

INTERSOFT TECHNICAL INSTITUTE

COMPUTER & LAPTOP CHIP LEVEL COMPLETE COURSE WITH MODULE WISE

❖ COMPUTER CHIP LEVEL REPAIR TRAINING:

MODUELS	COURSE	CHAPTER	REGULAR 1.5HRS	FAST 3HRS	FULLDAY 6HRS
MODUEL C1	COMPUTER SERVICE TRAINING (CARD LEVEL SERVICE)	17	1 Month	6 Days	1+1 Days
MODULE E1	BASIC ELECTRONICS	16	1 Month	6 Days	1+1 Days
MODULE C2	SMPS, LCD, REPAIRING (CHIP LEVEL TRAINING)		1 Month	10 Days	3 Days
MODULE C3	COMPUTER BOARD REPAIRING (CHIP LEVEL TRAINING)	20	1 Month	10 Days	4 Days
MODUEL COK (E1C123)					

❖ LAPTOP CHIP LEVEL REPAIR TRAINING:

MODUELS	COURSE	CHAPTER	REGULAR	FAST	FULLDAY
MODULE L1	LAPTOP BASIC SERVICE (CARD LEVEL SERVICE)	16	15 Days	6 Days	1 Days
MODULE L2	ADAPTER BATTERY LCD INVERTER	7	15 Days	6 Days	1 Days
MODULE L3	LAPTOP BOARD REPAIR (CHIP LEVEL TRAINING)	30	1.5 Month	18 Days	6 Days
MODULE L4	ADVANCE LAPTOP TRAINING (CONFEDENCE LEVEL)	14	1.5 Month	18 Days	6 Days
MODULE L5	SERVICE CENTRE TRAINING (WORKING EXEPERIENCE)				
MODULE LOK (1,2,3,4)					

❖ COMPUTER & LAPTOP CHIP LEVEL REPAIR TRAINING:

MODUELS	COURSE	CHAPTER	REGULAR	FAST	FULLDAY
MODUEL C1	COMPUTER SERVICE TRAINING	17	1 Month	6 Days	1 Days
MODULE L1	LAPTOP BASIC SERVIE	16	15 Days	6 Days	1+1 Days
CHIP LEVEL ADVANCE FOR TECHNICIAN TRAINING					
MODULE E1	BASIC ELECTRONICS	16	1 Month	6 Days	1+1 Days
MODULE C3	COMPUTER BOARD REPAIRING	20	1 Month	10 Days	4 Days
MODULE L2	ADAPTER BATTERY LCD	7	15 Days	6 Days	1 Days
MODULE L3	LAPTOP BOARD REPAIR	30	1.5 Month	18 Days	6 Days
ADVANCE ENGINEARING LEVEL TRAINING					
MODULE L4	ADVANCE LAPTOP TRAINING (CONFEDENCE LEVEL)	14	1.5 Month	18 Days	6 Days
MODULE L5	SERVICE CENTRE TRAINING (WORKING EXEPERIENCE)				

LAPTOP CHIP LEVEL REPAIRING TRAINING COURSE CONTENT

• MODULE C1 : COMPUTER BASIC HARDWARE (for freshers):

In This Course Module, You Will Learn:

- Basics of computer hardware, parts identify , formatting partition, assemble,
- Student can assemble and troubleshoot computer component level after course

C1 : BASIC COMPUTER HARDWARE TRAINING (SHORT)

