




List of Research Equipments available in Mechatronics Department


Department Name	Mechatronics Engineering
Equipment Name	pH Control Pilot Plant
Specifications	pH sensor- 0 to 14, 4 to 20 mA control valve 0 to 1000 LPH
Function	Enhancement of pH neutralisation process in effluent treatment plant using Artificial Neural Network
Photo	

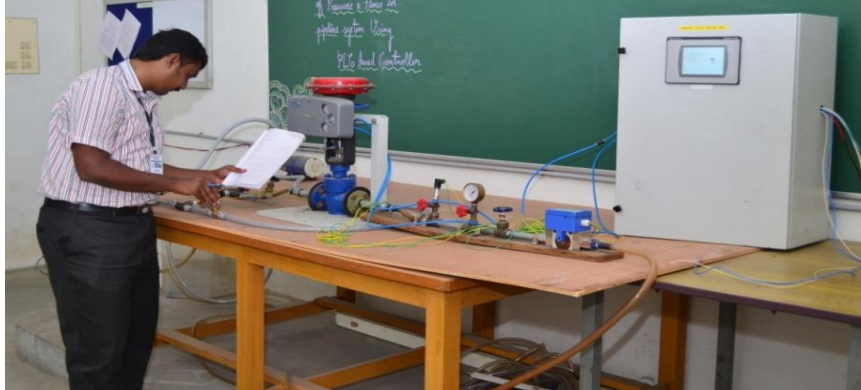
Department Name	Mechatronics Engineering
Equipment Name	Mechanical Seal Test Rig
Specifications	Speed 1400 rpm Load 75- 2000 N Torque 358 Nm
Function	To assess the friction and wear of mechanical seal
Photo	


Department Name	Mechatronics Engineering
Equipment Name	Linear motion 1–stage inverted pendulum
Specifications	GLIP2001
Functions	Flight motion control system
Photo	


Department Name	Mechatronics Engineering
Equipment Name	Ball and Beam System
Specifications	GBB1004 Moving range 400 mm Ball diameter 30 mm
Functions	Flight motion control system
Photo	

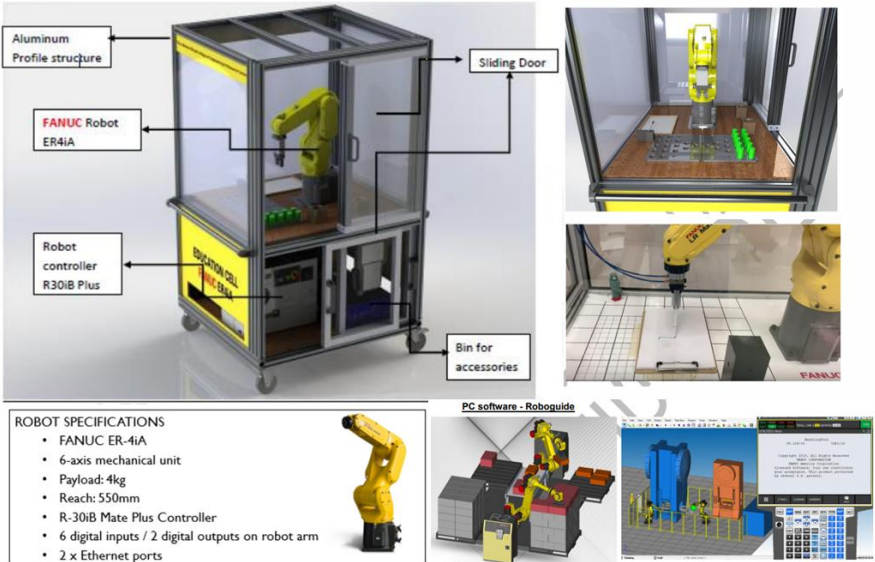
Department Name	Mechatronics Engineering
Equipment Name	Pin-on-Disc Friction and Wear Test rig
Specifications	Load 200N Sliding speed 10m/s Pin length 25 to 30 mm
Functions	To study friction and wear
Photo	 A photograph showing a person in a pink shirt sitting at a desk, operating a computer monitor. To the right of the desk is a Pin-on-Disc Friction and Wear Test rig, which is a black machine with a blue and yellow control panel. The rig is connected to the computer via a cable. The background shows a laboratory setting with a blue frame and a wooden wall.

