

## List of Major Equipment in labs/workshop

### Department of Civil Engineering Laboratory

Sl. No.	Name of the Laboratory	No. of PCs	Major Equipments
1	Surveying Practice Lab		Chains 30m, 20m, Tapes 30, 15m., Ranging Rods, Arrows, Cross Staff, Optical Square, Prismatic Compass, Surveyors Compass, Plane table with accessories, Auto Levels, Theodolites, Electronic Theodolite, Total Stations
2	Basic Materials Testing Laboratory		Universal Testing Machine (60TonCapacity), Torsion testing Equipment, Impact Testing Equipment (Charpy&Izod), Hardness testing Equipment (Brinell's & Rockwell), Hardness testing Equipment (Vicker's), Tile flexural testing equipment, Specific gravity bottle, Sieve shaker, Hot air oven, Brass Sieve sets, Density Buckets
3	Applied Engineering Geology Laboratory		Mineral Samples, Rock Samples, Structural Geology Models, Geological Charts, Minor accessories like knife, magnifying glasses, hardness box etc.
4	Hydraulic and Hydraulic Machinery Lab		Pressure guage calibration equipment, Bernoulli's equipment, Notch Setup including V, rectangle and Cipolletti Notch, Weir Setup including Broad crusted, Oogee and Venturi flume, Venturi meter setup, Darcy's friction factor setup, Orifice setup, Impact of jet vanes setup, Single stage centrifugal pump setup, Pelton wheel turbine setup, Kaplan turbine setup
5	Computer Aided Design Lab	35	35 Desktop Computers 35 Nos. (Core2Duo Processor, 3.06GHz, 4GB Ram, 500GB HDD), AutoCAD 2013 Licenced S/w, 15 Network Licence for CYPE CAD Structural Analysis Software, Metal-3D, Retaining Wall, Embedded Retaining Wall, Box Culvert, Project Management, MEP-Air Conditioning
6	Geotechnical Engineering Laboratory		Specific Gravity Bottle, Hot air oven, Sieve shaker, Sieve sets, Core cutter with dolly, Casagrande liquid limit apparatus, Cone penetrometer, Shrinkage limit apparatus, Compaction apparatus, Permeability apparatus, Unconfined compression test apparatus, Direct shear apparatus, Triaxial compression test apparatus with pore pressure equipment, Three gang consolidation equipment, Auger, Proctor needle, Swell pressure apparatus, Relative density apparatus, Hydrometer, Vane Shear Apparatus, Automatic Compactor, Weighing Scale, Infrared Moisture Meter
7	Concrete and	1	300T CTM, Flexural Testing M/c, Cement Autoclave, Steam Curing

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	Highway Materials Testing Laboratory		Tank, Needle Vibrator, Sieve Shaker, Mortar Mixer, Cube Vibrator, Vee Bee Consistometer, Aggregate Impact Test Apparatus, Slump Test Apparatus, Flow Table, Cube Vibrator, Concrete Mixer, Bitumen Ductility Testing Apparatus, Flash & Fire Point Apparatus, Marshall Stability Test Apparatus, CBR Apparatus, Los Angeles Abrasion Test Apparatus, Hot Air Oven, Permeability Testing Apparatus, NDT-Rebound Hammer Test Apparatus, Bitumen Extractor, Specific Gravity Test Setup, Blain's Air Permeability Apparatus, Universal Tar Penetrometer, Ring & Ball Apparatus, Vicat Apparatus, Length Gauge, Thickness Gauge, Length Comparator, Pycnometers, Sieves, Slump Cone Test Apparatus, Concrete Cube Moulds, Cement Mortar Cubes, Cement Concrete Beam Moulds, Cement Concrete Cylinder Moulds, Thermometers, Weighing Scale, Jaw Crusher, Heat of Hydration Apparatus, Automatic Blaine's Apparatus, Air Entrainment Meter, Buoyancy Balance. ULTRASONIC PULSE VELOCITY MACHINE, DIGITAL REBOUND HAMMER.
8	Environmental Engineering Laboratory		Double distillation unit, Hot plates, Electric Bunsen Burner, Heating Mantles, Soxhlet Extraction Mantle, Flocculator, pH Meter, Digital Conductivity/TDS Meter, Flame Photometer, Visible Spectrophotometer, Nephelo Turbidity Meter, Heating Incubator, Muffle Furnace, BOD Incubator, Dry block Digestor, Hot air oven, Electronic Analytical Balance, Physical Balance, Burettes, Pippettes, Condensers, Conical Flasks, Magnetic Stirrers, Imhoff Cone, Dessicators, Thermometers, Refrigerator

