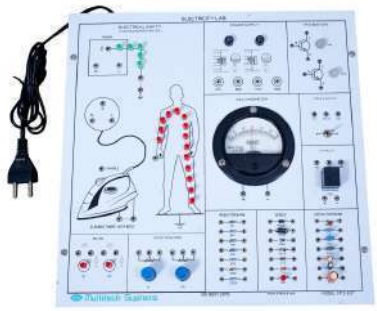
ELECTRICITY LAB



SPECIFICATIONS:

DC Power Supply : 5V, 200mA
AC Power Supply : 6V, 1A
Relay : 5V
Galvanometer : 30 - 0 - 30
Galvanometer Resistance : 80W
Light Bulbs : 6V
Potentiometers : 25W, 1W, 10kW, 1W

ANALOG DIGITAL CIRCUITS DEVELOPMENT PLATFORM

SPECIFICATIONS:

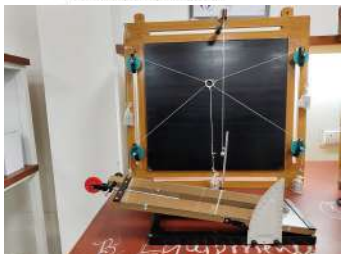
Size of Breadboard : 172.5 mm x 128.5mm
Tie Points on Breadboard : 1685 nos (solderless)
DC Power Supplies
AC Supply : 9V-0V-9V, 500mA
Function Generator : Sine, Square, and Triangular functions
Frequency range:1Hz to 100KHz
Voltage range: +12V to -12V (DC)
Measurement Current range: 0 to 500 mA (DC) Frequency range: DC to 100KHz (all with respect to ground)

SMD SOLDERING & DESOLDERING

SPECIFICATIONS:

Power consumption : 60W
Input voltage : 190 to 290 V AC
Temperature range : 180 to 480 °C
Temperature stability : ±10°C
Temperature accuracy : ±1°C of tolerance
Tip to ground potential : under 2 mV
Tip to ground resistance : under 2W

APPLIED MECHANICS TRAINING PLATFORM



SPECIFICATIONS:

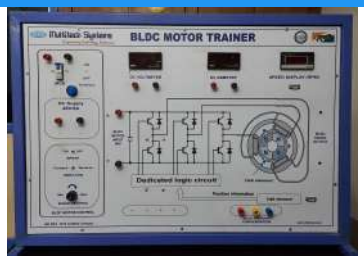
Spring Balance 500g
Slotted Masses : 100g, 50g, 20g, 10g, 5g
Mass Hanger : 10g (5 nos.)
Brass Force Ring : 32 mm dia. (2 nos.)
Pulley : 38 mm dia. (4 nos.)
Neodymium Magnet : 5 nos.
Rolling Masses : 150g, 90g
Friction Block : 90g
Pendulum : 60g (2 nos.)

BATTERY MANAGEMENT TRAINING SYSTEMS

SPECIFICATIONS:

LCD : For Voltage, Current and Temperature measurements
DC Voltmeter/Ammeter : 300V/10A
Configuration : Series type
Power rating : 3000 mAh
No of Cell : 6 nos
Battery pack Type : Li-ion

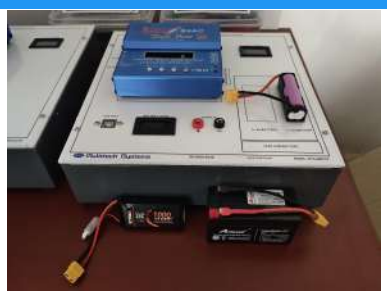
BLDC MOTOR TRAINING SYSTEM



SPECIFICATIONS:

Mains Supply : Single Phase, 230V ±10%, 50Hz
Machine Type : BLDC
Rating : 200W
Voltage Rating : 24V
Current : 8 Amp.
Speed : 2500 rpm (approx.)
Loading arrangement : Mechanical
Brake Drum/Pulley : Aluminum casted
DC Voltmeter : 300V
DC Ammeter : 10A
Digital Tachometer : 20,000 rpm

CHARGE CONTROLLER TRAINING SYSTEMS



SPECIFICATIONS:

