EXPERIMENT NO. 1

Name of Experiment: To Study customised drone components interfacing.

Theory:

1.) Frame: Frames are made up of fibres and integrated PCB for Soldering ESC's and battery wire, A frame also provides individualism and character to build.

2.) Propellers: Propellers are simple fans which converts motion of motor into upward thrust. They are made up of flexible fibre to be unbreakable while crash landing.

3.) Motor: BIDC motor is a type of Synchronous motor that is powered with a DC source via an inverter to produce an AC electric current to drive each phase of the motors. The advantage of motor is high speed and electronic control.

4.) Flight Controllers: A flight unsurprisingly control the motion of the drone. The drones can rotate and accelerate between each of its four matters.

5.) Electronic Speed Controllers: It is an electronic device use to control the speed of motor and direction also. It follows a speed reference signal and varies the switching rate of [FET] field effect transistors.

6.) **Battery:** Lithium polymer battery ie, LiPO is a Simple rechargable battery with different current rating and number of cells.

7) **Transmitter / Reciever:** Transmitter act as a controller from the user. It is a Radio communication control System. The signal from transmitter to recieved by the receivers placed on the frame of the drone through antenna.

8.) **Landing Gear:** It provide a suspension System during take off and leaving / landing. It is design to absorb and disspate the kinetic energy of landing.

Components used in drones are: Frame, motors, propellers, flight controllers, electronic controllers, Battery, transmitter, landing gear etc.

Methodology:

Stp 1: Quadcopter frames and Suitable flight controller boards. Quadcopter frame 2500 or 330 will be a good start the value a 50/330 means the motor to motor diameter.

Stp 2: Power distribution board to distribute power from battery to use.

Flight controllers : We could use any flight controllers.

Brushless motor and propellers: For minquad pilots, 3 blade propellers and equally couples as two blade.

Step3: Electronic speed controllers (ESC) controls and regulates the speed of an electronic brushless motor.

Step4: Remote Control System (RC) is required to manually control variable.

Step5: Universal Battery Eliminator circuits (UBEC) Converts the voltage to power. It will convert main battery voltage.

Step6: Power module is an abst way to provide to out flight controllers.

Step7: Assemble the frame.

Step8: Connect ESC to motors and plug ESC's to power distribution board to soldled pads.

Step9: Install power modulus frame.

Step10: Plug cable from power module to power part of your flight controller.

Step11: Plug buzzer and switch to those corresponding plates on flight controllers.

Conclusion: So from the above information we can literally conclude that we have studied the drone pretty deeply. We have learnt every component of drone interface, hence we have studied the customized drone components interfacing.