- 1 Basics Of Electronics** (AC,dc, volt ampear, multemeter used, measurement)
- 2 Fundamentals Of Computer**(Defination,generation, classification, anatomy, input, output)
- 3 Computer Assemble & Parts Identify** (smpls, cabinet, board, storage, cpu , board)
- 4 Smpls :** (types, pindetail, 12v, 5v, 3.3v pson, pgood, standby)
- 5 Motherboard & Cpu** (types, block diagram, chip identify, north, south , io, lan, vga, agp etc)
- 6 Hard Disk & Cd/Dvd** (STATA, PATA, size type, internal parts, spindle, motor , head ,vcm)
- 7 Monitor /Lcd /Led** (working idea of lcd, basic problems of lcd, moniter)
- 8 Ram :** (types of RAM , DDR1, DDR2, DDR3 , DDR4 , different volt)
- 9 Printer Basic Ideas:** (Types , DMP, LASER, INKJET, ALLINONE , changing cartrage)
- 10 Types Of Cards** (agp, graphics,, lan, vga , usb)
- 11 Basic Operating System:** (types, single , multi user, booting process, bios setting,)
- 12 Installing Os & Drivers**(format , windows installation, driver installation)
- 13 Windows Operating Systems** (basic used, device manager, control panel, dos cmd, config)
- 14 Virus, Antivirus, Internet, Settings** (antivirus software, internet connection, use of internet)
- 15 Troubleshooting Of Computers** (msconfig, repair, NTLR missing, file missing)
- 16 Basic Networking Concept:** (types of network ,cabling, cripting, ip address, subnetting, sharting files, printer)

• MODULE E1: SMD ELECTRONICS:

In This Foundation Module, You Will Learn:

- Basic of electronics, assembling and soldering, identify electronics components,
- Types of circuits and testing electronics components.

E1 : BASIC ELECTRONICS ANALOG, DIGITAL, PRACTICE (SHORT)

1. **AC, DC, Electronics**, (Electrical, Current, Voltage, Watt, Ampere, Types Of Circuit, Measure.)
 2. **Types of Material**, Working Detail of Circuit, Different Components.
 3. **Resistor**: Types, Uses, SMD, Measure, Value.
 4. **Capacitor**: Work, Types, Ceramic, Electrolyte, Tantalum
 5. **Induction / Coil**: Work, Types, Check.
 6. **Transformer**: Work, Types, Step Up, Step Down, SMD, Checks.
 7. **Diode**: Semiconductor, N Type, P Type, Work, Types, Testing.
 8. **Transistor**: Work, Types, NPN, PNP, Testing Method, Uses.
 9. **FET, MOSFET**: Work, Types, NPN, PNP, Testing, Single Channel, Dual Channel, Testing, Uses.
 10. **Other Components**: Fuse, Crystal, RTC.
 11. **Digital Electronics**, Types of Number Systems, Conversion.
 12. **Types Of Logic Gate**: AND, OR NOT NOR, NAND, Flip Flop, Exclusive.
 13. **Study of Different** Chip Datasheet with Different Gates and Working Idea of Different Chips.
 14. **Soldering**, Removing, Cold Testing, Warm Testing, Procedure of Components.
 15. **Project on Electronics**, practical Idea of Using Different Components. Resistor, Capacitor Diode Transistor, MOSFET, Fuse, Coil, Led, Switch etc.
 16. **Soldering** and Desoldering Practice
- Revision and Exams.**

• MODULE C2 : SMPS, LCD, LED REPAIRING CONCEPT:

In This Foundation Module, You Will Learn:

- Working concept of power supply smps, understanding internal circuit of lcd & led

C2 : SMPS LCD LED REPAIRING CONCEPT

1. SMPS repairing
2. Lcd , inverter repairing concept
3. Hard disk basic troubleshooting
4. **Ram basic service**
5. **Dvd rom Basic service**

• MODULE C3 : COMPUTER DEKSTOP BOARD REPAIRING TRAINING CONCEPT:

In This Foundation Module, You Will Learn:

- Understand how desktop motherboard work
- Troubleshoot problems in desktop board
- Bios update process,
- Foutl finding thru multimeter, CRO