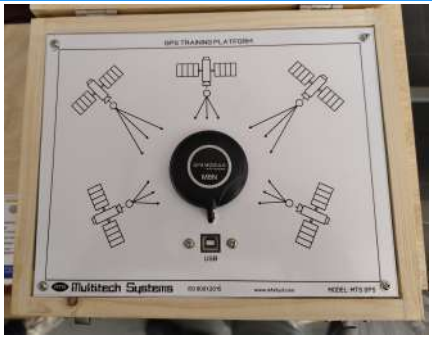
Voltage : 11.1V
Capacity :2.2Ah
DC voltmeter range:20V
DC ammeter range:30A
Charge controller:PWM Based
Battery level indicator: LCD display
Load: 12V,4A

INVERTED PENDULUM

SPECIFICATIONS:

Inverted Pendulum control and its balance by PID control
* Controller : 32bit
• ARM Cortex-Industry standard or equivalent or latest version Motor: Control DC-motor/ stepper motor
• Encoder: Pulse Rotary Encoder 2EA
• PWM duty operation and motor control by Encoder counter,
• Inverted Status Monitoring by Emulation.
• Integrated development environment

GPS TRAINING PLATFORM



SPECIFICATIONS:

Channel : 12 Receiver Frequency : 1575.42 MHzSynchronized to GPS time Update rate : 1 sec.
Accuracy : 0.1 meters/second,
CEP without SA Velocity
Position Accuracy : 25 meters
Communication:9600 Baud Rate

DRONE GIMBAL TRAINING PLATFORM

SPECIFICATIONS:

- 2/3 axis gyro
- Inertial Measurement Unit (IMU)
- Battery plug: JST
- Operating voltage: 12Volts
- Working current 350mA
- Weight: about 180 g

FCB & ESC TRAINING PLATFORM

SPECIFICATIONS:

* UART Communication
- 5” Propellers
- 2600kv Brushless Motor with soldered connector
- Battery 8000mAH
- I2C, SPI, ADC Inputs

* 30A BLDC Electronic Speed Controller
* USB Port

NPNT MICRO UAV FOR MAPPING & SURVELLIANC

SPECIFICATIONS:

* UAV Weight with standard payloads <2 Kg
* UAV Size with Propeller - < 80 cm x 80 cm
* Endurance/ Flight time (upto 1km AMSL) :20-25 minutes
* Range for live transmission (Radius) 2 km
* Operating altitude (AGL) - 200m
* Maximum launch altitude (AMSL) - 3000m AMSL
* Wind Resistance - Minimum 10 m/s
* Multiple GPS on-board for GPS redundancy
* Autonomy Fully autonomous from Take-off to Landing without using any R/C controller

MULTIPLE OUTPUT DC REGULATED POWER SUPPLY

SPECIFICATIONS:

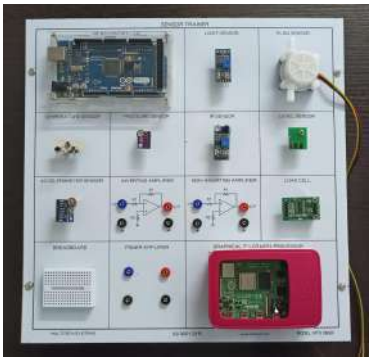
Input Voltage: AC mains 220V ±10%, 50Hz
Output Voltage: 0-30V DC Continuously Variable Dual Output
Output Current: 2 Amp
Fixed Power Supply: +5V, ±12V DC
Load Regulation: ≤±(0.01%+10mV)
Line Regulation: ≤±(0.01%+10mV)
Ripple & Noise: 1mV R.M.S 20hz-20mhZ
Operating Temp: 0-40C RH95%
Temperature Coefficient: ≤±(0.05%+10mV/0C)
Display: 3 Digit 7 segment display for voltage & Current
Internal Resistance: ≤10mΩ
Stability: ≤2.5mV at full load
Recovery Time : ≤50μS
Insulation: Between Chassis &
Output Terminals > 10MΩ at 100V DC
Protection: Built in overheat through bimetallic fuse, overvoltage protection, short circuit protection with LED

PROGRAMMABLE POWER SUPPLY

SPECIFICATIONS:

