Central Instrumentation Centre (CIC)

About:

Central Instrumentation Centre was established on 22nd Dec 2016 and operated by the department of ECE, to cater to product development, equipment maintenance, and support experimental research for various departments/centres of the VFSTR (Deemed to be university) by providing sophisticated instruments. It is equipped with various instruments necessary for testing and measuring and tools for service, maintenance, and repair works of all electronic equipment/appliances & teaching aid. Support for students and faculty across the university in the design and fabrication of instrumentation modules is provided by CIC.

Objectives:

The objectives of the CIC are to:

- Achieve excellence in instrumentation
- Maintenance of all Sophisticated Instruments of the University
- Repair & Service of Electronic equipment.
- Train students and faculty in instrument design and development
- Organizing training programmes to enhance the technical skills of scientific community

Outcomes:

- Quality improvement in instruments developed
- Extended life of the electronic systems
- Skilful students/faculty

Equipment list:

Major Equipment	
1.	Data Acquisition System DAQ6510/7700(Tektronics) – 800channels/second, 1 MS/s, 16 BitDigitizer
2.	Digital Multimeter (Tektronics) DMM6500 – 6 ½ Digit,
3.	RF Spectrum AnalyzerN9320B(Keysight)– Bandwidth 9 kHz to 3 GHz,
4.	Arbitrary Function Generator 33512B(Keysight) – 1 µHz to 20 MHz
5.	Multi Signal Oscilloscope MSO3024T(KEYSIGHT) – 16 digital channel, 200MHz, 2GS/s
6.	Moku Lock in Amplifier (Liquid Instruments) – 200MHz
7.	Scientific SM 6023 LCR Meter – 50 Hz to 100 kHz, 6 Digit Resolution
8.	Aadarsh Technologies Humidity Chamber 3CFT (90L) – 10°C to 60°C, 20RH to 75RH
9.	Multi-function calibrator Masibus UC 12
10.	Function Generator(APLAB) 2 MHZ
11.	Akademika Lab Solutions DSO 100MHz 1GS/s COLOR Digital storage oscilloscope with FFT
12.	USB-6211(NI) Bus-Powered M Series Multifunction DAQ Device
13.	My RIO-1900(NI) for student purchase WIFI and MSP Connector

14.	USB 9171(NI)single slot chassis
15.	USB 9237(NI) for Strain Measurement Input module.
16.	CAN interface bus compatible with my 19671RIO hardware platform.
17.	DAQ USB9181(NI) 4-Channel, SPST Relay Single slot chassis Data Acquisition System for Temperature and transport over Ethernet protocol.
18.	USB 9219(NI) 100 S/s/channel, 4-Channel C Series Universal Analog Input module for temperature module.
19.	USB IEEE 488(NI) GPIB HS Simulator and Instrument Simulator hardware bundle.
20.	Spectrum Analyzer Tracing Generator SN- EP160060 (GSAS) 3GHz
21.	PCB fabrication machine Eleven Lab (Entuple technologies) – Spindle Speed: 41,000rpm, Camera Monitoring System, working area of 229x320mm
Minor Equipment	
1.	Digital multimeter 17B+ (Fluke) – 3½ digit
2.	Gauss Meter GU 3001 (Lutron) – up to 3,000 mG, resolution 0.1 mG
3.	Clamp meter 317 (Fluke) – up to 600 A
4.	Panel meter SMP-72 (Meco) – 4 Digit, 0-1000V
5.	Infrared thermometer 62Max plus (Fluke) – -30°C to +650°C
6.	Lux meter 930P (Meco) – 0 to 2,00,000 Lux
7.	Sound meter SL 4030 (Lutron) – 30DB to 130DB, 31.5Hz to 8000 Hz
8.	Pressure switch KP 35(Danfoss) – -0.2 to 7.5 Bar
9.	Differential pressure calibrator(Magnalic gauge calibrator) PSI/PP1 (ACE) – 0 to 1410 mm.W.C
10.	Battery tester BM-63 (Meco) – 2,6,12V DC, 4-500 AH
11.	SMPS RS-15-5 (Mean well) – 5 VDC, 15W
12.	Digital differential pressure transmitter AI-DIGI-MAG-T (ACE) – Accuracy ±0.5 full scale
13.	Stereo Zoom MicroscopeSZB-45E Mag: 7x to 45x
14.	Digital Multimeter (APLAB) 3¾ Digit VC97
15.	Regulated DC Power Supply (APLAB) 0-32 V/2A
16.	Tachometer System Non-Contact Type tachometer-HTM-560
17.	Analog, Digital IC testers
Software	
1.	DAQMX driver software and Signal Express LE for Windows
2.	Lab View Academy Student Workbook for Student Use with Official Lab View Academy Program
3.	My DAQ - Student Kit - with Lab View & Multisim Student Edition
4.	PCB design software Cadence OrCADPCB 17.4 – 50 user licence
5.	Design prowith Converter and CAM – Importing design and controlling and setup PCB machine.
6.	Easy CAD for PCB design – Pattern creation, pattern drawing and editing
Consumables	
1.	**Sensors-** Temperature, RTD, ultrasonic, flex, capacitive, inductive, velocity, strain, piezoelectric, displacement, pressure, angle, force, accelerometer, PIR, Gyrometer, Fingerprint, RPM, AirQuality, Lidar, Water level,etc.