C3 : COMPUTER MOTHERBOARD REPAIRING TRAINING

Moduel 3.1 WORKING FUNCTION OF DIFFERENT CHIP AND MAIN SIGNAL TRACING

1. Basic computer & Block diagrams of computer motherboards, frame structure
2. Basic working detail of computer motherboards, power on signals
3. SMPS basic working and different volt , pson, pgood, sus, 12v, 5v, 3.3v vrm
4. MOSFETS & coil used, switching and linear output
5. Testing & understand vrm section offline and online with multimeter & cro
6. Understand Power on sequence of computer motherboard (K8V-MX)
7. Clock generator chip, Clock crystal, different frequency , voltage x1, x2,
8. Types of CPU socket and CPU, main signals of CPU(vid, vccore, shdn, vron)

- a. VRM section detail with different phase for CPU
- 9. Northbridge working concept, main signals, different power
 - a. RAM , Types, main signals , linear output , voltage,
 - b. VGA display connector
 - c. AGP slot
 - d. Graphic chip
- 10. South bridge working concept, main signals, different power
 - a. Hard disk, CD ROM connection, important signals
 - b. fdd connector
 - c. USB connector
 - d. sata connector
 - e. pci slot
 - f. bios chip ,main pins detail , identify, cmos battery
 - g. RTC, clock crystal,
 - h. PCI / ISA details pin out, important signals detail
- 11. LAN and audio chip, main signals, connection with socket
- 12. I/O controller working concept, main signals, different power
 - a. Com port
 - b. Ps2 connection
 - c. Printer port connection
 - d. Cpu temperature
 - e. Power controller , on/off , vrmon, etc
 - f. fan controller
- 13. PCI express /mini pci AGP slot, Testing signals on pci agp slots

⇒ **Module 3.2 MOTHERBOARD FAULT FINDING**

- 14. Common fault chart and solution steps of computer motherboard
- 15. Repairing steps of motherboard identify problems
- 16. Debug card details, use of Debug card ,common error code
- 17. Testing with multimeter, CRO different signals of motherboard
 - * pson, power good, 12v, 5v, 3.3v, 2.5v 1.5v 1.8v, 5vsus, reset signals, vid signals, rtc crystal, cmos battery, clock crystal, address, data buses, bios chip,
- 18. Slot tester and use details, cpu, ram, pci, agp
- 19. Reset signals detail , testing reset signals
- 20. Bios update

⇒ **Module 3.3 BGA REPAIRING AND REBALLING**

- 21. Washing, Cleaning, drying, Dry solder problem solution of motherboard
- 22. Introduction to BGA machines, used, temperature setting,
- 23. ICs rebelling, BGA ball arrangement, practice., Using BGA machine
- 24. Removing and inserting different chips practice (video & step)
- 25. Removing & replacing sockets , CPU , RAM, PS2, COM ETC
- 26. DEMO FOR OTHER PRODUCTS AVAILABLE
- 27. Chip and ics to be stock

● **MODULE L1 : LAPTOP BASIC SERVICE TRAINING FOR LAPTOP FRESHERS:**

In This Foundation Module, You Will Learn:

- . Basics of laptop service, Parts identify, Dismanting , assemble format etc

L-1 BASIC LAPTOP SERVICE TRAINING

1. **Introduction.** Laptop, Difference, Advantage, Uses, Safety.
2. **Tools** Required for Servicing Laptop.
3. **Identify Parts** of Laptop.
4. **Dismantle & Assemble** and Laptop with Parts Identify.
5. **Adapter:** Work, Types, Volt, Ampere, Pin Checking.
6. **Battery:** Types, Pin out Details, Basic Problems, Checking.
7. **TFT/LCD/ LED:** Types of LCD, TFT/LCD, Size, Pin, Width.
8. **Inverter, CCFL:** Usage and Concept of Inverter, CCFL Work.
9. **Motherboard:** Types, Block Diagram, Identify.
10. **CPU Processor, Fan, Heat Sink:** Types Identify.
11. **Keyboard, Touch Pad:** Types, Working Concept, Connection.
12. **Hard Disk:** Types, Diagrams, Basic Problems, IDE Sata.
13. **RAM:** Types, Working Concept, Basic Problems.
14. **CD/DVD:** Common Faults, Eject, Locks, Removing.
15. **Others:** Body, Hinges, Panels, WIFI Card, PCMCIA Card, Speakers Changing and Replacing Above Components.
16. Formatting & Installation of Operating Systems & Drivers on Laptop.

