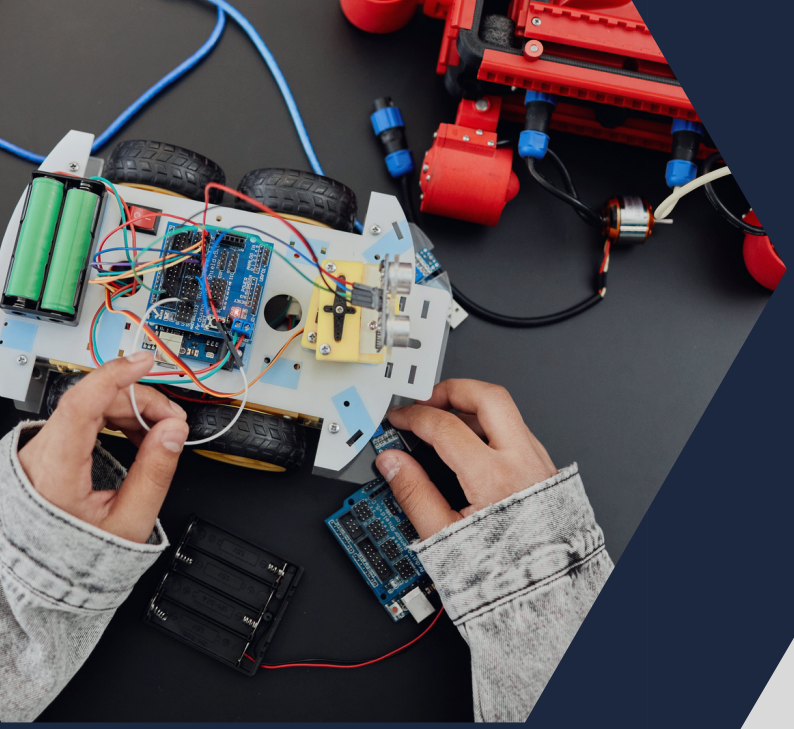
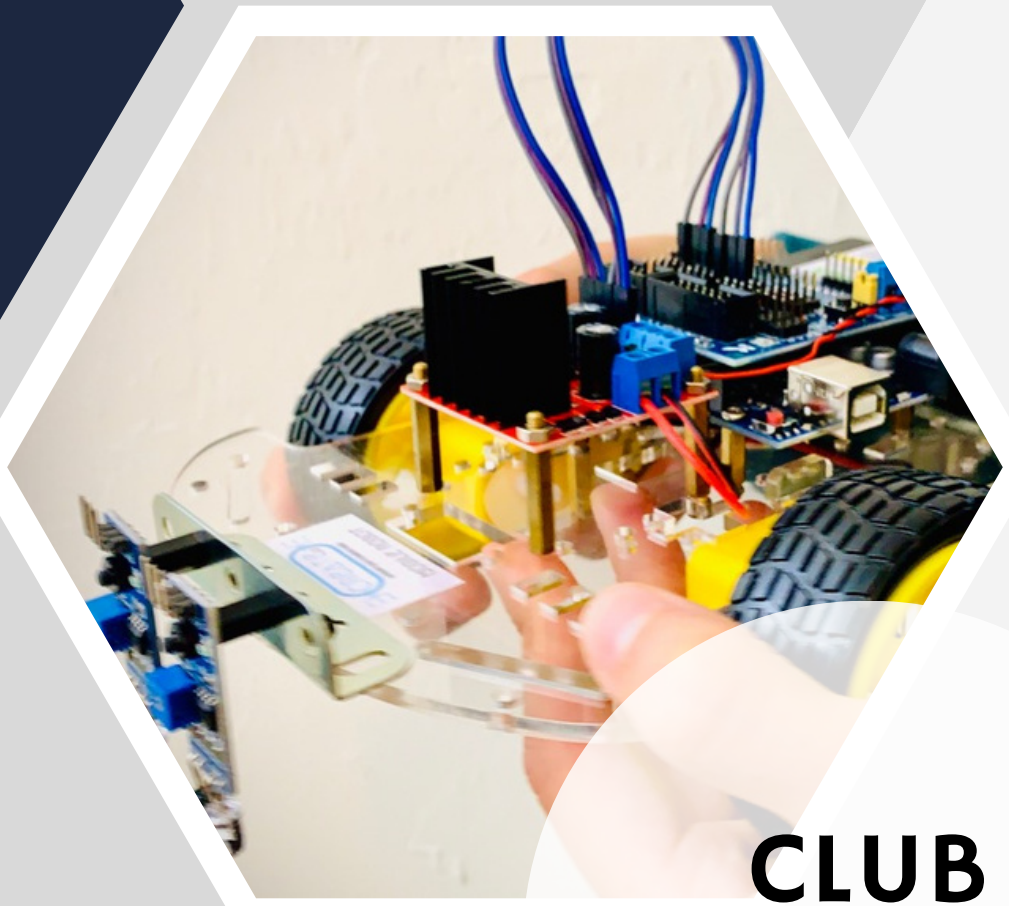
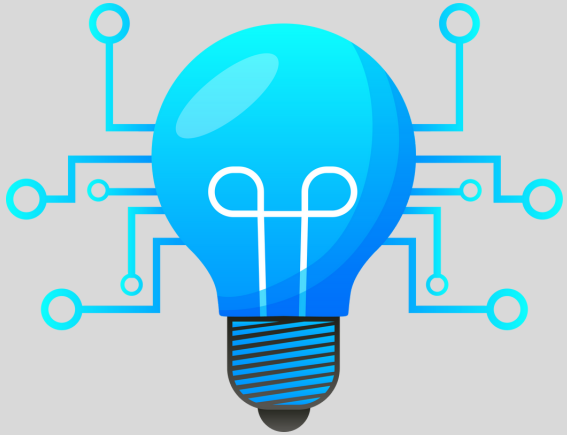