2.	**Actuators-** DC Motor, stepper motor, solenoidal valve, servomotor,etc
3.	**ICs-** ADC(TI-ADC),OP-Amps, Multiplexers, regulators, instrumentation amplifiers, etc
4.	**Discrete components-** Resistors, capacitors, diodes, transistors, led, Breadboards, etc
5.	**Tools-** Screw driver set, strippers, Gluegun, Tweezers, soldering gun, drilling machine etc

Services offered by CIC

Following are the services offered by CIC:

- Repair and Maintenance of Scientific Electronic and Electrical equipment
- Servicing of electronic devices
- Design of scientific instruments
- PCB design and component soldering for instrumentation
- Impedance, I-V, C-V measurements
- Electronic equipment testing under controlled humidity and temperature
- Support for Research and development activities for students and faculty

Contact Details

Center Incharges:

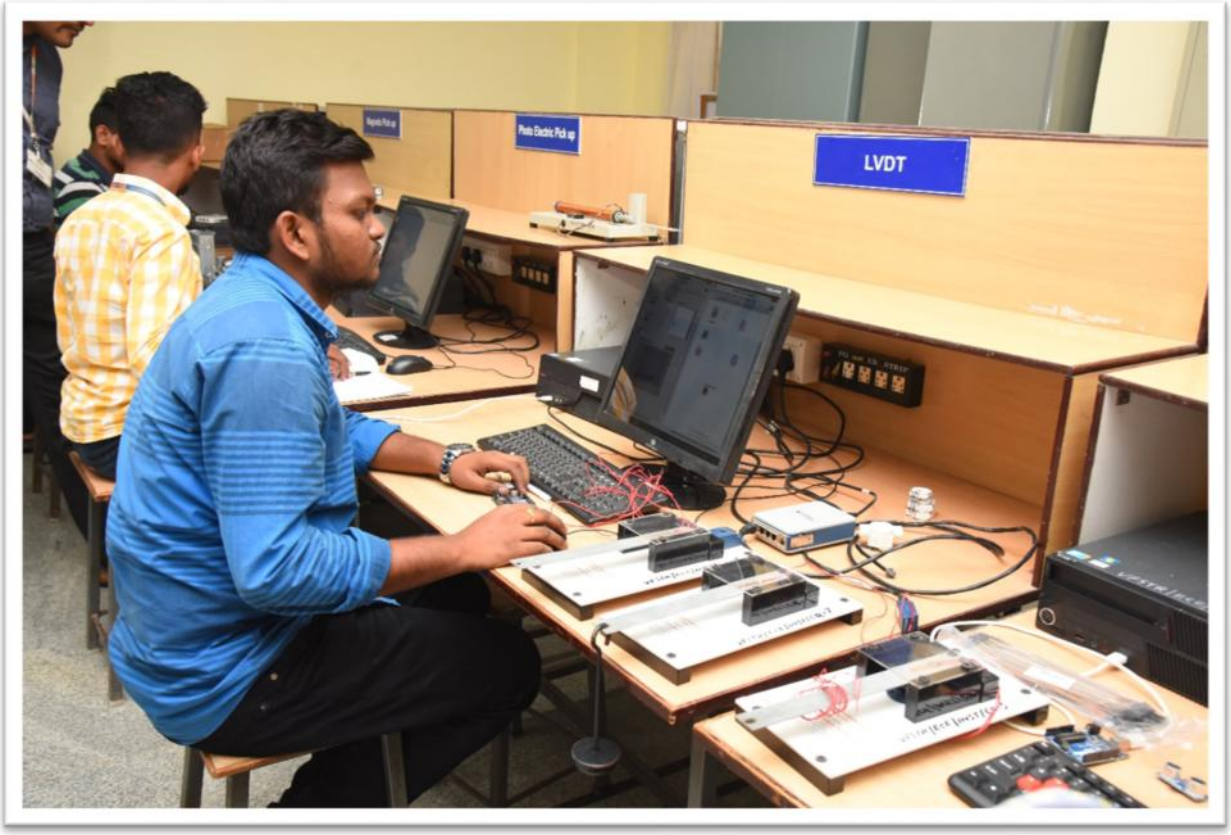
1. Dr. N V R Vikram G
   Email: gnvrvikram@gmail.com
   Phone: 9482840480
2. Mr. S. Sivaji
   Email:sivaji.ganesh1100@gmail.com
   Phone: 9160072782