MODULE L2: ADAPTER, BATTERY, LCD, INVERTER, ETC REPAIRING CONCEPT :

In This Foundation Module, You Will Learn:

- Adaptor and battery repairing concepts.
- Laptop motherboard repairing concepts LCD TFT/ LED CCFL, LCD.

Before attending this class: Basics of SMD Electronics, assembling and reassembling should be clear.

L-2 ADAPTER, BATTERY , LCD, INVERTER, ETC REPAIRING CONCEPT

1. **ADAPTER REPAIRING CONCEPTS :-** Opening adapter, Testing Point, Troubleshooting ,
2. **BATTERY REPAIRING CONCEPTS :-** Working Idea, open a Battery, Check Cells, , Battery IC Repairing Concepts of Battery
3. **LCD /TFT/LED CCFL / LCD TUBE CONCEPTS :-** Pin out Details, Common Problems, Different Size of LCD, Repairing Concept of LCD, CCFL Testing, Replacement concepts of CCFL
4. **INVERTER REPAIRING CONCEPTS :-** Pin Detail, Vcc, contrast, on /OFF, Gnd, Brightness controller MOSFET, Testing Inverter Troubleshooting of Inverter
5. **RAM :-** Pin Details, SPD Firmware update concepts, Common faults of RAM Main signals and voltage of RAM
6. **KEYBOARD/ TOUCHPAD :-** Basic problems & solution of Keyboard and Touch Pad, Working function of Touchpad switch
7. **HARD DISK :-** Types of Hard Disks ,Converter used for Hard Disks , Common fault in Hard Disk section (motherboard section), Pin details of Hard Disk

MODULE L3 : LAPTOP MOTHERBOARD CHIP LEVEL TRAINING:

In This Foundation Module, You Will Learn:

- Block diagram of laptop.
- Adaptor and battery repairing concepts.
- Laptop motherboard repairing concepts LCD TFT/ LED CCFL, LCD.

Before attending this class: Basics of SMD Electronics, assembling and reassembling should be clear.

L 3.1 LAPTOP WORKING DETAIL

CHP 1. INTRODUCTION TO LAPTOP BOARD:

- Identify Components On Different Laptop Motherboard
- Basic Differences Between Laptop & Desktop
- Mechanical Difference Power, Reset, Clock
- A List Of Tools Required For Repairing Laptops

CHP 2. BLOCK DIAGRAM OF BOARD , CHIP IDENTIFY:

- Types Of Board Platform Intel Amd
- Block Diagram Of Laptop Board Connection
- Identify Laptop Boards Connection ,
- Laptop Chips Detail And Types
- Identify Ic Pin Detail , Datasheet, Pin Count Process

CHP 3. BASIC WORKING DETAIL OF BOARDS:

- Understanding Hand Shaking Signals , Binary System, On/Off
- Different Power To Different Chips, How Voltage Divided
- Pci Reset, Clock Frequency Bios Software
- Stage Of Motherboard, Mechanica, Standby, Shut Down, When Required

CHP 4. MOSFETS AND ITS USED, SWITCHING, AND REGULATOR:

- Mosfets Types, Identify N Channel P Channel, Testing Identify
- Switching Used, Regulator Used,
- Step Down Process ,Regulator Chip, , Switching Used Of Mosfet,

CHP 5. POWER ON STAGE PRIMARY, SECOND, VRM:

- Understanding Power On Sequence Of Board

L3.2 SCHEMATIC DIAGRAM TRACING

CHP 6. LAPTOP SCHEMATIC DIAGRAM, TYPES ODM:

- Types Of Schematic Diagram With Manufacture
- Identify Components On Schematic Diagram
- List Of Schematic Diagram With Models No
- Understanding Switching Section With Schematic Diagram

CHP 7. POWER SUPPLY CHIPS DETAIL AND UNDERSTAND SIGNALS:

