Syllabus
of
Diploma in Hardware and Networking Technology
(One Year Course)
Unit – I : Introduction to Communication


Unit –II: Business Letter Writing


Unit – III : Presentation Skill


Unit – IV : Group Communication

Problem of Group Communication, Types of Meeting Conference Committees - Advantages and Disadvantages of Meeting, Conduct of Meeting Chairman’s Function, and Participant’s Responsibilities. Report and Committee Reports. Uses of Summarization Skills, Making A Precise, Drafting Telegrams.

Books:

2) Business Correspondence & Communication Skills – Kapoor (S.Chand & Co.)
3) Effective Skills - Ravi Agrawal – Sublime Publishing Jaipur
4) Developing Communication Skills – Mohan – Macmillan Publishing
DHNT
PAPER -II: INFORMATION AND COMMUNICATION TECHNOLOGY
(DHNT2)

Unit-I: Introduction to It and Computers
Block Diagram of Computer, Functioning of Computer, Generations of Computer,
Classification of Computers, Characteristics, Advantages & Limitations of Computer.
Computer Memory: Primary & Secondary, Types of Primary Memory, Registers.
Input Devices: Keyboard Locator Device: Mouse, Joy Stick Digitizing Tablet
Pick Device: Light Pen, Touch Screen Track Ball Voice Recognition: Microphone, Scanning:
MICR, OCR, OMR, Barcode Reader, Vision Capturing: Webcam, Digital Camera Point
of Scale, Touch Pad, Smart Card
Output Devices: VDU, Dot Matrix, Laser and Inkjet Printers, Plotters.
Storage Devices: Pen Drive, Hard Disk, and Optical Disk, Blue Ray Disc.

Unit-II: Hardware and Software Concept and Programming Language
Introduction, Types of Software, Characteristics of Good Program, Development of
Programming Languages: Machine Language, Assembly Language, High Level Language.
Number System: Decimal, Binary, Octal, Hexadecimal Number Systems, Features &
Conversions.
BCD, EBCDIC & ASCII Codes.

Unit-III: Windows
Features of Windows, GUI, Operating with Windows, Desktop, Taskbar, Windows
Explorer, Control Panel, My Computer, My Documents, Recycle Bin
Windows Accessories: Calculator, Notepad, Paint, System Information, Disk
Management, Disk Defragmentation, Disk Cleanup

Unit–IV: Network & Internet
Computer Communication, Need for Networks, Communication Device, Types of
Network- LAN, WAN, MAN, Concept of Network Topology, Types of Topologies and Its
Advantages and Limitations. OSI Model.
Internet: Basic Internet Terms, Internet Addressing, Services Provided By Internet, Detail
About E-Mail, Search Engine, Basic of Intranet. Social and Ethical Issue, YouTube,
FaceBook, Linkedin, Orkut
Open Source Terminologies: Open Source Software, Freeware, Shareware, Proprietary
Software, FLOSS, GNU, FSF, OSI

Books:
4) Chetan Shrivastava “ Fundamentals of Information Technology”, Kalyani
5) Dr Madhulika Jain,“Information Technology Concept”, Bpb,2006,ISBN – 81-7656-
276-9
DHNT
PAPER –III : COMPUTER NETWORKING
(DHNT3)

Unit –I : Basic Network Concept


Unit – II : Data Transmission

Networking Hardware Components, Severs Hubs, Routers, Switches, Bridges, Gateways, Cabling and Cable Plants/Server & Workstation Hardware, Reliability and Severability Feature. Network and Maintenance of Network Cabling, Solving Cable Problem.

Unit-III : Networking Protocols


Unit – IV: Introduction of Internet

Internet History and Uses of Internet, Connecting of Internet , Dial-Up-Access and Direct Access, Domains and Address, DNS and IP Address, Using The Www , Internet Browsing The Web, Server on Internet, E-Mail Services :- Anatomy of E-Mail, E-Mail Address, Finding E-Mail Address, Attaching Files, Opening Attachments, Search Engines, Types of Search, Chat Service, Uploading and Downloading Files, Computer Virus and Antivirus, Software.

Book :

3) Working with Windows 2000 Server - Prentice Hall of India
4) Internet Technology and Web Design, ISRD Group, TMH, ISBN 0-07-107276-4
Unit I : Number System & Data Representation

Number System : Binary, Octal, Decimal, Hexadecimal and Their Interconversion.

Binary Codes : BCD, ASCII, EBCDIC Codes Their Advantages and Disadvantages. Data Representation : Positive, Negative, Maximum and Minimum Number Representation.

