

DCHN-11
Electronics Components and PC Hardware

Topic	Lecture No.
<p>Introduction to Computers Basic building blocks of a computer system the CPU, the Arithmetic & Logical Unit. The binary numbers as a language which computer understands. Interprets and processes. The Input & Output devices as means of communication with a computer system.</p>	(1-2)
<p>Concept of hardware & software Two main components of a computer system. Definition of data and information. Importance of information flow & its impact on growth & productivity.</p>	(3)
<p>Computer as an Electronic Machine The need for study of Electronics & Electronic components for understanding the working of a Computer & Peripherals such as Keyboard. Mouse etc. from hardware point of view.</p>	(4,5)
<p>Introduction to Windows What is an operating system and basics of Windows, The user interface, Using mouse and moving icons on the screen, The My Computer Icon, The Recycle Bin, Status Bar, Start and menu & Menu-selection, Running an Application, Windows Explorer viewing of file, folders and directories, Creating and Renaming of files and folders, Opening and closing of different Windows</p>	(6)
<p>Windows Setting Control Panels, Wall paper and screen savers, Setting the date and sound, Concept of menu using help Advanced Windows Using right button of the mouse, Creating short cuts, Basic of Window setup</p>	(7)
<p>Windows Accessories Notepad, Calculator, Paint Brush</p>	(8)
<p>Text creation and manipulation Paragraph and Tab setting, Text selection, Cut, Copy, and Paste, Font and size selection, Bold, Italic and Underline, Alignment of text: Centre, Left, right and Justify</p>	(10)
<p>Formatting the Text Changing font, size and color, Paragraph indenting, Bullets and</p>	(11,12)

<p>numbering, Use of Tab and Tab setting, Changing case</p> <p>Handling Multiple documents Opening and closing of multiple documents, Cut, Copy and Paste</p>	
<p>Text creation and manipulation Paragraph and Tab setting, Text selection, Cut, Copy, and Paste, Font and size selection, Bold, Italic and Underline, Alignment of text: Centre, Left, right and Justify</p>	(10)
<p>Formatting the Text Changing font, size and color, Paragraph indenting, Bullets and numbering, Use of Tab and Tab setting, Changing case</p> <p>Handling Multiple documents Opening and closing of multiple documents, Cut, Copy and Paste</p>	(11,12)
<p>Special Features Header & Footer, Footnote, Comments, Page break, Date & time, Auto text, Autocorrect, Symbols, Picture & wordart, Spell Checker, Hyperlink</p>	(13,14)
<p>Table Manipulation Concept of table: Row columns and cells, Draw Table, Changing cell width and height, Alignment of text in cell, Copying of cell, Delete/insertion of row and columns, Borders for table, Printing, Print Preview, Print a selected page</p>	(15)
<p>Mail Merge</p>	(16)
<p>Electronic Components: Active and Passive Components Passive components: Resistor, Capacitor & inductor Resistor: Standardization color codes. Power rating specification, properties of fixed and variable resistors. Specifications and properties of thermistors.</p>	(17)
<p>Capacitor: Introduction, color codes, type of capacitors.</p>	(18)
<p>Inductor: Introduction, magnetic materials, type of inductors, features and specification</p>	(19)
<p>Active components Introduction to Diodes, their characteristics and applications, Zener diodes and their characteristics and impedance, Introduction to Bipolar transistors and their applications, functions, specification, testing of Diodes and Transistors.</p>	(20,21)

Introduction to operational amplifiers (OP AMPs) and simple circuits.	(22)
Digital and Integrated Circuits Introduction to logic levels & gates, Latches, unidirectional & bi-directional buffers, tristate devices, Clock generators, Flip-flop, Registers, Counters, Multiplexers & Demultiplexers.	(23-25)
First Test	
Digital and Integrated Circuits (contd...) Introduction to various logic families and their characteristic, Bipolar Logic Family, Unipolar Logic Family – PMOS, NMOS, CMOS, Characteristics of Digital IC's	(27-28)
Comparison of Digital Logic Families. Latest trends in packaging.	(29-30)
Semiconductor Memories: Hierarchy of memories used in a computer, Classification of memories and trends in PC memory modules.	(31,33)
Tools and Aids for PC Maintenance Test and measuring equipment like Cathode Ray Oscilloscope, Multi-meter. Study of ammeter, digital multi-meter and how they are used. Tools used in maintenance like vacuum cleaner, brush, forceps, screwdriver set, cutter, pliers, and stripper, cleaning solutions.	(34-48)
Review	(49)
Final Test	(50)