ROBOTICS CLUB
DYPIEMR

CLUB OF DYPIEMR

COURSE CONTENTS



- Introduction to robotics
- Scope in robotics
- Types of robots
- Application of robots

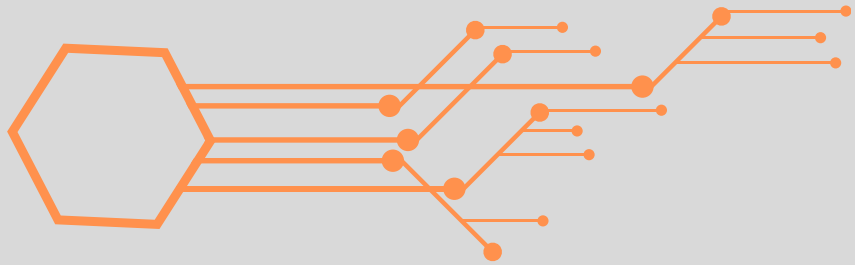
BASIC ELECTRONICS

- Resistors
- Capacitors
- Diodes
- Transistors
- Rectifiers
- Power Supplies
- Transistors
- Thyristors
- LEDS, 7 segment LEDS
- Potentiometers
- Concepts of integrated circuits

CONCEPTS OF MOTORS

- AC Motors
- DC Motors
- BLDC Motors
- Stepper Motors
- Serve Motors
- Geared Motors

SENSORS AND ITS TYPES



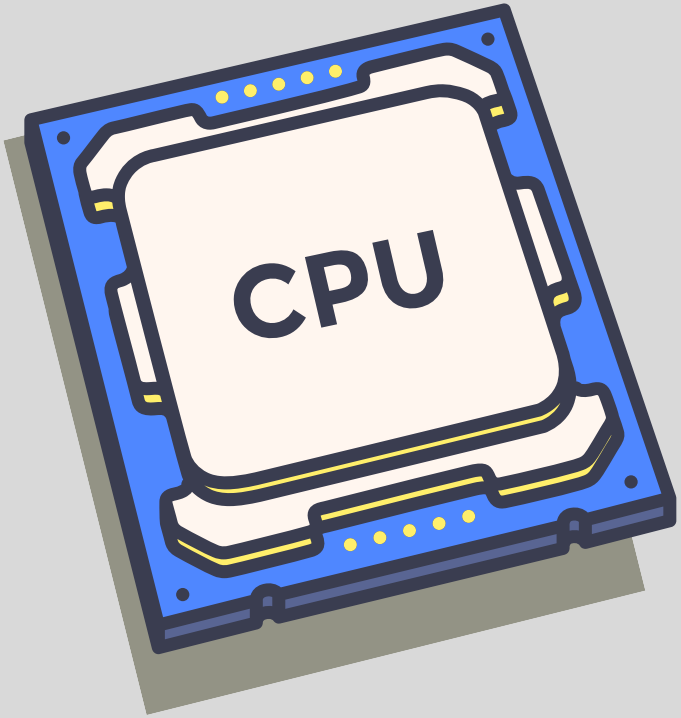
- Introduction to sensors
- Connections to sensors
- Working of sensors

