.40 GHz, 4Core, 8 Threads, RAM - DDR4 8GB 2133MHz, HDD - SATA 1TB @7200RPM, Intel HD Graphics 530,	-do-	30

				DVD/RW - 8X DVD ROM Audio - Intel Display Audio (Realtek Audio) LCD - 24" Pre Installed Windows 10 Home Single Language, Year – 2016		
14.	UG Lab-13	58sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive 4GB DDR5 Graphic Card	-do-	30
15.	PG Lab-2	164sqm, 30	Mac OS Sierra/Linux	Mac Machine Processor - 4.0 GHz Intel Core i7 RAM - 16GB (1867 MHz DDR3) Graphic Card - AMD Radeon R9 M395 with 2GB Graphics TFT - 27" Retina, 5K display Storage - 2TB Mouse - Apple Magic Mouse Keyboard - Apple Magic Keyboard Year – 2016	X-Code, Open office, Virtual box, eclipse, Weka.	30
16.	UG Lab-14	90sqm, 30	Window 10	Intel Core i7 8 th Generation, 27" UHD Display, RAM 8GB DDR4, 256GB SSD + 1TB HDD SATA Drive, With Graphic Card. Projector – 01 Printer – 01	Java, Eclipse, Rstudio, DevC++, Python, Perl, GCC-C++, Weka, VirtualBox, Arduino, MS Office, Flash Player, Adobe Reader, Rational Rose, MatLab, Hadoop, iVerilog, Emu, Keil ,Orcale, NetSim, GNS3	30
17.	UG Lab-15	72sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card Projector – 01 Printer – 01	-do-	30
18.	UG Lab-16	72sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card Projector – 01	-do-	30
19.	UG Lab-17	72sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card Projector - 01	-do-	30

20.	UG Lab-18	72sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	-do-	30
21.	UG Lab-19	80sqm, 32	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	-do-	32
22.	PhD Lab-1	51sqm, 19	Window 7	Dell workstation T-5600 Processor : Intel Xeon e5 2650 2.6GHz, RAM - DDR3 8GB 1600MHz HDD - SATA 500GB @7200RPM, Nvidia Card GPU Computing, DVD/RW - 8X DVD ROM N/W - 1GB, LCD - 19" Windows Starter, Year – 2014	-do-	19
23.	PhD Lab-2 (HPC Lab)	72sqm, 20	Mac OS Captain Version 10.11.16	Mac Pro 6.1, Processor - 3.5 GHz, 6 Core Intel Xeon E5, RAM - 16GB 1866 MHz DDR3 ECC Memory, Macintosh HD 1 TB, Graphic Card - AMD FirePro 3GB, Display - DELL 27", Network - Broadcom Ethernet, Wi-Fi, MAC OS X Captain Version 10.11.16, YoP – 2016	X-Code, Open office, Virtual box, eclipse, Weka.	10
24.	UG Lab-20	72sqm, 30	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	Java, Eclipse, Rstudio, DevC++, Python, Perl, GCC-C++, Weka, VirtualBox, Arduino, MS Office, Flash Player, Adobe Reader, Rational Rose, MatLab, Hadoop, iVerilog, Emu, Keil ,Orcale, NetSim, GNS3	30
25.	UG Lab-21	79.5sqm, 32	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	-do-	32
26.	UG Lab-22	69sqm, 32	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	-do-	32
27.	UG Lab-23	57sqm, 26	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive With Graphic Card	-do-	26
28.	UG Lab-24	77sqm, 31	Window 10	Intel Core i7 8 th Generation 27" UHD Display RAM 8GB DDR4 256GB SSD + 1TB HDD SATA Drive	-do-	31

				With Graphic Card		
29.	ML Lab	92 sqm, 30	Windows 10 Linux	Intel Xeon processor, 32 GB RAM, HDD 1 TB, Graphics card 12GB, 27" UHD Display	Weka, NLTK, MatLAB, SciLab, Python, R Studio	30
30.	Server Room	30sqm	Windows & Linux Servers	IBM Server X5450 Dual Core3.2 GHz 6GB Ram/300GB SCSI HDD IBM Server X3650 Dual Core3.2GHz/ 6GB Ram/300GB SCSI HDD HP P4300 G2 6TB SAS Storage IBM Server X3650M4 XEON 6 Core/16GB RAM DDR4/3*300GB HDD		04