

List of Laboratory Equipment's **Name of Department: Computer Engineering**

INDEX





Sr. No	Name of the Laboratory	Page No
1	Computer Centre Laboratory/ Computational Skill Laboratory	2
2	Programming Laboratory / Operating System Laboratory	2
3	Artificial Intelligence & Machine Learning Laboratory / Emerging Technology Laboratory	2
4	Cryptography & Cyber Security / Data Science Laboratory.	2
5	Web Technology Laboratory/ Project Laboratory	3
6	Data Base Management System / Computer Network Laboratory	3



List of Laboratory Equipment's

Name of Department: Computer Engineering

No of Laboratory: 6

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.11 (Wing - A)	Computer Centre Laboratory/ Computational Skill Laboratory (Funded by Cummins India Limited)	Hardware: Core i7,16 GB RAM, 512 SSD, 4 GB Graphics Core i5, 16 GB RAM, 512 SSD	
Room No.12 (Wing - A)	Programming/ Operating Laboratory (Funded by Cummins India Limited)	Hardware: Core i3, 8 GB RAM, 500 HDD Core 2 DUO, 4 GB RAM, 128 GB SSD, 500 GB HDD	
Room No.13A (Wing - A)	Artificial Intelligence & Machine Learning Laboratory (Funded by HCL Foundation)	Hardware: Core i7, 8 GB RAM, 512 SSD, 4 GB Graphics Core i7, 32 GB RAM, 512 SSD, 1 TB HDD,8 GB Graphics	
Room No.13B (Wing - A)	Cryptography & Cyber Security Laboratory (Funded by HCL Foundation)	Hardware: Core i7, 16 GB RAM, 512 SSD, Workstation: -Intel Core i7 14th Gen 14700 (33 MB Cache, 20 Cores, 28 Threads, 2.1 GHZ, 65W) - Nvidia RTXA1000, 8GB GDDR6, 4 mDP- 1 TB, M.2 2280, Gen 4 Pcle, RAM 32 GB Kit: Cyber Security Testing module	





Maharshi Karve Stree Shikshan Samstha's
**Cummins College of Engineering
for Women**

Sharpening Engineering Acumen with a difference

NAAC Accredited with A+ Grade

Approved by AICTE, New Delhi & DTE, Mumbai
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University



Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.39 (Wing – B)	Web Technology Laboratory (Funded by CIL)	Hardware: Core i5, 8 GB RAM, 1 TB HDD Workstation: -Intel Core i7 14th Gen 14700 (33 MB Cache, 20 Cores, 28 Threads, 2.1 GHZ, 65W) - Nvidia RTX A1000, 8GB GDDR6, 4 mDP-1 TB, M.2 2280, Gen 4 Pcle, RAM 32 GB	
Room No.41 (Wing – B)	Data Base Management System Laboratory	Hardware: Core i3, 8 GB RAM, 500 GB HDD Workstation: -Intel Core i7 14th Gen 14700 (33 MB Cache, 20 Cores, 28 Threads, 2.1 GHZ, 65W) - Nvidia RTX A1000, 8GB GDDR6, 4 mDP-1 TB, M.2 2280, Gen 4 Pcle, RAM 32 GB	



Kindred
Dr. Milind Khamapurkar
Principal
Maharshi Karve Stree Shikshan Samstha's
Cummins College of Engineering for Women
Nagpur, Nagpur-441118.



Maharshi Karve Stree Shikshan Samstha's
**Cummins College of Engineering
for Women**

Sharpening Engineering Acumen with a difference

NAAC Accredited with A+ Grade

Approved by AICTE, New Delhi & DTE, Mumbai
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University