- Battery Charging & Vin :-** Pinout Of Battery Connection, Battery Chip, Important Signals Of Battery Chip, Tracing Signals Of Battery
- Always Power On:-** Pcu, Main, S5 Power, Aux, Etc.
- Primary Voltage :-** 5v, 3v Sus, Main, So, S3, Power
- Secondary Voltage :-** 2.5, 1.8v Sus Main, So, S3, S4 Power
- Others Power Chip 1.2, 1.4, 1.5v, Sus, Main, So, S3, S4 Power
- Cpu Core Vrm Voltage Regulator Module:-** Main Signals Of Vrm Chip, Function Of Vrm Chip, Measure Vrm Input And Output Signals, Vron, Pgood, Etc.

CHP 8. CLOCK GENERATOR, CPU SECTION:

- Understanding Whole Block Diagram Through Schematic Diagram
- Clock Generator Chip:-** Clock Generator Chip Oscillating Frequency To Different Chip, Main Signals Of Clock Chips
- Cpu Section (Intel, Amd) What Is the Importance Of Signals In Cpu? Understanding Basic Signals Of Cpu, Cpu Different Power Vccore, Connection Of Cpu With Other Chips

CHP 9. NORTH BRIDGE AND GRAPHIC CHIP CONNECTION:

- NORTH BRIDGE (MCH) Memory Control Hub:-** Understanding Basic Signals Of North Bridge, Northbridge Different Power Supply, Connection With Different Chips
- GRAPHICS CHIP:-** Why Graphics Chip Is Used, What Problem Is Created By Graphics Chip, Main Types Of Graphics Chips, Nvidia, ATI, Etc.
- CPU TEMPERATURE CONTROL :-** Function Of Temperature Related To CPU And Controls
- RAM MEMORY POWER SUPPLY:-** Important Signals Of RAM, Understanding Basic Signals Of Ram, Ram Different Power Supply, Connection With North Bridge

- e. **LCD & BACK LIGHT CONTROL:** - Functions Associated With LCD Backlight Controls, Inverter, Etc.
- f. DISPLAY CONNECTOR
- g. DVOC / TVOUTPUT

CHP 10. SOUTH BRIDGE, LAN , AUDIO, HDD, CDD, CARD READER:

- a. **SOUTH BRIDGE(ICH);-** What is the basic function of south bridge, southbridge different power supply, connection with different chips
- b. **LAN NETWORK CHIP:-** Function of network chip, connections of network chip
- c. **AUDIO SOUND CHIP:-** Function of sound audio chip, connections of sound chips
- d. **BIOS Section :-** AWARD, PHONIX, AMIBIOS, COMPAQ, IBM :- Types of BIOS chip , main signals of BIOS chip, connection with i/o & Southbridge signals, CMOS battery power supply to BIOS chip
- e. Rtc section
- f. Hdd sata pata
- g. USB ESATA CONNECTION
- h. PCI CARD
- i. WIFI MODEM CONNCTION

Chp 11. I/O CONTROLLER KEYBOARD, TOUCHPAD, CAMERA, POWER CONTROLLER:

- a. **I/O CONTROLLER (Power Chip Control Section) :-** Main Signals Of I/O Chip, I/O Chip Contain Power Control Chip In Some Models, Connection And Function Of I/O Chips
- b. KEYBOARD, Connection Detail ,
- c. TOUCH PAD, Connection Detail Main Signals
- d. POWER CONTROLLER CHIP , Power Main Signals Detail
- e. CAMERA ,
- f. MAGNET SENSOR

CHP 12. PCH (PLATFORM CONTROLLER HUB) NORTH+ SOUTH:

- a. Pch Board Function Types
- b. Difference In Connection

CHP 13. TRACING BOARD WITH SCHEMATIC SIGNALS:

- a. CPU,
- b. North , Ram, Display
- c. South Audio, Lan, Connector,
- d. I/O Keyboard, Touchpad, Etc