**Department of Computer Science and Engineering Laboratories**

Sl. No.	Name of the Laboratory	No. of PCs	Major Equipments
1	COMPUTER CENTER II	25	Personal Computers- Intel Dual Core E6700-3.20 GHz, 2GB DDR3 RAM-21 No's Intel Core2Duo E7500-2.93 G Hz, 2 GB DDR3 RAM- 03 No's Acer Version Desktop UxVJSS1089 - 01No's, PC Add-on Card-15 No's, UPS 20KVA(shared) - 01 No. Logic Controller I/F-10 No's, 7 segment Display I/F- 10 No's, Keypad I/F(8*3)- 10No's, Stepper Motor I/F- 10 No's, Digital trainer Kit-12 No's CRO-10No's,PS-10No's,AFO-10 No's,Arm Processor Kit-5 No's.

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2	COMPUTER CENTER III	25	Personal Computers- Intel Duel Core E6700-3.20 GHz, 2GB DDR3 RAM–25 No's UPS 20KVA(shared) – 01 Number Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox
3	COMPUTER CENTER IV	30	Personal Computers- Intel Duel Core E6700-3.20 GHz, 2GB DDR3 RAM–25 No's UPS 20KVA(shared) – 01 NO. Dlink 48 port Managed switch - 01 NO. Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox
4	COMPUTER CENTER V	25	Personal Computers- Intel Duel Core E6700-3.20 GHz, 2GB DDR3 RAM–25 No's UPS 20KVA(shared) – 01 NO. Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox
5	CENTRAL COMPUTER CENTER	30	Personal Computers- Intel Core i3 E6700-3.20 GHz, 4GB DDR3 RAM– 30 No's UPS 10KVA – 01 Number Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox
6	Computer center- I BF	33	Personal Computers- Intel Duel Core E6700-3.20 GHz, 2GB DDR3 RAM–33 No's Acer Version Desktop UxVJSS1089 - 03No's, UPS 10KVA – 01 Number Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox List of Licensed Software: WINDOWS SERVER 2003 WINDOWS SERVER 2008 WINDOWS XP SP2 (32 BIT) WINDOWS XP SP3 (64 BIT) WINDOWS 7 PROFESSIONAL MS-OFFICE 2007 TURBO C++ XILINX 10.1
7	COMPUTER	23	Personal Computers-

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	CENTER-VI		Intel Core i3 E6700-3.20 GHz, 4GB DDR3 RAM– 22 No's Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox
8	Language Lab	50	Personal Computers- Intel Core i3 E6700-3.20 GHz, 4GB DDR3 RAM– 25 No's Dlink 48 port Managed switch - 01 Number Dlink 1 Mtr. Patch cords, RJ45 Connectors, Keystone, Faceplate, Backbox.

**Department of E&C Engineering Laboratories**

SI No.	Name of the Laboratory	No. of PCs	Major Equipments
1	Analog Electronics / Communication Lab	Nil	Cathode Ray Oscilloscopes, Digital Storage Oscilloscopes, Function Generators, Power Supplies, Transformers, Multimeters, Resistance Boxes, Inductor Boxes, Capacitance Boxes, Soldering Iron, AM FM PPM PWM Kits
2	Logic Design / Advanced Communication Lab	Nil	Digital IC Trainer Kits, Digital IC Testers Microwave Test Benches, Fiber Optic Kits, TDM ASK FSK PSK DPSK QPSK PCM Trainer Kits, Signal Generators
3	Microcontroller / Microprocessor Lab	26	8051 Trainer Kits, MSP430 Kits, Dual DAC, ADC, DAC, LCD, Keyboard, Stepper Motor, Display Interfacing Kits, Power Supplies Logic controller interface kits, I/O Cards, UPS
4	DSP/HDL Lab	26	Matlab License Version, Signal Processing Tool Box, DSP System Tool Box, Simulink, DSP Starter Kits, FPGA Trainer Kits, Power Supplies, Daughter Boards, Dual-DAC, ADC, Elevator, LCD, Keyboard, Stepper Motor interfacing kits

