



# RAJ GLOBAL TECHNICAL INSTITUTE

कम्प्यूटर का ज्ञान रोजगार का वरदान, एक कदम तरक्की की ओर ॥

## ADCHN SYLLABUS

### Advance Diploma in Computer Hardware & Networking

#### Paper-1

#### Fundamentals of Computers & Information Technology

##### UNIT – I

##### Introduction to Computer and IT

Brief history of development of Computers. Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computer-Analog, Digital, Hybrid, General, Special Purpose, Micro, Mini, Super. Generations of Computers.

Types of PC, Computer Organization and working, basic components of a Computer System Control Unit, ALU, Input / Output Functions and characteristic, Memory-RAM, ROM, PROM, EPROM, EEPROM and other types of Memory.

##### UNIT- II

##### Input Devices

Keyboard, Mouse, Trackball, Joystick, Digitalizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-Code Reader, Voice Recognition, Light Pen, Touch Screen.

##### Output Devices

##### Monitors –

Characteristics and types of Monitors – Digital, Analog, Size, Resolution, Refresh Rate, Interlaced/Non-Interlaced, Dot Pitch, Video standard - VGA, SVGA, XGA etc. Printers – Daisy Wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Sound Card And Speakers.

##### UNIT – III

##### Storage Devices

## **Storage Fundamentals – Primary Vs Secondary**

Data Storage and Retrieval methods – Sequential, Direct and Index-Sequential. Various Storage Devices – Magnetic Tape, Magnetic Disks, Cartridge tape, data Drives, hard disk drives, Floppy disk, Optical disk – CD, VCD, CR-R, CD - ROM, DVD.

## **Number System**

Data Representation in Computers. Number System of Computers – Decimal, Binary, Octal, Hexa - Decimal Representation for their Conversion, Coding System – ASCII, BCD, EBCDIC etc. and Arithmetic of Number System.

## **UNIT – IV**

### **Computer Software**

Need, Types of Software's – System Software, Application Software. System Software – Operating System, utility Program, Programming languages, Assemblers, Compilers and Interpreter. Operating System– Functions, Types- Batch, Single, Multiprogramming, and Multiprocessing. Programming Languages – Machine, Assembly, High level, 4GL their merits and Demerits. Application Software – Word Processing, Spreadsheet, presentation Graphics,

Data Base Management Software, Characteristics, uses and examples and area of Application of each of them.

### **Computer Virus**

- Virus working principals.
- Types of Viruses.
- Virus detection and Prevention.

## **UNIT – V**

### **Data Communication and Networks**

Analog & Digital Signals, Communication Process, Direction of Transmissions Flow-Simplex, Half – Duplex, Full Duplex. Communication Protocols.

Communication Channels – Twisted, Coaxial, Fiber optic, serial and Parallel Communication.

Modem – Working and Characteristics, Types of N/W connections – Dialup, Leased Lines, ISDN, Types of Network – LAN, WAN, MAN etc. Topologies of LAN – Ring, Bus, Star, and Mesh for tree Topologies. Component of LAN – Media, NIC, NOS, Bridges, HUB, Routers, Repeaters and Gateways.

## **Paper- 2**

### **MS-Windows – 98, Win.2000, Win.XP, Win. Vista, Win. 7, Win.8**

Introduction, New Features, Gadgets, Hardware Requirements etc

- **Operating System Installation**
- **Device Driver Installation**
- **Application Software Installation**

## **Paper- 3**

### **PC Assembling**

- **Basic Electronics**
- **Microprocessor**
- **Motherboard**
- **Digital Electronics**
- **Peripheral Devices Installation**

Printer, Scanner, TV Tuner, Digital Camera etc.

- **Hardware Troubleshooting**
- **Software Troubleshooting**
- **CD/DVD Writing**
- **Connecting to Internet & its Application**
- **Detect and Remove Virus with Antivirus Software**

## **Paper- 4**

- **Introduction to Networking (LAN/WAN/MAN)**
- **Network Essential**
- **Network Devices Implementation**
- **Design and Administration of LAN**
- **Configure MODEM**
- **Assignment & Project**

## Paper- 5

### Internet & Web Page Designing

#### UNIT – I

##### INTERNET

Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP, Connectivity – Dial – up, Reused Line, VSAT etc., URLs, Domain names, Portals, Application, E - mail.

Concepts, POP and WEB based E-mail, Merits, addresses, Basic of Sending & Receiving, E-mail protocols, Mailing list, Free E-mail Services.

##### Internet Protocols: -

Data Transmission Protocols, client/server Architecture & its Characteristics, FTP & its usages. Telnet Concept, Remote Logging, Protocols, Terminal Emulation, Message Board, Internet Chatting.

#### UNIT – II

##### WWW (World Wide Web)

History, Working, Web Browsers, its Functions, concept of search Engines, Searching the web, HTTP, URLs, Web server, Web Protocols.

#### UNIT-III

Concepts, Domain name Registration, space on Host server for web site, HTML, Design Tools, HTML editors, Image editors, Issues in web site creation & Maintenance, FTP S/W for upload web site.

### HEAD OFFICE ADDRESS:-

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