Department Name	Mechatronics Engineering
Equipment Name	SO₂ Control Setup
Specifications	VFD 230 V AC Peristaltic Pump 0-3 LPH Packed Column-1.5 metres SO ₂ sensors-0 to 5000 ppm
Functions	To control SO ₂ emission
Photo	 A photograph showing a person in a pink shirt standing next to an SO ₂ Control Setup. The setup is a complex of orange metal frames, pipes, and electrical components. It includes a peristaltic pump, a packed column, and SO ₂ sensors. The person is holding a laptop and appears to be monitoring the setup. The background shows a laboratory setting with a white wall and a wooden table.


Department Name	Mechatronics Engineering
Equipment Name	Remote monitoring & control of pressure & flow in pipeline system
Specifications	Pressure Sensor 4-20 mA Flow sensor 4-20 mA, 0-1000 LPH HMI and PLC RS Logix 1400
Functions	To remotely monitor and control the pressure and flow in pipeline system
Photo	

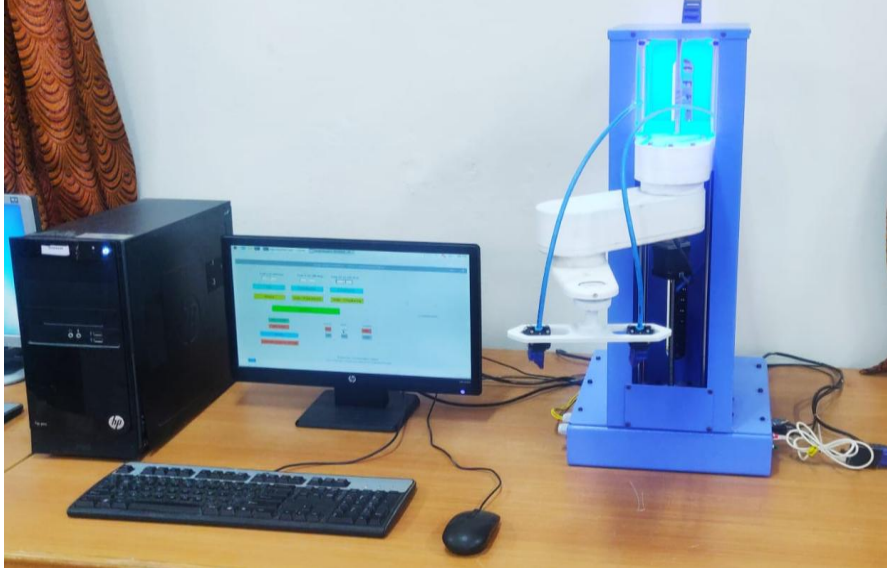
Department Name	Mechatronics Engineering
Equipment Name	MOOG industry supported laboratory
Specifications	Actuator tREU EMA
Functions	To calibrate force sensors
Photo	


Department Name	Mechatronics Engineering
Equipment Name	3 Axis Industrial Servo system
Specifications	Control Logix PLC Speed 5000 rpm Programme Software 5000 Logix
Functions	Packaging and automation
Photo	 <p>Control Logix PLC Hardware</p> <p>CAL No. : F566-L12 CLX Logix 5572 Controller Make : Allen-Bradley Ethernet/IP Availability : Yes ControlNet : Yes Programming Software : Studio 5000 Logix Servo Motor : Type : Brushless servo motor with absolute feedback Make : Allen-Bradley Voltage : 480 Volt Speed : 5000 rpm Rated Output : 0.56 kW Motor Inertia : 0.000163 (0.00150) kg. m Continuous Stall Torque : 2.18 Nm (lb-in) Peak Stall Torque : 8.20 Nm (lb-in) Continuous Stall Current : 2.6 Amperes (R-rms) Peak Stall Current : 11.3 Amperes (R-rms)</p> <p>Kinethix 350 Single-axis Ethernet/IP Servo Drive</p> <p>Make : Allen-Bradley Power Specifications : AC Input voltage : 520-520V rms three-phase (480V rms) AC Input frequency : 48-62 Hz Control power back-up input voltage : 24-24V DC Continuous power output @ 48V rms : 2.00 kW Overvoltage : 650V DC Short-circuit current rating : 100,000 A (rms) symmetrical Applications : Pick and Place Profiling</p>


