PC HARDWARE AND SOFTWARE INSTALLATION
(GE Inter-Disciplinary)

Credits: 2 **Semester: III**
Course Code: G20CSIT 1T **No of Lecture Hours: 30**

Course Objective:

- To learn the fundamentals of personal computing and basic networking concepts.
- To learn basics of hardware, operating systems, and application software.

Course Outcome:

CO1: Identify the basic components of computers
CO2: Differentiate between internal and external connectors
CO3: Identify and troubleshoot the power supply of computer
CO4: Choose RAM and Hard disk drives for a computer
CO5: Develop skills to Assembly and Disassembly a system

Course Content	Hours Allotted	Pedagogy
Module I: Title: • Introduction to Computers, History, classification, Block diagram of Computer • Hardware and Software, Input and Output Devices • Data and information and Computer memory Units • Computer Ports and Characteristics of Ports.	(6) 2 1 1 2	Power point presentations / Lectures
Module II: Title: • System Unit: Motherboard Form Factor (ATX, BTX) • Internal Connectors: Power Supply Connectors, PCI, ISA, • IDE, AGP, PCI Express, SATA, DIMM. • External Connectors: Serial Port, Parallel Port, Game Port, USB, RJ-45, VGA or Monitor, PS/2, Din, Sound Card • Motherboard ROM BIOS, Upgrading BIOS	(6) 1 1 1 3	Case Studies / Review of research articles

Module III: **Title:** • Chipsets: Northbridge and Southbridge. • Power Supply: Introduction of SMPS • troubleshooting of SMPS • Memory: RAM and ROM; Types of RAM: DRAM, SDRAM, DDR, DDR2 and DDR3	(6) 1 2 1 2	Assignments
Module IV: **Title:** • Storage Devices: HDD vs SDD • Types of hard disk drives and its controllers: IDE, SATA, USB, SCSI • Working of Hard Disk Drive and file systems • Recovery of Data from storage device	(6) 1 1 2 2	Lectures
Module V: **Title:** • System Assembly and Disassembly • System startup, installing OS, Troubleshooting New installations • PC Diagnostics-The POST, Hardware BOOT Process	(6) 2 2 2	Assignments / Lectures

Learning Resources	
1.	Textbook: • Mueller Scott, M. 2015. **Upgrading and Repairing PCs**. 22nd Edition. New Delhi Pearson Education

PC HARDWARE AND SOFTWARE INSTALLATION LAB
(GE Inter-Disciplinary)

Credits: 1 **Semester: III**
Course Code: G20CSIT1P **No of Lecture Hours: 30**

Course Objective:

- To identify various components of PC.
- To learn installation of windows and Linux operating system.
- To learn the installation and configuration of networking

Course Outcome:

- Students will be able to assemble the PC and install operating systems and application software.

S. NO	Course Content	Hours Allotted
01	Processor Types, Expansion Buses, connectors and cables	**2**
02	Identification of Mother Boards, Chipsets, Memory and Types.	**2**
03	Storage Devices: Hard Disk, Optical Storage and USB	**2**
04	Exploring CMOS BIOS Setup utility.	**2**
05	Identify and Assembling of PC.	**2**
06	Installation of Windows 7.0 Operating System.	**2**
07	Installation of Linux Operating System	**2**
08	Recovery of data from storage device	**2**
09	Study of different types of network cables	**2**
10	practically implement the cross-wired cable and straight through cable using clamping tool	**2**
11	Study of Network Devices in Detail	**2**
12	Study of Network IP	**2**
13	Connect the computer in Local Area Network	**2**
14	Study of basic network command and network configuration commands	**2**
15	Study of latest devices in Market	**2**