



## QUICKSTEP COMPUTER CENTER

National Accreditation Board of Education Training.  
(NABET)- Quality council of India) An ISO 9001:2008

### \*\*\*\*\*COMPUTER HARDWARE & NETWORKING \*\*\*\*\*

#### • Types of Operating Systems

#### ❖ **HARDWARE DEVICES**

- Identifying Hardware devices
- Input/Output/Commn./Storage devices
- Identify components of motherboard
- SLOTS (ISA, EISA, PCI, AGP, AMR, PCIE)
- Expansion boards / Cards • NIC, Modem
- Multi-user, multi-port serial controller
  - SCSI, SATA, USB
  - External connectors
- Identifying & connecting Ports
  - AT, ATX power ports
  - CPU – Types of CPUs
  - CPU companies, terminology
  - SOCKETS – AIF, PGA, LGA
- ORTS – COM, IDE, FDC, LPT, USB
  - VGA, Sound, SCSI, PS/2, SATA
- BANKS (SIMM -SIMM 32, SIMM 70)
- DIMM (SDR, DDR, DDR2, DDR3)
  - SMPS – mini molex, moles
- SATA • AT & ATX connectors • Voltages
- ROM types – ROM, PROM, EPROM etc.
  - IDE bus – Connecting devices
- Hard drive & CDROM jumper settings
- FDC bus • Connecting floppy drives
  - Front Panel connections

#### **ASSEMBLING**

- Branded Vs Assembled systems
  - Placing motherboard
- Placing processor in socket
  - Placing processor fan
  - Types of system cases
  - Placing other devices
- IDE & FDC connections
- Front Panel connections



## ➤ **BIOS, CMOS**

- POST steps
- CMOS Setup – Standard & Adv.
  - Integrated peripherals
  - PC health status
- Introduction to Bootable, Partitions
  - Using FDISK
  - Drive letters assignment
  - Types of File systems
    - FAT, FAT 16, FAT 32
    - NTFS, CDFS, HSFS, EXT
  - Formatting partitions
  - Transferring system files
  - Managing hard disks
    - Disk manager
- Installation of Operating systems
  - Win 98, Win XP, Win 2003,

## **Vista, Win 2008**

### **DUAL BOOTING**

- Introduction to Linux
- Installation of RHEL 4.0
  - Linux commands

### **S/w installation**

### **Device drivers installation**

### **TROUBLE SHOOTING**

- Beep codes
- Numerical/System errors
- Using restore points in Win XP

### **SECURING THE SYSTEM**

- Windows Updates
- Firewall Settings
- Virus detection & removal
- CD / DVD Writing
- Password Breaking

## ❖ **COMPUTER NETWORKING**

### **Introduction to Network**

- What is a Network?
- What is networking?
- What is LAN, WAN, MAN?

## **Establish a Network**

- Systems • Media
- Network Devices, Components
  - Operating Systems
  - Communication devices
  - Protocols • Address
- Types of Network
  - LAN • MAN • WAN
- Modes of Communication
- Simplex / Half Duplex / Full Duplex
- Types of Communication
  - Unicast / Multicast / Broadcast
- Cables
  - Coaxial cable • Optical Fiber
  - Twisted pair cable

## **Types of connectors**

- BNC connector • RJ45, RJ11
- ST & SC connector
- Types of crimping
- Straight over / Cross over / Roll over
- Topology
  - Mesh • Bus
  - Star • Ring

## **Hub, Switch, Router, NIC card**

### **MAC address, IP address**

### **OSI Reference Model**

- Introduction
- Structure of OSI Reference Model
- Working of OSI Reference Model

## **Assigning IP address**

Checking the connectivity

Changing the system name

### **Network Environment**

- Workgroup or peer to peer
- Client/Server or Domain

## **Workgroup or Peer to Peer**

- What is workgroup?
- Advantages of workgroup
- Disadvantages of workgroup

### **User administration**

- What is user account?
- Different types of user accounts
  - Local user account
- Creating, managing and deleting

### **Group administration**

- What is a group?
- Different types of groups
  - Groups
- Creating, managing and deleting
- Users membership to groups
  - Adding and Removing

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