OTHER ROBOTICS PARTS

- Servo brackets motor clamps
- Castor wheels
- Gears
- Wheels
- Gripper
- Pan tilt
- Breadboards

MOTOR CONTROLLING CIRCUITS

- Motor controlling using driver ICS
- LM358 (Dual OP-AMP)
- LM35 (Temperature sensor)
- L293D (Dual H-Bridge ICS)
- 7805/7809/7812 (Voltage Regulator)
- Servo motor control boards
- Stepper motor control for 3D printing



MICROPROCESSOR & MICROCONTROLLER

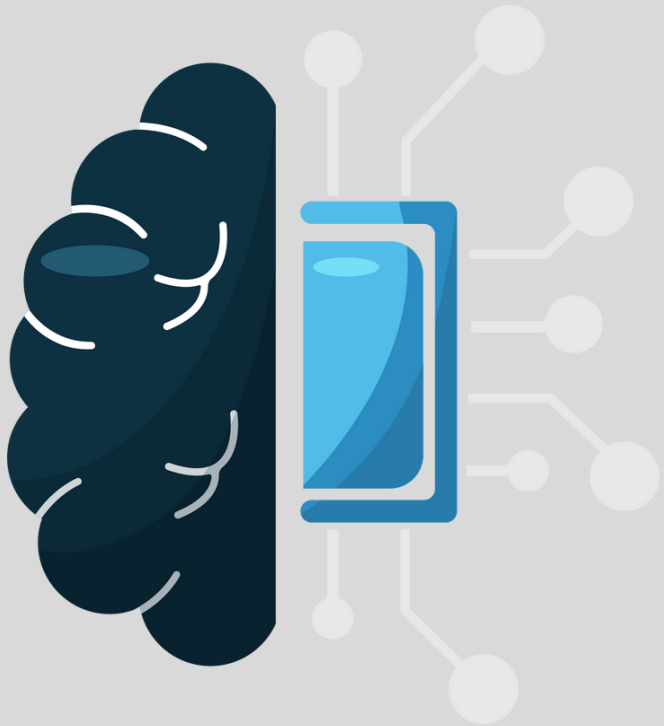
- Microprocessors v/s Microcontrollers
- Architecture of microprocessors & microcontrollers
- Instruction set of MPU & MCU
- Types of microcontrollers
- Memory classification

INTRODUCTION TO EMBEDDED SYSTEMS

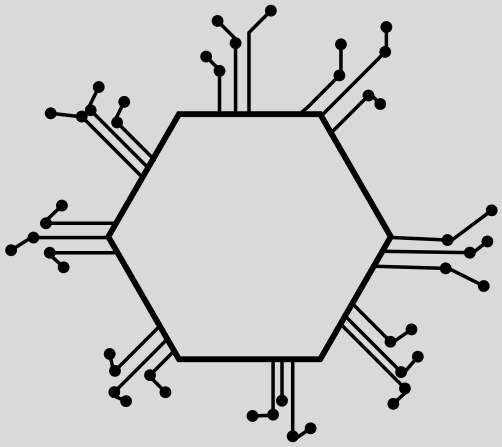
- Introduction & evolution of embedded sytem
- Basic components of embedded system
- Types of hardware in embedded system
- Classification of programming languages
- Advantages and disadvantages of low level & high level programing language of embedded system

EMBEDDED TOOLS

- Assembler
- Interpreter
- Compiler
- Simulator
- Emulator
- Debugger



COMPUTER LANGUAGES



- Low level languages
- Middle level language
- High level language
- How languages work with compiler

INTRODUCTION TO ARDUINO & PROGRAMMING

- Introduction to Arduino
- Benefits of using Arduino in robotics
- Connecting controlling and interfacing components with Arduino to perform machine control
- Projects on Arduino & robotics