



# UPS TRAINER

“CROWN” made UPS TRAINER to study the working of a ups circuit different faults in a ups & troubleshooting of different faults.

## SPECIFICATION :

- 1) Based on highly reliable Microchip PIC micro @ microcontroller.
- 2) MOSFET based power stage, with PWM AC output.
- 3) Mains to Backup mode changeover time less than 9mSec.
- 4) Backup mode protected against Overload, short circuit, reverse phase and unbalanced MOSFET drive.
- 5) Line Synchronized change over from Mains to Backup and Back.
- 6) Over current of MOSFET's protected within micro seconds.
- 7) Three step AVR with input range 140V to 280V AC. and output range 200-245V AC.
- 8) MOSFET based PWM battery charger.
- 9) Automatic low battery warning and cut off.

## Test Points & Observations :

- 1) Input & output voltage, different transformer winding voltage.
- 2) AVR section and AVR operating relay.
- 3) Mains & Battery voltage reference signal.
- 4) PWM signal
- 5) Output indicator & buzzer
- 6) Battery Voltage

## Fault & Troubleshooting :

- 1) Backup mode failure
- 2) Mains failure
- 3) Output failure
- 4) Battery failure
- 5) Buzzer failure
- 6) Mains Indicator failure
- 7) Output Indicator failure
- 8) INV. Indicator failure
- 9) Battery reference voltage failure
- 10) Complete UPS Circuit failure ( Backup & Mains Both Mode Failure)

## Optional Acc. :

- 1) Multimeter
- 2) Auto Transformer



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