Laboratory Software Details of Computer Engineering

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Software
Room No.11 (Wing - A)	Computer Centre Laboratory/ Computational Skill Laboratory	Software: Oracle, Turbo C, Code Block, Kali Linux, Windows 11
Room No.12 (Wing - A)	Programming Laboratory/ Operating System Laboratory	Software: Kali Linux
Room No.13A (Wing - A)	Artificial Intelligence & Machine Learning Laboratory/ Emerging Technology Laboratory	Software: Anaconda Navigator, Code Block, MYSQL, VS Code, Mongo DB
Room No.13B (Wing - A)	Cryptography & Cyber Security / Data Science Laboratory.	Software: Burb Suite (license), Turbo C++, Python Idle Ide
Room No.39 (Wing - B)	Web Technology Laboratory/ Project Laboratory	Software: Turbo C++, Cisco Packet Tracer Workstation: -Intel Core i7 14th Gen 14700 (33 MB cache, 20 Cores, 28 Threads, 2.1 GHZ, 65W) - Nvidia RTXA1000, 8GB GDDR6, 4 mDP- 1 TB, M.2 2280, Gen 4, RAM 32 GB
Room No.41 (Wing - B)	Data Base Management System /Computer Network Laboratory	Software: Turbo C++, CISCO Packet Tracer, MYSQL



Kindred
Dr. Milind Khamagarikar
Principal
Maharshi Karve Stree Shikshan Samstha's
Cummins College of Engineering for Women
Nagpur, Nagpur-441118.

List of Laboratory Equipment's Name of Department: Mechanical Engineering




INDEX





Sr. No	Name of the Laboratory	Page No
1	Fluid Power and Hydraulic Machine Laboratory	6
2	Dynamics of Machine Laboratory/ Mechanical Measurement and Metrology Laboratory	6
3	Heat Transfer Laboratory	7
4	Automation in Production Laboratory/Engineering Mechanics Laboratory	7,10
5	Computer Aided Designing Laboratory	7
6A	Energy Conversion Laboratory (Workshop)	8
6B	Manufacturing Process Laboratory (Workshop)	8
6C	Machining Process Laboratory (Workshop)	8
6D	Workshop Practice (First Year) (Workshop)	8
6E	Material Testing Laboratory (Workshop)	9
6F	Automobile Engineering Laboratory (Workshop)	9