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<b>5</b>	Power Electronics Lab	Nil	SCR and TRIAC, MOSFET and IGBT, Single Phase Fully controlled converter, Voltage commutated firing circuit, Speed control of a separately excited DC motor, Speed control of universal motor Kits
<b>6</b>	Basic Electrical Engg. Laboratory.		Ammeter, Wattmeter, Rotary switch, Choke coil module, 3-phase star-delta module, 2-wattmeter module, Earth resistance module, KCL module, Wattage measurement of CFL, LED, incandescent and fluorescent lamps, 2-way and 3-way lamp control module
<b>7</b>	VLSI Lab	Nil	Mentor Graphics ASIC Design License Software
<b>8</b>	Project Lab	26	Atmega Interface Boards, EEPROM Programmer, Soldering Iron

**Department of Mechanical engineering Laboratories**

<b>Sl No.</b>	<b>Name of the Laboratory</b>	<b>No. of PCs</b>	<b>Major Equipments</b>
<b>1</b>	Foundry and Forging Laboratory		Moulding Boxes, Split Piece Patterns, Single Piece Pattern, Foundry Tool Kits, Smithy Furnaces (coal fired), Anvils, Swage Blocks and Forging Tools.
<b>2</b>	Metallography and Material Testing Lab		Universal Testing Machine(60 Tons) Mechanical type, Wear and Friction Tester, Magnetic Crack Detector 1000 amps, Ultrasonic Flaw Detector, Rockwell cum Brinell hardness tester, Vickers hardness tester, Fatigue testing machine, Impact testing machine, Torsion testing machine, Trinocular inverted microscope. UTM Conversion Electronic

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			Extensometer with conversion kit
<b>3</b>	Metrology and Mechanical Measurements Lab		Pressure gauge set up, Thermo couple setup, L.V.D.T. setup, Load cell set up, Strain gauge setup, Autocollimator single axis, Gear Tooth Verniers, Digital Vernier Caliper, Micrometers (0-25mm), Digital Micrometer (0-25mm), Mechanical Comparator, Floating Carriage Micrometer (2 wire / 3 wire), Slip gauge 83pieces set, Profile Projector, Toolmaker's microscope, Sine center 200mm, Sine bar 200mm, Granite Surface plates.
<b>4</b>	Machine Shop Lab		All geared Lathe , Belt driven (cone pulley type) Lathes 12 No.s, Universal Milling Machines, Shaping Machines, Radial Drilling Machine, Surface Grinder, Slotting Machine, Hydraulic power Hacksaw Machine, Bench Grinder.
<b>5</b>	Fluid Mechanics and Machinery Lab		Combined pipe friction & pipe fittings setup, Impact of jet on vanes apparatus, Orifice and venturimeter combined setup, Flow nozzle and Rotometer combined set, Notch apparatus, 2 stage reciprocating Compressor test rig, Single stage centrifugal pump test rig, Reciprocating pump test rig, Kaplan turbine test rig, Francis turbine test rig, Pelton wheel test rig, Centrifugal blower test rig,
<b>6</b>	Energy Conversion Engineering Lab		Four stroke diesel engine cut section, Two stroke petrol engine cut section, Planimeter, Able's flash and fire point apparatus, Pensky martin's flash and fire point apparatus, Redwood viscometer, Saybolt viscometer, Torsion viscometer, Boy's gas calorimeter, Bomb calorimeter, Four stroke single cylinder diesel engine test rig, V.C.R petrol engine test rig, Two stroke single cylinder petrol engine test rig, Four stroke four cylinder petrol engine test rig with hydraulic dynamometer (Morse test).
<b>7</b>	Heat & Mass Transfer Lab		Thermal conductivity of metal rod apparatus, Composite wall apparatus, Pin-Fin apparatus, Natural convection apparatus, Forced convection apparatus, Emissivity measurement apparatus, Stefan Boltzman's constant apparatus, Parallal & counter flow heat exchanger apparatus, Critical heat flux apparatus, Condensation apparatus, Vapor compression refrigeration test rig, Air conditioning cycle test rig, Transient

