



Dr. N.G.P. INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION)

(Accredited by AICTE, New Delhi & Affiliated to Anna University - Chennai)

Recognized by UGC & Accredited by NBA & NAAC with A+

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Research Lab

(2023-2024)

Department	Name of the Lab	Tools/Equipments
Biomedical Engineering	Biomedical Instrumentation	RMS Windows based Digital 20 channel EEG Machine, Multi Parameter Patient Monitoring System EMG Recorder, Pulse Rate Measurement Setup, 3 ch ECG Machine, Galvanic Skin Resistance Measurement Digital pH Meter, Digital Conductivity Meter, Thermistor, Thermocouple, RTD measurement module Digital Storage Oscilloscope (50 MHz)
	Diagnostic and Therapeutic	Single Parameter Biotelemetry System, Audiometer, Electrical Safety Analyzer, Shortwave diathermy unit

Department	Name of the Lab	Tools/Equipments
		Helios 401 Spirometry Kit with standard Accessories, Patient Monitoring System, Ultrasound diathermy unit Electrosurgical diathermy unit, Medical stimulator, Bio Signal Simulator, ECG Simulator With Data Acquisition Systems ECG Arrhythmia Simulator With Display
	Biochemistry, Pathology and Microbiology	Cooling Centrifuge, ELISA Reader, Binocular Microscope, Digital Spectrophotometer, Digital Colorimeter Clinical Centrifuge, Electronic Top Loading Balance, Microprocessor Based Digital pH Meter, Refrigerator Vortex Shaker, Micro photographic Unit, Laminar Air Flow Chamber, distillation Unit, Incubator, Hot Air Oven, Senior Rotary Microtome, Vertical Autoclave
	Biomedical Research	Baby warmer, Treadmill, Color Doppler, Boyles machine, Syringe pump, Pulse oximeter, Patient monitor, Diathermy, Nebulizer, Spectrophotometer, Dialysis machine, Blood gas analyzer, Fetal monitor, Fetal Doppler, Microscope, Audiometer
Civil Engineering	Environmental Engineering lab	Atomic absorption Spectrophotometer, BOD Incubator
	Concrete and Highway Engineering Laboratory	Ultrasonic Pulse Velocity Testing Equipment, Rebound hammer, Compression Testing Machine, Universal Testing Machine, Tile Abrasion Testing Machine, Self-Compacting Concrete Equipment's, Marshal Stability Apparatus, Bitumen - Penetration, Ductility, Softening Point, Viscosity Testing Equipment's & Extractor.
	Surveying Laboratory	Total station and Global Positioning System
	Strength of Materials Laboratory	Torsion Testing Machine, Impact Testing Machine, Rockwell and Brinell Hardness Testing Machine, Rosette Strain Gauge.

Department	Name of the Lab	Tools/Equipments
	Soil Mechanics Laboratory	Standard Penetration Test Apparatus, Direct shear apparatus, Tri axial shear apparatus
	CAD Laboratory	AutoCAD and Primavera Software.
	Hydraulics Laboratory	Pelton Turbine, Kaplan Turbine, Francis Turbine,
Computer Science and Engineering	AOSTA Incubation Center	Intel Core i5/8 GB DDR-IV RAM/1 TB HDD / 19"LEDMonitor (10)
	Programming Lab - II	Intel Core i-3 /4 GB DDR-IV RAM /1 TB SATA HDD/18.5 " LCD Monitor (73)
	Programming Lab - III	Intel Core i-3 /8 GB DDR-IV RAM /1 TB SATA HDD/18.5 " LCD Monitor (60), Intel Core i3/ 8 GB DDR-III RAM/160 GB HDD / 18.5"Wide TFT Monitor (9)
	Programming Lab - IV	Intel Core i3/8 GB DDR-IV RAM/1 TB HDD / 19 " LED Monitor (60), Intel Core i3/ 8 GB DDRIV- RAM/160 GB HDD / 18.5"Wide TFT Monitor (3)
	Programming Lab - V	Intel Core i3/2 GB DDR III RAM/1 TB HDD / 18.5"Wide TFT Monitor (20),Intel Core i3/ 4 GB DDR III RAM/500 GB HDD / 18.5"Wide TFT Monitor (10)

Department	Name of the Lab	Tools/Equipments
Electrical and Electronics Engineering	Project and Research Labs	NI LabVIEW-2011 (50 user) NIDAQ user Kit-NITCI6221 NI ELVIS user kit USRP hardware DC motors – Shunt, Series, Compound DC generator Sets – Shunt, Series, Compound Transformers – 1 phase and 3 phase Auto transformers – 1 phase and 3 phase Induction motor – 1 phase & 3 phase Squirrel Cage induction motor & 3 phase Slipring Induction motor 3 Phase Synchronous Motor 3 Phase Alternator AC to DC Rectifier Unit 100 A. Open Source Softwares: Pspice LTSpice Scilab 5.5.2 Oscad kiCAD 4.02 My Open Lab V-3.9.1 Open APC 4.8-1 Motorsolve 6 Stepper Motor control system AC Position control system DC position Control System Analog Simulation of type 2 and type 1 system kit Digital simulation of first & second order system Stability analysis of Linear Systems kit Transfer function of DC & AC Servomotors Rectifier – Half & Fully Controlled Chopper - Step up, Step down, Four Quadrant, High Frequency, Voltage and Current Commutated Chopper Resonant DC to DC converter Cyclo Converter IGBT Based Inverter –Parallel and Series

