



# JP TECH INSTITUTE

AN INSTITUTE FOR DEVELOPING SKILL

ISO:9001-2015

## LAPTOP REPAIRING

## COURSE

Learn about All Basic Electrinos Parts of Laptop & Desktop, Complete Schematic Diagram & Board Viewer, Complete Solution of BIOS Programming & Editing, Advance Level Training on BGA Machine, How to use I/O Programmer?, Data & Signal Level Check with DSO/CRO Machine, Laptop & Desktop Assembling and disassembling, GFX to NON-GFX Conversion, All types of Problems Solution for Laptop & Desktop, Latest Generation Motherboard Repairing Tricks, Hidden Trick of Laptop & Desktop Repairing , Signal, Data, Frequency & Clock Level Training, Dead Laptop & Desktop Repairing, Water Damage Laptop & Desktop Repairing, Complete IC Chip Level Training

### LAPTOP REPAIRING COURSE



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# SYLLABUS

## ➤ Basic Electronics

❑ Introduction of (Volt, current, Watt, Ohms)

❑ Introduction of (AC/DC)

❑ How to Use Digital Multimeter

❑ Identification of Electronics Components

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

## ❑ 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**

- Working Difference Types of Transformer
- Working of Transformer
- Symbol, Denoting Letter Concept of Transformer
- Testing Concept of Transformer
- Onboard Testing of SMD and Normal Transistor

## **□ 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 & De-Soldering 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.

## ➤ **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, 2.5volt section

- Odd section
- LVDS section (LCD & LED Panel and Screen section)
- Keyboard section
- Clock generator section
- Wi-Fi section
- Fan section
- RTC section
- Soc section
- Adaptor circuit
- Sensor circuit3
- Intel GFX section
- Touch pad section
- Camera section
- SSD section
- GFX Section

## ➤ASSEMBLING & DISASSEMBLING

- Desktop Assembling and disassembling (For Fresher Students)
- Laptop Assembling and Disassembling process

## ➤ **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

## ➤ **Adaptor / Charger Repairing**

- How to check adaptor on and off condition?
- How to repair dead condition laptop adaptor?
- How to check adaptor high low voltage problem?
- How to check adaptor shorting problem?

## ➤ **Faults Finding and Onboard 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 Touch pad 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
- How to download schematic from different website?
- How to read schematic?
- How to read board viewer software?

## ➤ **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/DSO MACHINE:** How to use CRO Machine for checking all signal on motherboard like reset signal, clock signal, bios signal and frequency?
- **DC MACHINE:** How to check various voltage from DC Power Supply machine?
- **DIAGNOSTIC CARD:** How to check motherboard problems using diagnostic card?
- **I/O PROGRAMMER:** How to Reprogram I/o chip with ENIT I/O PROGRAMMER
- **SMD TESTER:** How to check all electronics components with SMD TESTER
- **MICROSCOPRE:** How to track and repair motherboard using microscope
- **ENIT MO METER:** How can remove shorting with ENIT MO METER