CHP 14. CHARGING AND PRIMARY VOLTAGE:

- a. Charging , VIN, &Main PCU/ AUX / S5 Voltage Signals (Always On Voltage)
- b. Primary Voltage Output Signals (MAIN SUS (5v,3.3v) S0/ S3)

CHP 15. SECONDARY VOLTAGE OUTPUT SIGNALS (SUS, MAIN (2.5V,1.5V) S0/ S3): OTHER VOLTAGE

CHP 16. VRM SECTION & PCI RESET SIGNALS:

CHP 17. TRACING OF DIFFERENT LAPTOP BOARD POWER STAGES:

- a. Understand Power On Different Signals Concept Of HP LAPTOP Motherboard
- b. Understand Power On Different Signals concept Of Dell Laptop Motherboard
- c. Understand Power On Different Signals Concept Of IBM Laptop Motherboard

L 3.3 FAULT FINDING STEPS

CHP 18. HOW TO USE CROBASIC CONCEPTS, TESTING WITH CRO& MULTIMETER(STEPWISE):

- a. Understanding CRO , Used,
- b. Testing , Frequency , Vrm Power, Signals

CHP 19. TESTING TOOLS , DEBUG CARD, SLOT TESTER:

- a. DEBUG CARD, Error Codes, Identify Different Problems

- b. Slot Tester :- Cpu, Ram

CHP 20. BIOS UPDATE, RESET:

- a. Bios Update Process,
- b. Bios Password Concept

CHP 21. WASHING, CLEANING, DRYING & DRY SOLDER PROBLEM SOLUTION OF MOTHERBOARD:

- a. Washing & Drying Steps Of Board
- b. Dry Solder Problems To Solve

CHP 22. TESTING LAPTOP POWER CONSUMPTION THRU POWER SUPPLY UNIT:

CHP 23. FAULT FINDING LAPTOP POWER SECTION:

- P1 Dead laptop tracing step,
- P2 Adapter power off when connect to laptop
- P3 laptop charging led not on
- P4 laptop not power on by pressing on off switch
- P5 laptop power led on and closed in 2/3 sec
- P6 laptop power on and off in 30 seconds
- P7 laptop power led on but no display
- P8 laptop not power on by adapter but power on by battery
- P9 laptop not power on by battery , but on by adapter
- P10 rtc, cmos battery power section
- P11 laptop some time on , some time not on
- P12 laptop protection circuit
- P13 laptop VIN/ PWRSRC not generate
- P14 always power on section troubleshooting
- P15 Charging section troubleshooting
- P16 Primary section troubleshooting
- P17 Secondary section troubleshooting
- P18 Laptop VRM section troubleshooting
- P19 laptop other power on troubleshoot
- P20 Laptop over heated

CHP 24. FAULT FINDING LAPTOP CONNECTION:

- C1 Laptop CPU troubleshooting
- C2 Laptop clock troubleshooting
- C3 Laptop north bridge/ gmch troubleshooting
- C4 Laptop RAM troubleshooting
- C5 Laptop LCD troubleshooting
- C6 Laptop VGA connection troubleshooting
- C7 Laptop HDMI troubleshooting
- C8 Laptop south bridge troubleshooting
- C9 Laptop ieee 1394 troubleshooting
- C10 Laptop audio troubleshooting
- C11 Laptop Lan troubleshooting
- C12 Laptop sata/ pata troubleshooting
- C13 Laptop odd/ cd DVD connection troubleshooting
- C14 Laptop USB troubleshooting
- C15 Laptop Esata troubleshooting
- C16 Laptop PCMCIA troubleshooting
- C17 Laptop I/O chip troubleshooting
- C18 Laptop touchpad troubleshooting
- C19 Laptop keyboard troubleshooting
- C20 Laptop bios troubleshooting
- C21 Laptop bios password troubleshooting
- C22 Laptop debug card post code errors
- C23 Laptop camera not work
- C24 Laptop modem troubleshooting
- C25 Laptop card reader troubleshooting
- C26 laptop wi fi troubleshooting