Department	Name of the Lab	Tools/Equipments
Electrical and Electronics Engineering	Project and Research Labs	AC Voltage Controller LCR Meter BLDC motor SRM motor Stepper motor FPGA Trainer Kit PIC Trainer Kit Power Quality Analyzer Power Scope DSP Trainer kit 256K bytes on-chip RAM On Board 16M bytes on-chip SDRAM Memory On Board XDS100 Emulator for Execution Onboard IEEE 1149.1 JTAG emulation connector On Board 16K I2C Serial EEPROM 8086 microprocessor trainer kit with power supply 8085 microprocessor trainer kit with power supply 8051 microcontroller trainer kit with power supply 60 MHz digital storage oscilloscope ARM trainer kit Digital Clamp Meter (1000A, 2Kv) Digital Storage Oscilloscope (100 MHz) Spectrum Analyzer (1.5 GHz) PV Emulator (500W) Solar PV and Wind Emulator Hybrid Subsystem with DC Micro Grid (1 Set) Micro wind energy generator module Experimental setup VI characteristics and efficiency of 1 KWP Solar PV System Experimental Setup shadowing effect and diode based solution in 1 KWP Solar PV system Experimental Setup Performance Assessment of Grid Connected and Standalone 1KWP Solar Power Systems. MATLAB
Electronics and Communication Engineering	Texas Instruments Lab	ORCAD Simulation Suite Fixed Point & Floating Point DSP Processors ARM Microcontroller Development Kit (LPC2148, LPC2378) PIC Microcontroller Development Kit

Department	Name of the Lab	Tools/Equipments
		Embedded DSP Based System Designing (A) ASLK PRO ASL PRO University Kit (B) Code Compressor Studio For Embedded DSP Using Texas Tool Kit ARM Development Board Stellaris LM3S8962 Embedded Trainer Kit with ARM Board Embedded Trainer Kits suitable for Wireless Communication ALTERA FPGA Cyclone II EP2C5T144 Development Board-Code Composer IDE Software
	Digital Signal Processing Lab	Signal Processing Research -Matlab R 2021b
	CDAC IoT Lab	Ubi mote, Wi-Fi mote, BLE Mote, Ubi Sense, Wingz Multiprotocol Gateway, Debuggers
	CISCO Lab	CISCO 2811 Router HWIC-2A/S 2 PORT ASYNC SSUNC WAN INTERFACE CARD CISCO 2811 ROUTER 2811 WIAC,PWR,2FE,4HWICS,2PVDMS,INME IP BASE 64F/256D HW/C-2A/S 2 PORT ASVNC SSVNC WAN INTERFACE CARD WS-CS 2960-24TT-L SWITCH CATALYST 2960 24 10/100+2 1000 BT LAN BASE IMAGE CON - SNT 2811 SUPPORT PACK SMARTNET 8*5*NBD 2811 W/AC PWR 2FE,4 HWI CON - SNT -C 2960TT SMARTNET 8*5*NBD CATALYST 2960 24 10/100+2 1000 BT LAN CISCO WAG 120N WIRELESS N- BROADBAND ROUTER
	VLSI Lab	Local Area Trainer with wireless Module with Network Simulator Protocol Implementation Xilinx Spartan 3E FPGA Trainer Kit (VSK-Spartan 3E) 500k, Gate Density Xilinx Spartan 3E FPGA Trainer Kit (VPTB-10) Nexys 3-Spartan- 6 FPGA Board Digilent Xilinx System Edition Version 13.4 Tanner EDA S-Edit, L-edit and T Spice
	NI LABVIEW Academy	NI PCI-6221, M Series DAQ SHC68-68-EPM Shielded Cable DAQ Signal Accessory Features Function

Department	Name of the Lab	Tools/Equipments
		NI-ELVIS USRP Hardware(Software Defined)
Information Technology	Cyber Security Lab	32 Systems
Mechanical Engineering	Research Lab	Ball Milling Apparatus Surface Roughness Tester Optical Microscope Fatigue Testing Machine Double Disc Polishing Machine 3D Printer
	CAD Lab	Ansys Software Solid Works
	Engineering Practices Lab	TIG Welding
Mechanical Engineering	Manufacturing Technology Lab	Lathe Tool Dynamometer Milling Tool Dynamometer Semi-automats Centreless Grinding Surface Grinding Milling Machine
	Mechatronics Lab	Automation Studio

Department	Name of the Lab	Tools/Equipments
	CAM Lab	CMM
Management Studies	-	MS-Excel, SPSS, POM, TORA (Softwares for Data Analysis)