**Kaushalya Technical Training and Consultancy Services
No. 1094, Indushankara,MCECHS Layout,
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Summer Camp
Basics of Electronics, Internet of Things and Robotics

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Course Details:

Name	Basics of Electronics,Intenet of Things and Robotics
Course Duration	24 hours
Fees	INR 5,000 (Five thousand only)
Eligibility	12 Years and Above

Our education system is more theoretical than practical. We lack hands-on practical knowledge. It is essential for students to learn latest technological advancements to compete with rest of the world.Its important to explore STEM (Science,Technology, Engineering and Mathematics).

Basics of Electronics and robotics course will help the middle and high school students to learn the core concepts and build models based on the concepts learnt.

Objectives of Training

- Provide minds-on and hands-on training
- Understand basics of electronics and build circuits
- Understand sensors and actuators
- Introduction to prototyping boards such as Arduino and ESP
- Basics programming with sensors and actuators
- Build robots and drones
- Enhance critical thinking and exploration

Outcome of Training
- Trainees should be able to understand electronics components
- Build working models using electronics components
- Understand the mechanical and electronics components associated with robots and drones
- Build sample models

Syllabus

Module	Topics

Module 1 – Basics of electronics	✓ Introduction to electronics and its usages
	✓ Understand basic terminologies –
	    ○ Electricity, Circuits, Resistance
	    ○ Serial Vs Parallel
	✓ Basic components
	    ○ Resisters, Capacitors, Diodes
	    ○ Transisters, Potentiometers,LED's,Switches
	    ○ Batteries,wires
	✓ Sample experiments with basic electronic components

Modules 2 – Internet of Things	✓ Introduction to internet of things and its applications ✓ Building blocks of internet of things -Sensors,actuators, connectivity, people and process ✓ Arduino - IoT Prototyping platform ✓ Usage of sensors such as DHT, Ultrasonic, Gas sensors, soil moisture sensor, motion sensor ✓ Sample programs
Module 3 – Robotics	✓ Introduction to robotics and its applications ✓ Building blocks of a simple robots. Mechanical, electrical and electronics components ✓ Build a sample robot ✓ Develop and control the robot using MIT Inventor 2 mobile app
Module 4 – Drone	✓ Introduction to drones and its applications ✓ Science and art of flying ✓ Components of a sample drone ✓ Build a drone from scratch ✓ Fly the drone using mobile app