CHP 25. FLOW CHARTS FOR FAULT FINDING STEPS:

CHP 26. DISCUSSION STUDENT PROBLEMS AND SOLUTION:

L 3.4 BGA CHIP REPLACEMENT AND REBOLLING

CHP 27. REMOVING AND INSERTING DIFFERENT CHIPS PRACTICE (VIDEO & STEP):

- a. Instrument Demo And How To Used
- b. Removing Process Of Chip

Chp 28. USE OF BGA MACHINE, TEMPERATURE SETTING:

Chp 29. BGA REBOLL , REWORK PRACTICE:

Chp 30. DEMO FOR OTHER PRODUCT:

FEEDBACK ,
STUDENTS REVIEWS,
EXAM,
CERTIFICATE

• MODULE L4 : ADVANCE ENGINEERING LEVEL LAPTOP CHIP LEVEL TRAINING:

In This Foundation Module, You Will Learn:

- Schematic Diagrams, Advance Troubleshooting
- How To Deal With Different Laptop Models
- Confidence In Outside Laptop Repairing
- Experience, Customer/ Student Laptop Repair

BEFORE ATTENDING THIS CLASS FOLLOWING TOPICS SHOULD BE CLEAR:

MODUEL 3 OF LAPTOP CHIP LEVEL TO BE CLEAR +

- Block Diagram.
- How Motherboard Starts Power Reset Clock Power Good, Idea.
- Power On Sequence, Power Stages, Different Power Supply S0 To S5, PCU, Main SUS Etc.
- Understanding MOSFET Function Measuring Power On Regulator.
- Schematic Diagram Tracing.
- VRM Section Function.
- CRO & Multimeter Testing Process.
- Bios Update Process.

MODUEL L4.1 ADVANCE ENGINEERING LEVEL LAPTOP REPAIR TRAINING

ENGINEERING LEVEL ADV. LAPTOP MOTHERBOARD REPAIR TRAINING

CHP 1. REVISION OF LAPTOP MODULE 2 CONCEPT OF POWER ON SEQUENCE, VRM , BIOS:
 CHP 2. UNDERSTANDING DIFFERENT MODELS & (ODM) ORIGINAL DEVICE MANUFACTURE OF SCHEMATIC DIAGRAM:

1. Quanta 2. Compal 3. Wistron 4. Inventec 5. Asus 6. Uniwillmitac 7. Foxconn. Samsung 9. Arima

ODM Manufacture Details, Tracing Different Signals

CHP 3. UNDERSTANDING BOARD VIEW OF LAPTOP MOTHERBOARD (Allegra Free Viewer, Board view, B view, Cast W, BRD-T):

CHP 4. UNDERSTANDING IMPORTANT SIGNALS OF LAPTOP MOTHERBOARDS:

- a. Clock Generator , CPU Processor, North Bridge of Graphics Card, South Bridge Main Power Chip 5v, 3v, Secondary Power Supply Chip 2.5, 1.5v
- b. CPU Power Supply Chips
- c. Charge Discharge Control
- d. LCD Back Light Ram, Main Signals of LAN Chip, Main Signals of Audio Chip
- e. Main Signals of Keyboard
- f. Main Signals of LCD

CHP 5. UNDERSTANDING DIFFERENT SECTION IN DEPTH AND HOW IT'S ENABLE:

- a. Primary, Secondary Charging, Vrm
- b. Discharging, Signals, Reset , Bios
- c. Clock Generator
- d. Other Main Signals Tracing On Board

CHP 6. PRACTICAL TRAINING WITH TRACING DIFFERENT LAPTOP BOARD FOR MORE CONFIDENCE IN LAPTOP MOTHERBOARD REPAIRING:

- a. Dell Model
- b. HP Compaq Model
- c. Toshiba Model
- d. Acer Model

CHP 7. Some of Common Fault of Laptop Models

Practice on Different Motherboard Tracing and Fault Finding.
 Laptop Motherboard Power On Details