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			conduction apparatus.
<b>8</b>	Computer Aided Modeling & Analysis Lab	33	Acer Veriton Systems-32 Nos.With Intel core i3,E 6700@ 3.20 GHz Processor, 4GB Ram,500 GB SATA, 32 bit Operating system,18.5" TFT Monitor, OS-Microsoft windows XP, 20Kva UPS, Network server Model E5520, LAN- 48 Port managed switch & CAT 6 UTP Cable ,Software-Ansys Release 14.5 Version
<b>9</b>	CIM & Automation Lab		CNC simulation software SeeNC Turn, SeeNC MillCaps Turn,Caps Mill
<b>10</b>	Design Lab		Determination of natural frequency, Balancing of rotating masses, critical speed of a rotating shaft, Fringe constant of Photo elastic material, stress concentration using Photo elasticity, equilibrium speed, sensitiveness, power and effort of Porter/Prowel /Hartnel Governor, Pressure distribution in Journal bearing, Principal Stresses and strains, Experiments on Gyroscope
<b>11</b>	Basic Work Shop		Welding Machine, Drilling Machine, Work Benches with Bench vices, Bench Grinder
<b>12</b>	CAED Lab	77	Acer Veriton (M200 – G41) Systems-74 No.s ,With Intel core 2 Duo E 7500 Processor, 2GB Ram,160 GB Hard disk, Drive-SATA, 32 bit Operating system,18.5" TFT Monitor, OS-Microsoft windows XP, Software-Solid Edge ST2 (with synchronous Technology), Hp laser jet printer, 20Kva UPS, Vivitek Projector, Network server Model E5520, LAN- 48 Port managed switch & CAT 6 UTP Cable. HP 280 core 15 Desktop with accessories (4Nos)
<b>13</b>	R& D Center for Technology Up-gradation of Cashew Processing Equipment		CNC Vertical Machining Centre , Tachometer, Pyrometer, Manometer, Anemometer, Clamp Meter, Moisture Content Tester, Arc Welding Machine, Digital Varnier Calliper, Digital Micrometer, Digital Thermo Hygrometer , Pyranometer, ACE CNC Lathe Model: J 400 LM, Digital Powder Conditioner, APC Battery. TA-2201 MFP Printer with Accessories (1No)
<b>14</b>	Creativity Center		MAKIT- MASTER, MAKIT- HITECH

**Physics Department Laboratories**

SI No.	Name of the Laboratory	No. of PCs	Major Equipments
1	Engineering Physics Lab	1	Ultrasonic Interferometer, Spectrometer, Digital sine/Square wave generator, Newton's ring Microscope, Digital DC Power supply,, Laser
	Research Lab	1	Crystal Growth apparatus, Magnetic stirrer, RS apparatus for Crystal growth, Distillation unit. Vibration isolation Table, Z-scan. Translation stage.

**Chemistry Department Laboratories**

SI No.	Name of the Laboratory	No. of PCs	Major Equipments
1	Engineering Chemistry Lab	02	Flame Photometer – 03, PH Meter – 06, Potentiometer – 06, Colorimeter – 06, Conductometer – 06, Freezer – 01, Oven -1, Hot Plate – 02 , Weighing Balance – 02 , De-Ioniser – 02 Magnetic stirrer without hot plate(Remi)-04, Melting point apparatus (Remi)-01, Conductivity Cell(Systronics)-01, Viscometer(Vensil)-04
2	Research Lab		Hot air oven common to Engg.Chemistry Lab-01 Heating mantles with condensers-02, Magnetic stirrer-02 Thin layer chromatography developing and detection set up.-01 Oil bath with Digital temperature controller

1	CAED Lab (MECH)	178	Acer Veriton (M200 – G41) Systems-77 No.s ,With Intel core 2 Duo E 7500 Processor, 2GB Ram,160 GB Hard disk, Drive-SATA, 32 bit Operating system,18.5” TFT Monitor, OS-Microsoft windows XP, Software-Solid Edge ST2 (with synchronous Technology), Hp laser jet printer, 20Kva UPS, Vivitek Projector, Network server Model E5520, LAN- 48 Port managed switch & CAT 6 UTP Cable
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