

**CERTIFICATE COURSE IN POWER SUPPLY, INVERTER &
UPS REPAIR AND MAINTENANCE**

(6 Months)



**STATE BOARD OF TECHNICAL EDUCATION AND TRAINING
SANKETHIKA VIDYA BHAVAN, MASAB TANK, TELANGANA: HYDERABAD**

POWER SUPPLY, INVERTER & UPS REPAIR AND MAINTENANCE

SUB CODE	NAME OF THE SUECT	HOURS/WEEK		TOTAL PERIODS PER ANNUM	SCHEME OF EXAMINATION			
		Theory	Practicals		Duration Hours	Sessional Marks	End Exam Marks	Total Marks
PI-101	POWER SUPPLY, INVERTER & UPS REPAIR AND MAINTENANCE - PAPER I (Theory)	03	--	50	03	--	100	100
PI-102	POWER SUPPLY, INVERTER & UPS REPAIR AND MAINTENANCE PAPER II (PRACTICAL)		06	75	03	40	60	100
	TOTAL	03	06	125		40	160	200

PI-101- PAPER-I (THEROY) Power Supply, Inverter & Ups Repair And
Maintenance

Unit-1: Introduction to consumer electronics & Electrical Devices, Introduction to Basic Electrical & electronics, Voltage, current, power & Energy, How to calculate energy consumption, Appliance & its classes.

Unit-2: Basic Hand Tools, Safety precautions, Measuring Instruments (Analog & Digital), Basic Electronic & electrical components.

Unit-3: Introduction to Active & Passive Components, Switches, Semiconductor Diodes, transistor, Integrated Circuits, Microcontrollers, Circuit Ideas, series& parallel, Battery, battery charger, Voltage stabilizer, Power Supply & SMPS.

Unit-4: Functioning of the different modules of ups & invertors, UPS communication interface and wiring procedures, Assembling & disassembling of invertors, Circuit & block diagram studies.

Unit-5: Testing: MOSFET testing, Batteries testing, Testing of various PCB boards, Home & industrial wiring diagram for UPS & Inverters.

Unit-6: Fault finding steps & Knowledge of the company /organization and its processes), How to follow standard operating procedures while repairing & installing UPS /Inverter, Customer interaction.

PI-102 - PAPER-II (PRACTICAL) Power Supply, Inverter & Ups Repair And Maintenance

Unit-1: Introduction to consumer electronics & Electrical Devices, Introduction to Basic Electrical & electronics, Voltage, current, power & Energy, How to calculate energy consumption, Appliance & its classes.

Unit-2: Basic Hand Tools, Safety precautions, Measuring Instruments (Analog & Digital), Basic Electronic & electrical components.

Unit-3: Introduction to Active & Passive Components, Switches, Semiconductor Diodes, transistor, Integrated Circuits, Microcontrollers, Circuit Ideas, series & parallel, Battery, battery charger, Voltage stabilizer, Power Supply & SMPS.

Unit-4: Functioning of the different modules of ups & invertors, UPS communication interface and wiring procedures, Assembling & disassembling of invertors, Circuit & block diagram studies.

Unit-5: Testing: MOSFET testing, Batteries testing, Testing of various PCB boards, Home & industrial wiring diagram for UPS & Inverters.

Unit-6: Fault finding steps & Knowledge of the company /organization and its processes), How to follow standard operating procedures while repairing & installing UPS /Inverter, Customer interaction.