HOD: Prof T. Pitchaiah

Email: hodece@vignan.ac.in

Phone: 7989672766/9703551269.

Gallery:



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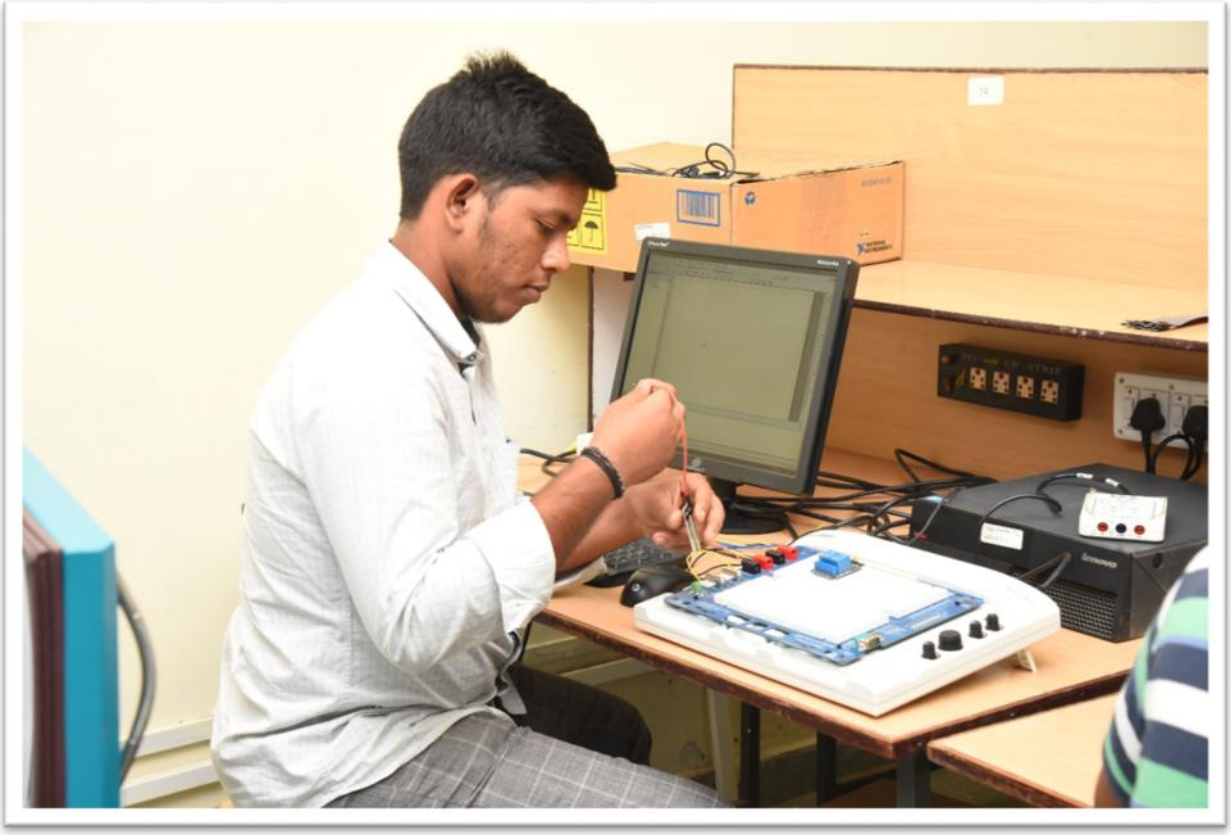
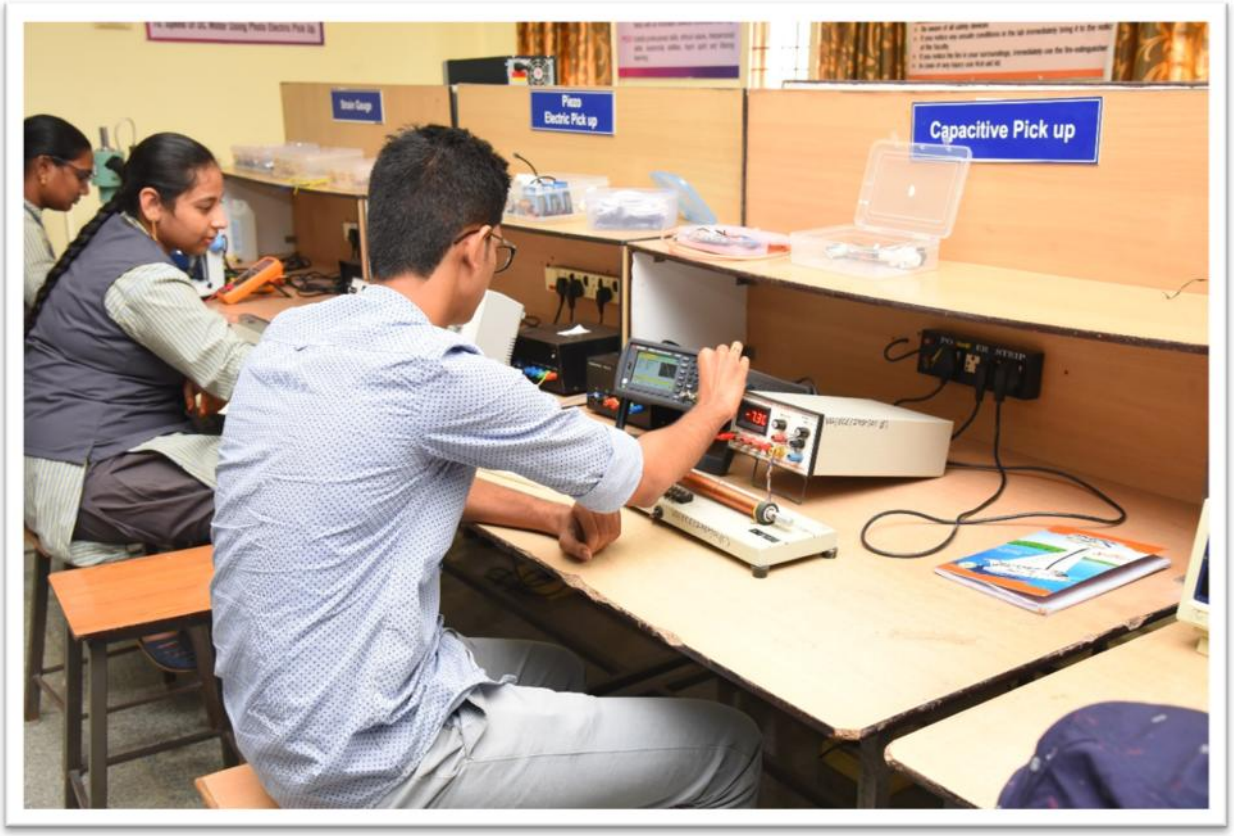
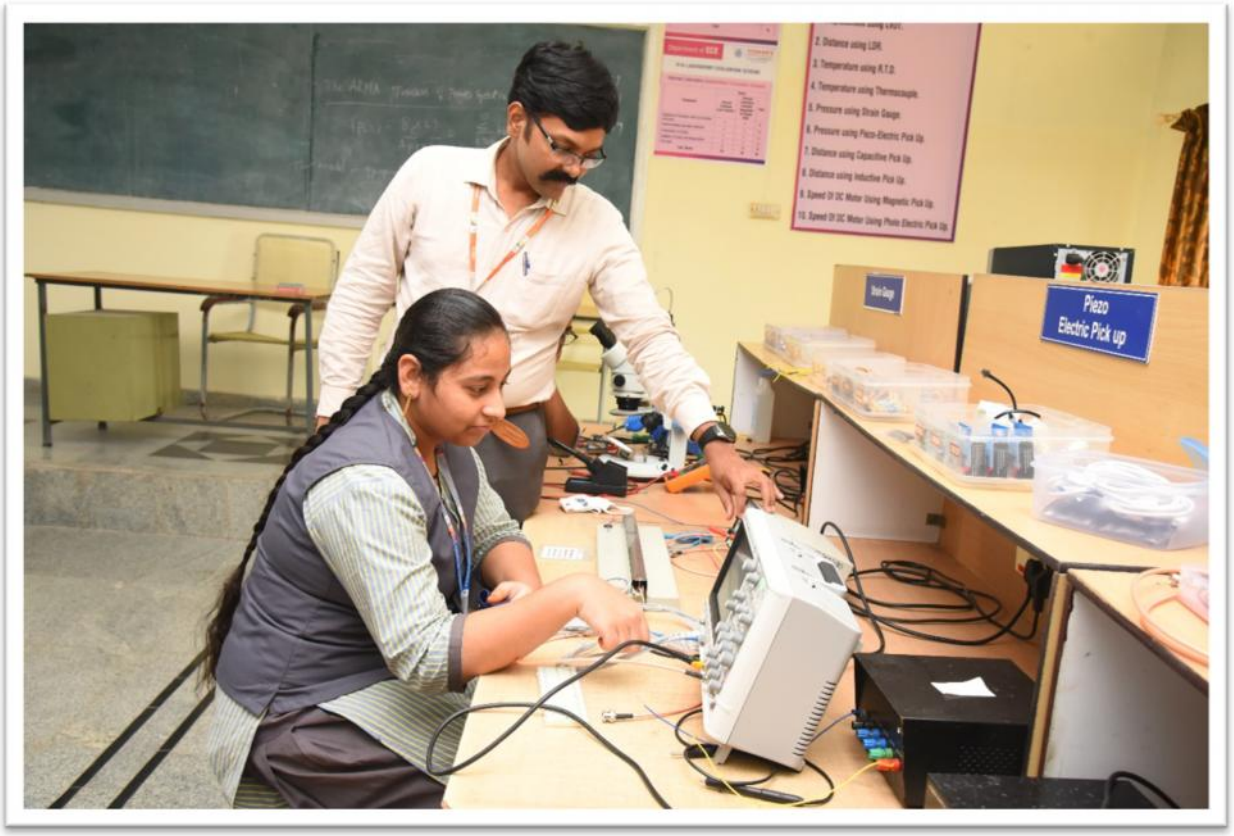



Strain Gauge
Piezo
Electric Pick up
Capacitive Pick up


Strain Gauge
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Location

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