Five Days Vocational training programme on

"Autopilot Drone Development"

Under NAHEP-IDP on 5-9th November, 2019

:: ORGANIZE BY ::

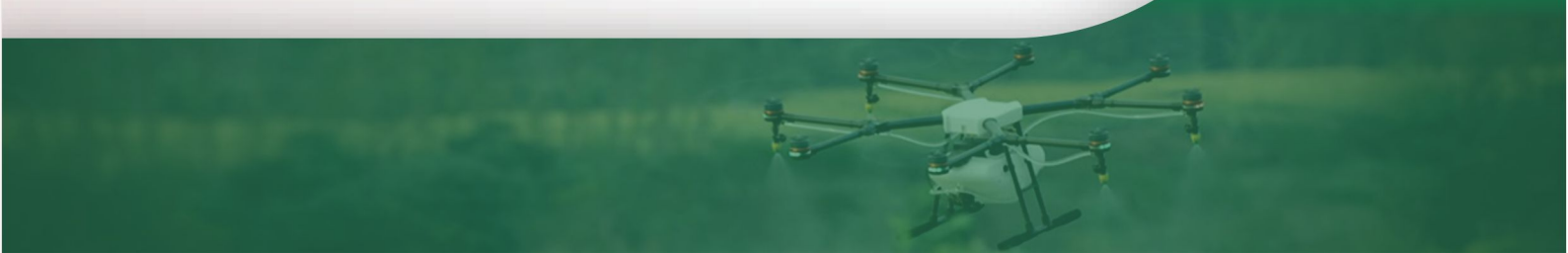
IDP Cell, College of Agriculture
Junagadh Agricultural University
Junagadh

:: VENUE ::

Conference Hall, College of Agriculture
Junagadh Agricultural University
Junagadh

ABOUT THE TRAINING

Drone technology is a phenomenal innovation that continues to have far-reaching effects across today's society, transforming our lives and the way we do business. The agricultural industry seems to have embraced drone technology with open arms, using these advanced tools to transform modern farming. High-tech drones allow farmers, and the drone pilots that operate them, to increase efficiency in certain aspects of the farming process. From crop monitoring to planting, livestock management, crop spraying, irrigation mapping, and more. This approach to farming management is based on observing, measuring, and taking action based on real-time crop and livestock data. It erases the need for guesswork in modern farming and instead gives farmers the ability to maximize their yields and run more efficient organizations, all while enhancing crop production. This training programme will helpful for students to get knowledge about drone development and application of drone in agriculture.





Five Days Vocational Training Programme on

"Autopilot Drone Development"

(05th- 09th November, 2019)

Sr. No.	Date	Time	Topic of lecture/ practical
1	05/11/2019	8.00 to 8.30	Registration
		8.30 to 9.30	Inauguration
		9.30 to 11.00	Autopilot System, Working principle, Control flow in Autopilot system, Power flow in Autopilot system, Choosing flight controller based on flight need
		11.00 to 12.30	Autopilot System Integration, Software & Driver Installation Calibration techniques, Stability techniques
		12.30 to 14.00	Lunch break
		14.00 to 15.30	Mission Planning, Software & Driver Installation, Com port Selection procedures
		15.30 to 17.00	Flight Planning, Way point setting criteria, Running the Mission.
2	06/11/2019	08.00 to 09.30	Propeller, Basic of Aerodynamics , Working principle Bernoulli's principle, Airfoil and its Types, Selection of propeller based on motor
		09.30 to 11.00	Selection of propeller based on payload , Calibration between payload and propeller Motor
		11.00 to 12.30	Battery, Battery and its Types, Li-Po battery and application
		12.30 to 14.00	Lunch break
		14.00 to 15.30	Selecting battery based on motor and ESC, Selecting battery based on payload, Alternate power source
		15.30 to 17.00	Transmitter & Receiver, Working principle, Pulse position modulation, Selecting transmitter based on flight range, Range testing techniques, Transmitter setup, Channels explained
3	07/11/2019	08.00 to 09.30	Components of Autopilot System, Flight Controller, GPS Module
		09.30 to 11.00	Telemetry and Ground Station, Power Module, RC Inputs and Outputs
		11.00 to 12.30	Frame, Material selection, Constructional techniques, Types of configuration, Weight balance techniques
		12.30 to 14.00	Lunch break
		14.00 to 15.30	Motor, Working principle, Types of motor, Advantages and application of BLDC motor
		15.30 to 17.00	Choosing right motor for multicopter, Rpm calculation techniques
4	08/11/2019	08.00 to 09.30	Electronic speed controller, Working principle, Pulse width modulation techniques, MOSFET
		09.30 to 11.00	Relation between Motor and ESC, Choosing ESC based on Motor
		11.00 to 12.30	Motor, Working principle, Types of motor
		12.30 to 14.00	Lunch break
		14.00 to 15.30	Advantages and application of BLDC motor Choosing right motor for multicopter
		15.30 to 17.00	Rpm calculation techniques
5	09/11/2019	08.00 to 09.30	Hands-on experience for the participants with drones and autopilot boards
		09.30 to 11.00	
		11.00 to 12.30	
		12.30 to 14.00	Lunch break
		14.00 to 15.30	Hands-on experience for the participants with drones and autopilot boards
		15.30 to 17.00	
		16.00 to 18.00	Valedictory function