Input Voltage: AC mains 220V ±10%, 50Hz
Output Voltage: 0-30V DC Continuously Variable Output
Output Current: 3 Amp / 2 Amp
Fixed Power Supply: +5V, ±12V DC
Load Regulation: ≤±(0.01%+10mV)
Line Regulation: ≤±(0.01%+10mV)
Ripple & Noise: 1mV R.M.S 20hz-20mhZ
Operating Temp: 0-40C RH95%
Temperature Coefficient: ≤±(0.05%+10mV/0C)
Display: 3 Digit 7 segment display for voltage & Current & LCD Display
Internal Resistance: ≤10mΩ
Stability: ≤2.5mV at full load
Recovery Time : ≤50μS
Insulation: Between Chassis &
Output Terminals > 10MΩ at 100V DC
Protection: Built in overheat through bimetallic fuse, overvoltage protection, short circuit protection with LED

DRONE SENSOR TRAINER KIT



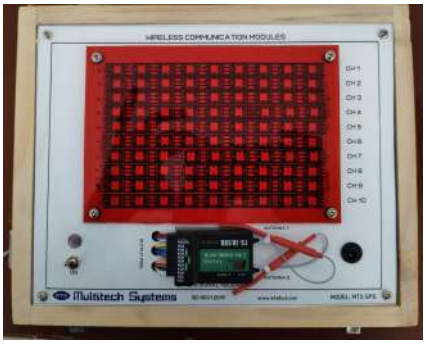
SPECIFICATIONS:

* Android based 7” Graphical touch LCD
* Inbuilt Controller
* DAQ for acquiring analog data with USB storage
* HDMI output.
* Ethernet port to connect real world.
* Power, F to V, V to F, I to V, V to I Converter,
* LED, Buzzer, Relay,

Sensors on board:

* Accelerometer,
* Atmospheric pressure,
* Gyro,current,
* Voltage and light.
* Arduino programming.
* Sockets for sensors and actuators interface.
* Signal test points
* All sensors should be mounted on Integrated PCB & having aesthetic flow of Mimic diagram depicting the functionality of the trainer
* User friendly modular setup.
* We provide T3 (Train The Trainer) program.

WIRELESS COMMUNICATION MODULES



SPECIFICATIONS:

* Transmitter with RF Range 2.40- 2.48GHz,
* 9 Channels ,
* 500 Hz bandwidth,
* 160 bands,
* RF Power less than 20 dB,
* GFSK Modulation and PPM/PCM.
* Throttle curves ,
* Pitch curves,
* Endpoint adjustments,
* Subtrim,
* Swash AFR mixes,
* Servo reversing,
* Timer, Dual rate,
* Exponential, and Elevons.
* Receiver with RF Range 2.40- 2.48GHz,
* 10 channels Received signals indicated thru LED bar graph,
* 140 bands,
* Receiver Sensitivity 105dBm,
* 500 KHz bandwidth,
* GFSK Modulation.

ANTENNA TRAINING SYSTEM

SPECIFICATIONS:

* RF Frequency 600 to 750MHz,
* Waveforms: Sine,
* Modulation Generator 1KHz ,
* RF detector : folded dipole receiving antenna with digital display ,
* Rotation of antenna 0 – 360 degree
* Directional coupler: Forward & Reverse,
* Receiving Antenna:Folded dipole with reflector,
* Detector display:Level adjustable meter,
* Matching Stub:Slider type,
* Interconnections: BNC sockets,
* Power supply: 230V,50/60Hz

* List of Antennas:

Ground plane Antenna,
Helical Antenna
Slot Antenna,
Folded dipole Antenna and
Patch Antenna

ADV MICROWAVE INTEGRATED CIRCUIT

SPECIFICATIONS:

* 2.2 - 3GHz RF source with LCD display,
* Impedance 50Ω,
* RF level : 5mW,
* Operating Modes : Sweep, CW, Int. AM, Int.
* FM, Ext. AM Modulating
* Frequency: 1KHz
* AM square wave, FM triangular wave,
* MIC components:Ring resonator,
* Power divider-Equal Power division,
* Unequla power division,Branch line
* Directional Coupler-3db,
* Parallel Line Directional Coupler,
* Band Pass Filter,
* Low Pass Filter,
* High Pass Filter,
* Band stop Filter,
* Stipline Directional Coupler,
* MMIC Amplifier
* VSWR Meter with filters, amplifier,

* List of Antennas:

Yagi Antenna
Dipole Antenna
Patch Antenna