 

Quadcopter

RC Drone Workshop



A quadcopter, also called a quadrotor helicopter or quadrotor,[1] is a multirotor helicopter that is lifted and propelled by four rotors. Quadcopters are classified as rotorcraft, as opposed to fixed-wing aircraft, because their lift is generated by a set of rotors (vertically oriented propellers).This workshop teaches about designing of quadcopter as well as assembly of RC drone . This workshop includes controlling of controlling of Drone using flight control board which includes Assembly and calibration of Flight Control board.

**What will you learn after attending this Workshop:**

Introduction to Controllers (ARDUINO & KK MULTICOPTER BOARD 2.1.5)and Embedded Systems Design.

> Working Principle of Quadcopter.

> Construction of Quadcopter drone

> Connection consideration of various configurations

> Introduction to Android App controlled Quadcopter

> Stability criteria for flying of drone

> Flying precautions

Session 1:

> Introduction to Flying Drones

> Discussion about Tri copter, Quadcopter, Hexa copter

> Working Principle of Quadcopter.

> Constituents required for Drones

> Flight control board

> Electronic Speed Controller

> Q450 Frame

> BLDC Motors

> RF Remote

> Propeller

> Kit Distribution & Introduction to kit contents

Session 2:

> Introduction to Arduino Microcontroller

> Installation of Arduino IDE

>. Programming for Motor control

>Programming for Motor Speed Control

> Working of Motor driver with Microcontroller

Session 3:

> Constructional Concepts Quadcopter Frame.

> Assembly and Constuction of quadcopter

> Connection consideration of various configurations

> Operation of Gyroscopes Microcontroller KK2.1.5

Session 4:

> Calibration of KK Flight control board

> Motor Testing with Remote

> Android App/ RF Remote Testing with Quadcopter

> Group wise Flying session

**Certification:** Certification will be provided from RoboKart.com. E-Certificate will be available to download at our website.

**Target Audience:**

> Students seeking career in Robotics and Embedded System related Industry.

> All year students from Physics, Electronics, EXTC, Mech, IT, EEE, IE, CS Engineering Stream & Android Enthusiast.

**Kit Content:**

>. KK Flight Control Board

>Arduino Nano Board

> Programmer Cable

> Q450 quad Frame

> 1400KV BLDC Motors

> 10\*4.5 Propeller set

> RF Remote controller

> Electronic speed controller

> Motor Driver L293D Module

> Potentiometer

> BO DC Motor

> BO Wheel

> Jumper wires

> Battery Snapper

> 9V DC battery

> Screw Set

> Screw driver

Note:

Day 1: Students will work in a group of 5 students.

Day 2: Students will work in a group of 10 student.

Faculty coordinator:

Mr. Gautham.B

Assistant Professor

Department of EIE.

Student coordinators:

V.Likhitha Sri-16071A1057-7093019600

Rohila.P -16071A10A8-9000036688

S.Eshwar -16071A10 -7032954718