



3 Days Workshop on Robotics

Day	Contents	Theory	Laboratory Work
1.	Introduction to Robotics	Robot definition, classification of robots and their applications	<p>Demonstration covering 6 axis robot with understanding of functions of different motors.</p> <p>Demonstration with robotics arm</p> <p>Operation of motors with driver ICs.</p>
		Laws of motion, laws of force. types of assembly	
		Introduction to motors, significance of motors in robotics, general operating principle of motors, terminology used in motors and robotics	
		Types of motors, task oriented role of motors in robotics. Understanding DC, Stepper and Servo motor technical specifications	
2.	Introduction to Digital ICs	Introduction to logic gates, introduction to digital ICs (74 series) including their pin diagram driver ICs and relay operations	<p>a. Design a circuit that senses light and gives indication in practical conditions.</p> <p>b. Dc motor operation using different switches using logic combinations.</p> <p>c. IR based object detection and counting</p> <p>d. Temperature sensing and display on LEDs.</p>
		Sensors definition, different types of sensors, circuit diagram and threshold detection	
3.	Assembling and testing	Nil	Mechanical assembly of a robo car, integrating mechanical assembly to logic circuits, running and testing of the robocar,