List of Laboratory Equipment's


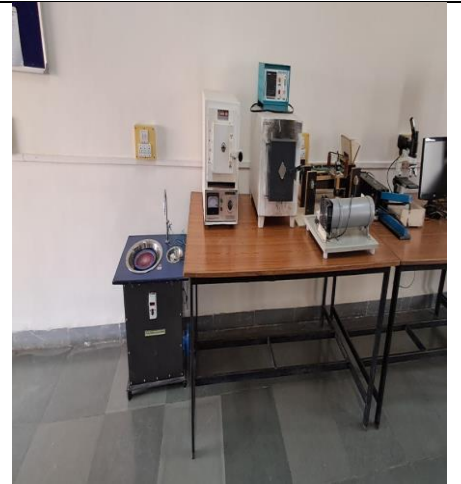

Name of Department: - Mechanical Engineering



No of Laboratory: 11

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.34 (Wing - B)	Fluid Power and Hydraulic Machine Laboratory	<ol style="list-style-type: none"> 1. Pelton Wheel Turbine 2. Francis Turbine 3. Kaplan Turbine 4. Reynold's Number Apparatus 5. Combine Flow Measurement Apparatus 6. Reciprocating Pump Test Rig 7. Centrifugal Pump Test Rig 8. Submersible Pump Test Rig. 9. Bernoulli's Theorem Apparatus. 10. Metacentric Height Apparatus 11. Pitot Tube Apparatus. 	 
Room No.33 (Wing - B)	Dynamics of Machine Laboratory	<ol style="list-style-type: none"> 1. Whirling of Shaft Apparatus. 2. Universal Vibration Apparatus. 3. Balancing of Reciprocating Masses Apparatus. 4. Static and Dynamic Balancing of Rotating Masses Apparatus. 5. Gyroscope 6. Cam Analysis Apparatus. 7. Universal Governor Apparatus. 	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.32 (Wing - B)	Heat Transfer Laboratory	<ol style="list-style-type: none"> 1. Thermal Conductivity of Metal Rod. 2. Drop and Film Condensation Apparatus. 3. Parallel Flow and Counter Flow Heat Exchanger. 4. Stefan Boltzmann Apparatus. 5. Pin-Fin Apparatus 6. Force Convection Apparatus. 7. Lancashire Boiler Apparatus. 8. Thermal Models 	
Room No.52 (Wing - B)	Automation in Production Laboratory	<ol style="list-style-type: none"> 1. CNC Milling Machine. 2. Hydraulic Trainer Kit 3. Programmable Logic Control (PLC) 4. ROBOT 	
Room No.33 (Wing - B)	Mechanical Measurement and Metrology Laboratory	<ol style="list-style-type: none"> 1. Optical Profile Projector 2. Profile Projector. 3. Anemometer 4. Temp. Measurement using Thermistor. 	
Room No.36 (Wing - B)	Computer Aided Designing Laboratory	<ol style="list-style-type: none"> 1. Computer 25 Nos 2. Server Computer 3. Lcd Projector 4. Hp Printer 5. License Software ANSYS and MATLAB 6. 3D Printer 7. AUTOCAD (freeware) 	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Workshop (Wing - C)	Energy Conversion Laboratory	1.Exhaust Gas Analyzer 2. Turbocharger 3.Three-Cylinder 4 Stroke Petrol Engine Setup 4. Single Cylinder 4stroke Diesel Engine Setup. 5. Desert Cooler Setup 6. Vapor Compression Refrigeration System. 7. Reciprocating Air Compressor. 8.Bio-Diesel setup 9. Turbocharger.	
Workshop (Wing - C)	Manufacturing Process Laboratory	1. Pit Furnace 2. Wood Turning Lathe 3. Molding Boxes 4. Smithy Hearth Furnace. 5. Anvil	
Workshop (Wing - C)	Machining Process Laboratory	1. Simple centre lathe machine (Gear driven) 2. Simple centre lathe machine (Belt driven) 6 number 3. Milling machine 4. Radial Drilling 5. Milling machine 6. Shaper machine 7. Pillar drilling machine 8. Bench wise (Fitting and Carpentry) 9. Hand Press 10. Circular wooden saw 11. Hydraulic saw	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Workshop (Wing - C)	Material Testing Laboratory	Testing of Mechanical Properties 1. Universal Testing Machine. 2. Torsion Testing Machine. 3. Computerised UTM 4. CHARPY Impact Testing Machine. 5. Rockwell Hardness Testing Machine 6. Fatigue Testing Machine.	
		Testing of Physical Properties (Microstructural analysis) 1. Inclined Monocular Metallurgy 2. Mine Hot Blower 3. Muffle Furnace 4. Microscope 5 No's 5. Single Disc Polishing Machine 6. Jominey End Quench 7. Belt Grinder Dry Type	
Workshop (Wing - C)	Workshop Practice (First Year)	1. Carpentry Shop 2. Fitting Shop 3. Plumbing Shop 4. Welding Shop	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Workshop (Wing - C)	Automobile Engineering Laboratory	<ol style="list-style-type: none"> 1. Cut section working Model of 4-cylinder Diesel Engine 2. 6-cylinder Diesel Engine setup 3. Differential Mechanism of 4-wheeler automobile Vehicle 4. Internal Expanding Brake Model 5. Independent Suspension System Model 6. Transmission System Model 7. Single Cylinder Petrol Engine Model for training 8. 4-wheel vehicle for study 8. Various models of Automobile system (Engine, Suspension, Steering Rack) to study the failure of the vehicle 	
Room No.52 (Wing - B)	Engineering Mechanics Laboratory	<ol style="list-style-type: none"> 1. Coil Friction setup 2. Simple Supported Beam 3. Jib Crane 4. Single Purchase Crab Wrench. 5. Double Purchase Crab Wrench. 6. Coeff. of Friction using inclined plane setup 7. Flywheel 	



List of Laboratory Equipment's

Name of Department: Electronics & Telecommunication Engineering

INDEX

Sr. No	Name of the Laboratory	Page No
1	Electronic Workshop Laboratory	12
2	VLSI Design Laboratory	12
3	Project Laboratory/ Drone Laboratory	13
4	Software Laboratory/Digital Signal Processing Laboratory	13
5	Analog & Digital Communication Laboratory	13
6	Electronic Devices & Circuits Laboratory/ Audio and Video Engineering Laboratory/ Microwave & Radar Engineering Laboratory	14,15
7	Embedded System Design and Internet of Things Laboratory	14,15