Unit II : Binary Arithmetic

Binary Addition, Decimal Subtraction Using 9’s and 10’s Compliment, Binary Subtraction Using 1’s and 2’s Compliment, Multiplication and Division.

Unit III : Logic Gates

Truth Tables, Properties and Symbolic Representation of NOT, AND, OR, NOR, NAND, EX-OR, EX- NOR GATES. NOR and NAND Gates as a Universal Gates.

Unit IV : Basic Things for CPU


Books :
DHNT
PAPER –V : PC – MAINTENANCE
(DHNT5)

Unit I

Unit II
History & Study of Different Types of CPUs, Terminology Used with CPU, Data Processing Inside CPU, RAM & ROM, Different Types of ROM, Virtual Memory, Installing and Removing Memory. Video Cards and Monitors, Display Resolution, Features, Video Driver, CRTs Working, LCDs Working, Monitor Resolution, Interfacing, Refresh Rate, Monitor Driver, Adjusting Display Settings in Windows

Unit III

Unit IV
Printer Features, Printer Performance, Print Quality, Print Speed, Printer Types, Fruiter Working, Installation of Printer Driver, Cleaning a Printer, Common Printer Problems. Formatting: Formatting PC, Backup of Data Before Formatting, System Restore, Precautions for Formatting, Role of Technician

Books :
2. Basics of Computer Hardware - BPB Publication
DHNT
Practical I
(DHNT6)

Practical - I based on IT
Information and Communication Technology

1) Study of various input devices with troubleshooting.
   a. To study and installation of keyboard.
   b. To study and installation of mouse.
2) Study of various output devices.
   a. To study the installation of printer.
3) To study the installation of multimedia.
4) Study of different operating system.
5) Study of booting process.
6) To study assembling and deassembling the PC.
7) To study and installation of antivirus software
8) Things to know while purchasing the computer.

Windows and Internet

1) Create personal E-Mail ID and send a successful message of creation to your lab incharge/HOD.
2) Set your E-Mail Settings like appearance, vacation, signature etc.
3) Change your E-Mail Id Password
4) Write a procedure to search the information and note down the differences between simple search, exact search, multiple search,
5) Procedure to download the information of required contents.
6) Write a procedure to Upload the file.
**BASIC ELECTRONICS**

1) Study of reverse and forward characteristics of PN Junction Diode.
2) Study of different Number systems and his interconversions.
3) Study of basic Gates (AND, OR, NOT)
4) Study of Universal Gates (NAND, NOR)
5) Study of Derived Gates (Ex-OR, Ex-NOR)
6) Study and Design Basic Gates (AND, OR, NOT) using NAND Gates.
7) Study and Design Basic Gates (AND, OR, NOT) using NOR Gates.
8) Study and Design (Ex-OR, Ex-NOR) using NAND Gates.
9) Study and Design (Ex-OR, Ex-NOR) using NOR Gates.
10) Study and Design NOR Gate using NAND Gates.
11) Study and Design NAND Gate using NOR Gates.

**Practical list of PC-Maintenance**

1. How To Install Memory (Ram)
2. How To Install Monitors & Resolution
3. How To Install Graphics Cards
4. How To Perform Adjusting Display Setting in Windows
5. How To Perform Installing Video Card.
6. How To Providing Power To the Motherboard
7. How To Perform Installing CD-ROM Drive, Keyboard & Mouse, Sound Card
8. How To Perform Installing Modem
9. How To Perform Installing Mother Board
10. How To Test Various Hardware Drivers.
11. How To Perform Installing Parallel And Serial Port Connection.
12. How To Perform Installing Front Penal Indicators And Speakers
13. How To Perform Installing Various Types of Printers
14. How To Perform Formatting PC.
15. How To Perform Installing Operating System in PC.
16. How To Perform Transfer Data From One Hard disk To Another Hard disk
17. How To Identify Faults For Using Trouble Shooting
18. How To Identify To Common Printer Problem
19. Troubleshooting following,
   a. Computer System Given Continues Beep, Rectify the Problem And Suggest the Solution?
b. How To Identify/Solve Problem: Insert system disk and press enter error message.
c. When I switch on the computer it gives error message "Disk Boot Failure", trouble shoot the problem and suggest the corrective measure.
d. During booting process, machine shows a warning message for CPU fan, solve the problem.
e. When I switch on the computer monitor displays nothing only its LED is continuously blinking, trouble shoots the problem?
f. Machines restart continuously, rectify the problem?
g. Audio is not available in the system, solve the problem?