

SYLLABUS

KEY-LEARNINGS FROM THE COURSE

LEVEL 1

INTRODUCTION TO UAVS

Basic drone terminologies, types of drones, applications of drones, categories of drones

RULES AND REGULATIONS

Drone flying zones, latest rules and regulations, altitude restrictions, UIN, digital sky platform, do's and don'ts

FUNDAMENTALS OF MULTIROTOR UAV

Drone maneuvering and control terminologies, motor configuration, DOF, basic flying dynamics,

GENERAL BLOCK DIAGRAM

Understanding FC, ESC, battery, GPS, IMU, telemetry, sensors, propellers, motors and their connections

ASSEMBLING NANO DRONE

Introduction to Pluto drone-kit, build your nano drone, sensor calibration, pre-flight checks

LEVEL 1

DRONE FLYING WITH INSTRUCTOR

Instructions for drone flying, introduction to drone flying app, hands-on flying in different modes

INTRODUCTION TO CYGNUS

Cygnus software installation, introduction to Magis firmware, APIs for Pluto drone, Pluto Pilot code structure

PRACTICALS ON CYGNUS AND PLUTO

Program the logic in Cygnus IDE and perform experiments using onboard and external sensors on Pluto drone



LEVEL 2

INTRODUCTION TO ROS

Introduction to ROS, Architecture, features, philosophy, environment, packages, master, topics, nodes, messages, services, catkin build systems, building and sourcing packages

PRACTICALS ON ROS & PLUTO

Communication between talker and listener nodes, sending commands to drone over topics, keyboard controlled drone, obtaining live drone camera feed, computer vision based projects

Age Group: 16 to 25 Years

FEES:

Level 1: Rs. 4,000 + 18% GST

Level 2: Rs. 4,000 + 18% GST

NOTE: Course will be conducted on non-takeaway drone kit