List of Laboratory Equipment's

Name of Department: Electronics & Telecommunication Engineering


No of Laboratory: 7

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No. 14 (Wing A)	Electronic Workshop Laboratory	1.Photo Etch PCB etching machine 2.PCB Drilling machine 3.PIC Programmer 4.AVR Programmer 5.8051 Programmer 6. Bench Wise 7. Digital Multimeter 8. DC Power supply 9. Oscilloscope 10.Analog Multimeter 11.Grinder 12.Electric iron	
Room No. 16 (Wing A)	VLSI Design Laboratory	1. Dell Precision 3680, Workstation 14th Gen Intel® Core™ i7-14700 vPro® (33 MB cache, 20 cores, 28 threads, 2.1 GHz to 5.4 GHz Turbo, 65W) 64 GB: 2 x 32 GB, DDR5 Storage 1 TB, 7200 RPM, 3.5-inch, SATA, HDD. 2. AMD Xilinx Vivado 2022.2 ML Standard Edition Design Suite (Verilog & VHDL) 3. ANSYS HFSS Simulation software (25 perpetual licences) 4. Digilent NEXYS 3 FPGA Kit, Spartan 3E FPGA Kit, Altera FPGA / CPLD Kit, Atlys FPGA / CPLD Kit, CRO, Function Generators.	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No. 15 (Wing A)	Project Laboratory/ Drone Laboratory (HCL Foundation Supported)	<ol style="list-style-type: none"> 1. Meta AR VR System Funded by Cummins India Ltd. 2. Drone Lab Funded by HCL Ltd. <ol style="list-style-type: none"> 1. Hexa Copter Drone. 2. 350 Quad Copter Drone 3. 250 Quad Copter Drone 4. Pluto Nano Drone 5. Pluto Guru Drone 6. Pick & Place System for Drone 7. Medicine Delivery System for Drone 8. Anti Drone System 9. Flower Dropping System 10. Telemetry Module 11. Gimble for External Camera 3. Different Sensors are available like Gas Sensor, Temperature Sensor, pressure sensor, humidity sensor, soil detection sensors etc. 4. Development Boards are available <ol style="list-style-type: none"> 1. Raspberry Pi 4 2. Arduino (Nano, Uno, Mega) 3. Node MCU (ESP32) 4. Beagle Bone 	 
Room No. 17 (Wing A)	Analog & Digital Communication Laboratory	<ol style="list-style-type: none"> 1. Modern Communication Trainer Kits Kits for AM, FM, PM, PCM, ASK, FSK, PSK, TDM, etc. 2. Function Generators and Signal Generators 3. Digital Storage Oscilloscopes (DSO) 4. CRO (Cathode Ray Oscilloscopes) 5. Spectrum Analysers 6. Campus wide MATLAB and Scilab Software 7. Noise Generators 8. Antenna and wireless communication setup and software's Cadence AWR's MWO & VSS tool to design RF communication components & system 9. 5G communication kits 	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No. 18 (Wing A)	Electronic Devices & Circuits Laboratory	<ol style="list-style-type: none"> 1. Voltage Doubler 2. Push Pull Amplifier 3. RC Phase shift Oscillator 4. Power supply Single 5. Zener diode As Shunt Voltage Regulator 6. FET/MOSFET Characteristics 7. Transistor Characteristics 8. PN Junction Diode 9. Negative Feedback Amplifier 10. Half Wave/ Full Wave Rectifier 11. CRO 12. Function Generator 13. 30V/2A Regulated Power supply 14. Multimeter Digital 15. Ammeter DC 16. Analog DC Amp Meter 17. Power Differential Amplifier 18. Transistor Astable Multivibrator 19. RC Coupled Amplifier 20. LC Oscillator (Hartley Oscillator) 	
Room No. 18 (Wing A)	Audio and Video Engineering Laboratory	<ol style="list-style-type: none"> 1. Colour TV Trainer kit 2. B&W TV Trainer Kit 3. DTH Receiver Trainer kit 4. HDTV Trainer Kit 5. LCD TV Trainer kit 6. CD/DVD Player Trainer kit 7. Colour Pattern Generator kit 8. CCTV Trainer kit 	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No. 18 (Wing A)	Microwave & Radar Engineering Laboratory	1. Microwave Testbench of 8 to 12 GHz frequency range of X-band. 2. Klystron Microwave Generator & Gunn Power supply 3. VSWR Meter 4. Microwave components: E-Plane Tee, H-Plane Tee, Directional coupler, Hybrid Tee various types of Antennas like Horn, Dielectric etc. 5. RADAR setup along with CW RADAR trainer kit.	
Room No. 20 (Wing A)	Digital Signal Processing Laboratory	1. MATLAB Software Campuswide Suite R2024b 125+ Toolboxes Unlimited number of users 2. DSP Processor kits TMS320 5416 and 6713 Processors	
Room No. 20 (Wing A)	Software Laboratory	1. MATLAB Software Campuswide Suite R2024b 125+ Toolboxes Unlimited number of users 2. HFSS software 25 Perpetual Licenses 3. Arduino IDE 4. Express PCB software 5. Multisim software	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No. 21 (Wing A)	Embedded System Design and Internet of Things Laboratory	<p>1.IoT-Shala Internet of Things Trainer kit Kit contains inbuilt Raspberry Pi Pico, ESP 32, LoRA Tx-Rx, ultrasonic sensor, PIR Sensor, LEDs, Temperature & Humidity Sensor, OLED, Gas Sensor, Ethernet & USB port, GSM module, Relay Switch, Bread board</p> <p>2.Raspberry Pi Board</p> <p>3.Arduino UNO, Arduino Mega ESP-32, Node MCU IoT boards.</p> <p>4.BeagleBone Black IoT board.</p> <p>5.STEVAL-STRKT01 IoT tracker solution over LoRAWAN network and GNSS positioning.</p> <p>6.LoRA-E5 Development Kit</p> <p>7.ZigBee.</p> <p>8.Sensors: Ultrasonic sensor, PIR Sensor, Gas sensor, Humidity & Gas Sensor, soil moisture sensor etc.</p> <p>9.DC motor, Servo motor, Stepper motor, Servo motor.</p> <p>10.Software's: Arduino IDE, Raspbian, Thing Speak</p> <p>11.Embedded ARM LPC-2148 Trainer kit.</p> <p>12.DYNA-85, DYNA-86, DYNA-51 Embedded Trainer Kit</p>	



