



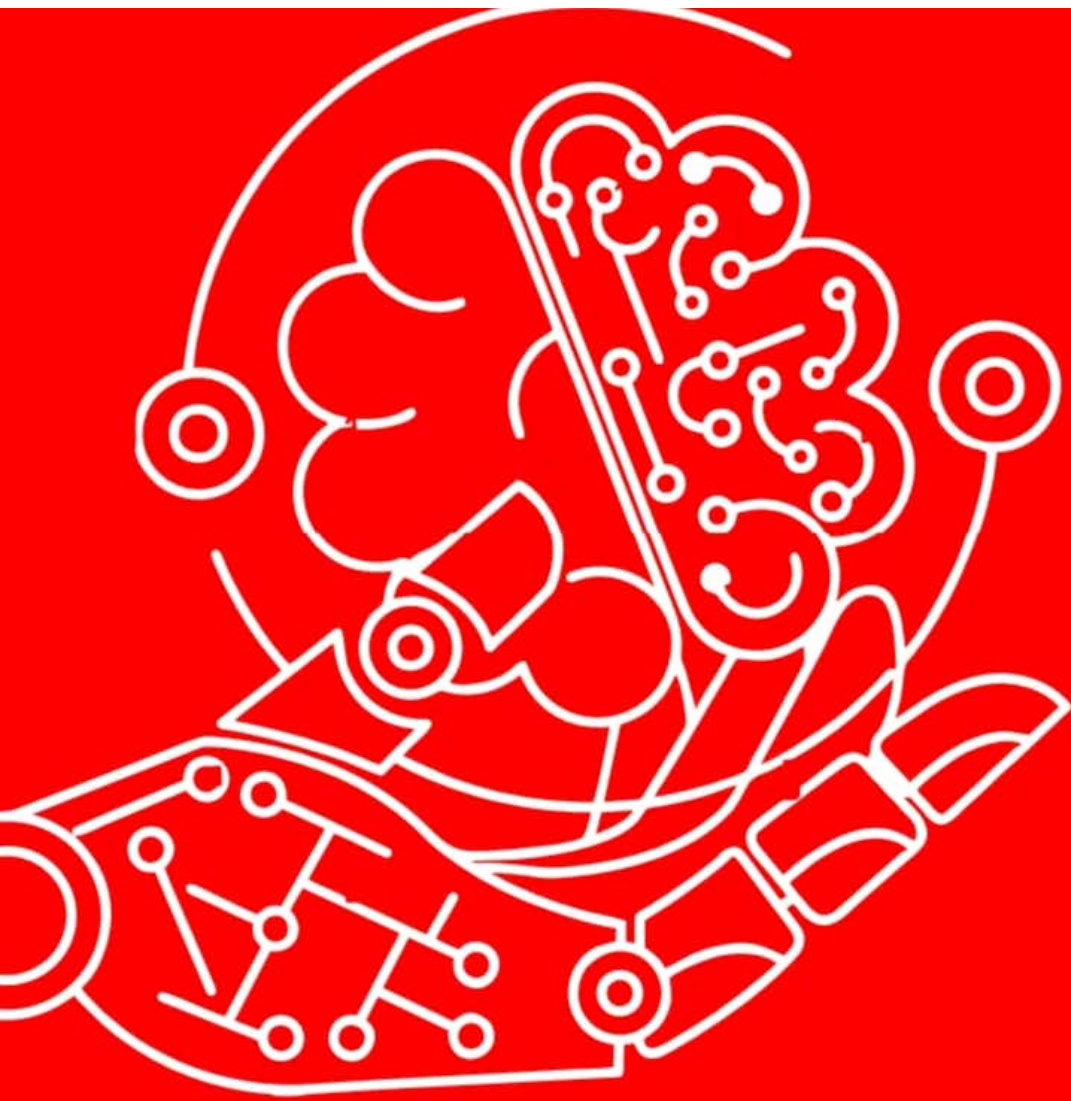
OSSEB

LEARNING NEVER ENDS

WORKSHOP

B R O C H U R E





BRAINWAVE CONTROLLED ROBOTICS

BRAINWAVE CONTROLLED ROBOTICS

Here you will get the opportunity to learn the art of making robots which are controlled by the signals coming from your mind. This workshop teaches you the fundamentals of brainwaves and their applications in today's world. This workshop will also provide guidance in the field of integrating Brainwave technology and Robotics (which generally involves a microcontroller, actuators, power supply, etc.) It also focuses on conceptualization and designing of complex systems in order to harness the power of mind in the form of brainwaves. This workshop will also help clear concepts related to embedded systems, artificial intelligence and automation.

WHAT WILL YOU LEARN AFTER ATTENDING THE WORKSHOP

Details on EEG based instruments.

Details on microcontroller Programming the microcontroller using ARDUINO

Interface Interfacing and controlling various devices like LED, motors, sensors etc with Microcontroller

Use of wireless devices such as a wireless Bluetooth module for different interface control.

Making of various types of robots, their algorithms and coding

Use of brainwave sensors and its application

TOPICS TO BE COVERED IN WORKSHOP

INTRODUCTION

Starting with embedded systems

AVR Microcontroller Programming

Arduino jargon and terms

Arduino Basics

Arduino Architecture

Arduino board layout. What are the resources available

H-Bridge

Bluetooth Module

DC Geared Motors

EEG (Electroencephalography)

Brainwaves & its types.

Sensor to record Brainwaves

Wireless Communication

Programming fundamentals (C language)

Robot Assembling

Development & Testing on Arduino Board

Example : 1

Simple LED Program

Example : 2

LED Blinking

INTERFACING BLUETOOTH MODULE

ROBOT 1

Android Smartphone Based Voice Controlled Robot

ROBOT 2

Mind Controlled Robot

ROBOT 3

Speed Control Based on Mind Waves

ROBOT 4

Blink Controlled Robot

DURATION

Duration: The duration of this workshop will be two consecutive days, with eight hour session each day in a total of sixteen hours properly divided into theory and hands on sessions.