Department Name	Mechatronics Engineering
Equipment Name	Centre of Excellence with FANUC India Pvt.Ltd “Robotics and Automation”
Specifications	FANUC ER4iA 6 axis mechanical unit
Functions	For Pick and place
Photo	 <p>ROBOT SPECIFICATIONS</p> <ul style="list-style-type: none"> • FANUC ER-4iA • 6-axis mechanical unit • Payload: 4kg • Reach: 550mm • R-30iB Mate Plus Controller • 6 digital inputs / 2 digital outputs on robot arm • 2 x Ethernet ports <p>PC software - Roboguide</p>


Department Name	Mechatronics Engineering
Equipment Name	Centre of Excellence “Robotics and Automation”- DOBOT
Specifications	DOBOT
Functions	For Pick and place 3D Printing Laser engraving
Photo	<div>  <p>Linear Rail Kit</p>  </div> <div> <p>Features</p>       <p>Conveyor Belt Kit</p>  </div>

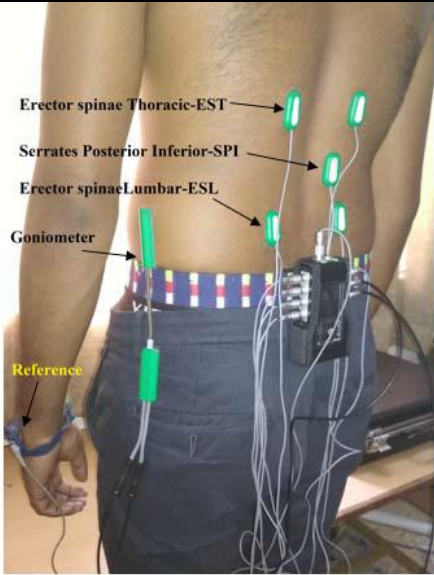
Department Name	Mechatronics Engineering	
Equipment Name	Centre of Excellence “Robotics and Automation” – NAO Humanoid Robot	
Specifications	Height 574 mm Depth 311 mm Width 275 mm Weight 5.48 kg	
Functions	To study degrees of freedom and motion kinematics	
Photo		

Department Name	Mechatronics Engineering
Equipment Name	ROS based SCARA Robot
Specifications	Weight 15 kg Payload 200g
Functions	Pick and place
Photo	

Department Name	Mechatronics Engineering
Equipment Name	Centre of Excellence “Robotics and Automation” – ABB IRB Industrial Manipulator
Specifications	No. of axis 6 Handling capacity 5 kg
Functions	Arc welding Material handling
Photo	

Department Name	Mechatronics Engineering
Equipment Name	Electro-hydraulic servo system with fuzzy logic controller for Hydraulic Presses
Specifications	Load cell Accumulator Servo assembly
Functions	To test speed and sliding mode of piston
Photo	 <p>The image shows a blue electro-hydraulic servo system. It features a large blue hydraulic power pack with a motor on top. A control panel with various gauges and switches is visible. Above the machine, a screen displays a schematic diagram of the system. The machine is labeled 'HYDRAULIC POWER PACK' and 'ARK AUTOMATION SYSTEMS CHENNAI-91'.</p>

Department Name	Mechatronics Engineering
Equipment Name	Chamber furnace
Specifications	Temp: 1700°C
Functions	For sintering of ceramic materials
Photo	 <p>The image shows a blue and white chamber furnace. It has a control panel with several buttons and a viewing window. The furnace is labeled 'PARISHAN FURNACE'.</p>

Department Name	Mechatronics Engineering
Equipment Name	sEMG (electromyography sensor)
Specifications	Contact diameter 10mm Input impedance >100 Mohms Data log
Functions	To study muscle fatigueness
Photo	

Department Name	Mechatronics Engineering
Equipment Name	Tool condition monitoring system
Specifications	USB-6221 NI DAQ Card Strain gauge
Functions	Tool wear prediction
Photo	