List of Laboratory Equipment's Name of Department: Allied Science



INDEX


Sr. No	Name of the Laboratory	Page No
1	Applied Physics Lab.	18
2	Applied Chemistry Lab.	19
3	Electrical Engineering Lab.	20
4	Language Lab.	20



List of Laboratory Equipment's Name of Department: Allied Science

No. of Laboratory: 4

Room No. Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.-9 (Wing - A)	Applied Physics Lab.	<ol style="list-style-type: none"> 1. Cathode Ray Oscilloscope 2. Kit-measurement of Energy Band gap of semiconductor 3. Transistor characteristics kit CE and CB mode 4. Zener diode characteristics kit 5. e/m by Thomsons method 6. Newton's ring setup with microscope and sodium lamp 7. Laser source 8. Optical fiber kit 	
Room No.-7 (Wing - A)	Applied Chemistry Lab.	<ol style="list-style-type: none"> 1. Abels flash point apparatus 2. High precision weighing balance 3. Muffle Furnace 4. Digital Oven 5. Pensky - Marten's flash point apparatus 6. Redwood Viscometer 7. Water distillation unit 8. Digital Spectrophotometer 9. Conductivity meter 10. Potentiometer 	

Room No Building Name (Wing A / Wing B)	Name of the Laboratory	Lab / Major Equipment's	Photo
Room No.-6 (Wing – A)	Electrical Engineering Lab.	<ol style="list-style-type: none"> 1. Dimmerstat, 1 phase, 8 A 2. Ammeter AC (0-1-2A) 3. Ammeter AC (0-5-10A) 4. Ammeter DC (0-5 A) 5. Kirchoff's Current Law Kit 6. Superposition theorem Kit 7. RLC Series Kit 8. RLC Parallel Kit 9. Voltmeter AC (0-150-300 V) 10. Voltmeter AC (0-600 V) 11. Rheostat 1.5 A/1000 Ohm 12. Rheostat 2A/500 Ohm 	
Room No. - 8 (Wing - A)	Language Lab.	<p>RELL TALK MAX Digital Language</p> <p>(Licensed purchased software)</p>	