

UPS SERVICE TRAINING



Duration	30 days
Course Type	Regular / Fast Track / Weekend
Timing	Regular : 1.00 Hrs Fast Track : 2.00 Hrs Weekend : 4.00 Hrs
We Provide	Common: Course Materials Troubleshooting/Installation Manuals & ID Card Worldwide Online Verification Certificate Job Support: Job Reference as per Job provider's requirement. Self Employment Whole Sale Materials Purchase Address

CLASS	TOPICS
SESSION-1	<p>UPS - Introduction Difference between UPS & Inverter Basic working principles of UPS (i) When the AC main supply is available (ii) When the AC main supply is not available. (iii)Automation Section. Types of UPS (1)Online UPS . (2)Off line UPS. Various types Components used in the UPS 1.Relay/Transformer/Battery/Fuse/fuse holder switches/sockets/panel indicator (LED/Neon Lamp)/meter (volt/Ampere)/Transistor/Mosfet/lcs.</p>
SESSION-2	<p>Switching Transistors & Mosfet's Advantages of electronic switch/Transistor as switch/Bi polar Transistor vs Mosfet/comparator/AC Voltage level sensor Relays;- 1.Solenoid/ Relay/ Constructions of Relay, Relay in circuit/ single ,double& triple pole Relays</p>
SESSION-3	PRACTICAL
SESSION-4	<p>Transformer :- Types of Transformer 1.Step down transformer, 2.Step-up Transformer, 3.Auto transformer Transformer Ratings(watts/volt/Ampere) (1) Applying DC to Transformer (2) Parts Transformer Coil/ Former/ Bobbin/ Core</p>
SESSION-5	PRACTICAL
SESSION-6	<p>BATTERY:-Rechargeable Battery--Primary Battery Secondary Battery / Cell & Batteries / Rechargeable Battery Wet lead - Acid Battery / Dry lead - Acid Battery or Maintenance Free Battery. Types of Battery Charger:- (a) Charger using SCR (b) Charging using L 200. (c) Charging using LM317 (d) Trickle charging (e) Diode using charger CHECKING BATTERY VOLTAGE</p>
SESSION-7	Practical for the previous day
SESSION-8	<p>ICs in the UPS Circuit (1) LM 324N--Operational Amplifier(op-Amp) What is an OP- Amp (2) KA3524 / SG3624 --PWM Controller Oscillator (3) CD4073--AND Gate (4) NE555 Timer (5) 4N35-Opto Coupler (4)LM7812--12 Voltage Regulator (7) CM 317 Adj Regulator</p>
SESSION-9	<p>500VA / 12V UPS Circuit Block Diagram & its Sections 1.Oscillator,PWM controller& Out Put Section 2.What is PWM,how does this function working of PWM 3.Automatic Voltage Regulator (AVR) Section</p>

	4.Low Voltage cut Section.5. High Voltage cut Section 6. Charging Section & Etc.
SESSION-10	Practical for the previous day
SESSION-11	500VA / 12V UPS Circuit Description and working principle 1. Oscillator section & its working principle 2. Circuit Description 3. Mosfet Drive section :- .Circuit description & its working principle 4.Out put Section :- Circuit Description & working principle
SESSION-12	PWM (Pulse With Modulation) 5.Safety Section:-Circuit Description / working principle & 5V Regulator Supply 6.AVR Section : - 1st- AVR Circuits and its working principle 2nd- AVR Circuits and its working principle
SESSION-13	Practical for the previous day
SESSION-14	Voltage cut off Section: - (1) Low voltage cut off Section / working principle (2) High voltage cut off Section. / working principle (3) Charging Section / working principle (4) AC Mains ON / Charging indicator LED. (5)Supply to AVR Section / Regulator power supply section (6)Charge over Section and its working principle (7)No Load Shutdown Section
SESSION-15	Practical
SESSION-16	BATTERY SECTION (1) Low Battery Shutdown Circuit and its working principle (2)Overload Shutdown Section (3)Overload circuit / working principle
SESSION-17	Practical for the previous day
SESSION-18	<u>625VA / 24V OFF--LINE UPS</u> UPS Description /Ics- Used /Battery Back Up /Out put power main functions Ics used in this USP :- SG3524 / LM339 / LM324 / LM73 /CD4011 /555 . <u>CONVERTING 500VA / 12V UPS to 625VA /24V & 1250 VA / 24A UPS</u> 1 Primary winding / 2. Secondary winding 3 Charging winding / 4. Transformer weight of wire
SESSION-19	<u>Introduction & Installation of a common 625VA ups</u> 1. Introduction 2 Front panel / "Replace battery" Indicator {Red led} "Back up"--indicator {Yellow led} , "Line normal" --indicator {Green led}

	"On/off/test/silence" button.
SESSION-20	2. Rear panel Computer interface Insulation/Placement/Connect computer interface/ Connect to main power supply/ Change the battery/Connect the loads/Connect the telephone/ Modem lines Ilmpt :- {425Ap/525Ap/625Ap Models only}
SESSION-21	Common Faults and Troubleshooting Troubleshooting from all sections & Doubt clearing

1 Week SMT Course + 21 Days UPS Class

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