- a. Main Signals of Some Motherboards of HP, Dell, IBM and Lenovo
- b. Advance Signals Details
- c. **HP/Compaq** : VIN 3VPCU 5VPCU, NBSWON, DNBSWON, SUSC, SUSB, S5-On, SUSON, Main-On, VRON On, HWPG, PWROK, RSM_RST, PCIRST, CPUINIT, CPUPG, CPURST, VID 0-5
- d. **Dell**: PWRSW, PWRBTN, SLP-S3, SLP-S5, SUSCLK, RUNON, RUNPWROK
- e. Tracing A Different Dead Motherboard
- f. CRO & Multimeter Used And Tracing
- g. **Cold Checking & Hot Checking**

MODUEL L-4.2 HIGH END INSTRUMENT PRACTICE

CHP 8. TYPES OF LAPTOP PASSWORD, BIOS PASSWORD, ADMIN PASSWORD, USER PASSWORD, HARD DISK PASSWORD , PASSWORD RESET CONCEPT:

CHP 9. HOW TO FLASH BIOS OF LAPTOP CHIP ONLINE AND OFFLINE:

CHP 10. USES OF DIFFERENT REPAIRING & TESTING INSTRUMENT:

- a. DDR Ram Slot Tester
- b. CPU Slot Tester
- c. Mini Wi-Fi Slot Tester And Signals Detail
- d. Mini PCI Slot Tester
- e. IDE Slot Tester
- f. Used of Different Debug Card

MODULE L4.3 REPAIRING CONCEPT WITH DIFFERENT LAPTOP FOR PRACTICE

CHP 11. LAPTOP COMMON FAULT LIST & REPAIRING STEPS CONCEPT**CHP 12. REMOVING AND INSERTING BGA CHIPS PRACTICE ON HIGH END MACHINE**

- a. Reballing
- b. Fully Practice With BGA Reballing And Reinserting Different Chip
- c. Graphics Chip Solution NVIDIA, ATI,
- d. Reballing Process By PPD/ Stencil/ Balls
- e. Practice With Outside Motherboard Repairing
- f. Customer Motherboard Repairing Practical Knowledge
- g. Practice On Students Self Motherboard

CHP 13. WORKING WITH STUDENT / SERVICE CENTRE LAPTOP REPAIRING (LIMITED)**CHP 14. REQUIREMENT FOR A LAPTOP SERVICE CENTRE LIST**

- After Course
 - a. Laptop Schematic Diagram Collection Sets DVD
 - b. Laptop Repair Tips Collection Sets
 - c. 1 Year Online Web Support
 - d. Common Laptop Chips Required For Service Centre
- Common Instrument Required for Laptop Service Centre

• **MODULE LEXP : SERVICE CENTER PRACTICAL EXPERIENCE:**

In This Foundation Module, You Will Learn:

- 1 – 4 weeks depends on student's knowledge working experience will be given in real market environment which will increase confidence of repairing.

BEFORE THIS COURSE STUDENT SHOULD HAVE CLEAR ALL MODUEL FROM 1 TO 4 THEN ONLY HE CAN JOIN TO SERVICE CENTRE TRAINING

Moduel L5. WORK EXPERIENCE IN LAPTOP REPAIRING

- Service Centre Practice with Different Models.
- Day Wise Repairing and Fault Finding Different Models and Steps of Repairing.
- At Least 4 Models for Repairing may come In hand for Service .
- Full Confidence in Repairing Of Laptop and BGA Machine No Doubts in Repairing of any Laptop.
- Different Chinese Sites for Download Different Schematic Diagram and Tips.
- Different Seller Location Address to be given.
- List of Tools Required for Starting a Laptop Service Centre.
- List of Chip to Be Kept On Stock for Laptop Service Centre.

L6. TECHNICAL SUPPORTS FOR SERVICE CENTRE

1. Full technical support
2. Online call centre support
3. Schematic bios, all types of support will be provide