

MULTITECH

INSTITUTE OF ADVANCE TECHNOLOGIES PVT. LTD.

(An ISO 9001:2015 Certified Institute)

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CHIP LEVEL REPAIRING SYLLABUS

(Duration 3 months | Fast Track 45 Days)

DESKTOP & LAPTOP CHIP LEVEL REPAIRING COURSE

- ❖ Introduction of (Volt, current, Watt, Ohms)
- ❖ Introduction of (AC/DC)
- ❖ How to Use Digital Multimeter

BASIC ELECTRONICS

❖ **Identification of Electronics Components**

Resistor, Capacitor, Transistor, Mosfet, Diode, Crystal, IC, Transformer, Fuse, Jumper, Thermistor, Switch, Coil

❖ **Resistor**

- Working Concept of Resistor
- Types of Resistor
- Symbol, Unit, Denoting Letter of Resistor
- Resistor Color Coding Concept
- SMD Resistor Value
- How to test Resistor on motherboard

❖ **Capacitor**

- What is Capacitor?
- Types of Capacitor.
- What is Symbol, unit and Denoting Letter of Capacitor
- Series and Parallel concept of Capacitor
- Inboard and outboard Capacitor Testing

❖ **Diode**

- Working Concept of Diode
- How many types of Diode
- Denoting Letter and Symbol of Diode
- Bridge Rectifier Diode Concept
- Testing of all types of Diode on motherboard

❖ **Transistor**

- Working concept of Transistor on motherboard
- Transistor Types
- What is Symbol and Denoting Letter of Transistor
- SMD and Normal Transistor Identification
- Onboard Testing of SMD and Normal Transistor

❖ **Coil**

- Identification of Difference types of Coil
- Working of Coil(Inductor)
- Types of Coil
- Symbol, unit, Denoting Letter Concept of Coil
- Ok Testing of all types of Coil

❖ **Mosfet**

- Concept of SMD Mosfet
- Working concept of 3 pin, 6 pin, 8 pin Mosfet on motherboard
- Types of Mosfet
- What is Denoting letter and symbol of Mosfet
- Gate, Drain, Source pin Details
- Onboard Testing of all Types of Mosfet

❖ **IC / Chip**

- Working Concept of IC/Chip
- Identification of Difference Types of IC
- IC ok Testing on board

❖ **Transformer**

- Difference Types of Transformer
- Working of Transformer
- Symbol, Denoting Letter Concept of Transformer
- Testing Concept of Transformer

❖ **Crystal**

- Working Concept of Crystal
- Rtc Crystal
- Symbol, unit, Denoting Letter Concept of Crystal
- Testing of Crystal by Multimeter and CRO Machine

❖ **Fuse**

- Working Concept
- Symbol, Denoting Letter Concept of Fuse
- Testing and Repair Concept of Fuse

❖ **Thermistor**

- Types of Difference Thermistor
- Working of Thermistor
- Testing Concept of Thermistor
- NTC , PTC Thermistor

SOLDERING & DISOLDERING PRACTICE

- How to remove all motherboard components like- capacitor, transistor, mosfet, crystal, coil, diode, fuse etc. ?
- How to fix all electronics components on motherboard easily?
- How to remove and fix all types of ic/chip from motherboard?
- How to remove and fix all types of port ,connector, slot, socket Like -VGA Port, USB Port, ps2 port, sata connector, cmos battery?

SMPS REPAIRING

- ❖ How to check Smps on and off condition?
- ❖ How to check smps all voltage supply track?
- ❖ How to check and repair 3.3v,5v,12v, -12v, SB 5v, PG 5v, PS 5volt
- ❖ Smps problems repair
 - Smps dead condition repair
 - Smps power drop problem
 - Smps restarting problem
 - Smps suddenly power off problem

TRACING OF LAPTOP AND DESKTOP MOTHERBOARD

- Volt in section.
- Step down section
- Vrm section
- Ram section
- Chip section (Graphic Section, North Bridge, South Bridge Section)
- Battery section (Charging & Discharging Section)
- I/O (Input Output) section
- Bios section
- Lan section
- Sound section
- Usb section
- Vga section
- Sata section
- 3.3v , 5v section
- 1.2v, 1.8v, 1.5v, 2.5 volt section
- Odd section & Fan section
- Lvds section (LCD LED Panel and Screen section)
- Keyboard section & Touch pad
- Clock generator section
- Wi-Fi section & Adaptor section

ASSEMBLING & DISASSEMBLING

- ❖ Desktop Assembling and disassembling
- ❖ Laptop Assembling and Disassembling process

FAULTS FINDING AND REPAIRING SOLUTION

- No display problem solution
- Dead motherboard problem solution
- Automatic Restarting error repairing
- Hanging problem of laptop and desktop
- Charging & discharging faults of laptops
- Dim screen faults solution
- Automatic off problem & Blue screen
- Date and time error
- Heating faults of laptop and desktop
- Fan not working faults of laptop and computer
- Motherboard Shorting faults
- Linkage problem & USB not working faults
- Hard disk not working
- Error from Webcam (camera)
- Wi-Fi not working problem
- Sound related faults solution
- Network related problem
- Laptop Touchpad not working
- Keyboard not working faults of laptop and desktop
- Bluetooth and card reader problem
- White screen faults of laptops
- Hinge repair of laptops
- On/off switch related faults
- Bios password removing method

SCHEMATIC DIAGRAM CONCEPT OF MOTHERBOARD

- Desktop block Diagram of Motherboard
- Laptop block Diagram of motherboard
- Difference Between Laptop & Desktop Block Diagram

ADVANCE LEVEL REPAIRING WITH MACHINE

- **BGA MACHINE:** How to work on BGA machine for Chip Re-balling (Graphic chip, Pch chip, North bridge chip, South bridge chip)
- **BIOS PROGRAMMER:** How to use BIOS programmer for reprogramming Laptop bios chip, Desktop bios chip, Lcd, Led TV Bios chips.
- **CRO MACHINE:** How to use CRO Machine for checking all signal on motherboard like reset signal, clock signal, bios signal and frequency?
- **CPU SOCKET TESTER:** How to use CPU socket tester?
- **RAM TESTER:** How to use ram slot tester?
- **DC MACHINE:** How to check various voltage from DC Power Supply machine ?
- **DIAGNOSTIC CARD:** How to check motherboard problems using diagnostic card?