

**Course Title: Computer and Peripherals, Maintenance Service & Repair  
Year-III  
Semester – V  
Subject Outline**

1. Computer Programming II-Programming in C++
2. Advanced Computer Peripheral Installation and Networking
3. Industrial Training-I

**STRUCTURE TABLE**

S. No.	Paper Title	Paper Category Skill Compulsory (SC) Skill Elective (SE)	Credits			Total Credits	EoSE Duration (Hrs.)		
			Theory	Practical	Self/Project/Industry		T	P	S
1	Computer Programming II-Programming in C++	SC	3	3	0	6	3	2	0
2	Advanced Computer Peripheral Installation and Networking	SC	3	3	0	6	3	2	0
3	Industrial Training-I	SC	0	0	Self	6	0	0	3
<b>Total</b>						<b>18</b>			

**Course Title: Computer and Peripherals, Maintenance Service & Repair  
Semester - IV**

**DETAILED SYLLABUS**

**1. Computer Programming II-Programming in C++**

**Basics of Object Oriented Programming and C++ - Introduction to different programming paradigm,**

characteristics of OOP, Class, Object, data member, member function, structures in C++, different access specifiers, defining member function inside and outside class, array of objects.

**Classes and Functions-** Concept of reference, dynamic memory allocation using new and delete operators, inline functions, function overloading, function with default arguments, constructors and destructors, friend function and classes, using this pointer.

**Inheritance and Virtual Function-** Inheritance, types of inheritance, multiple inheritance, virtual base class, function overriding, abstract class and pure virtual function.

**Polymorphism and Overloading-** Constant data member and member function, static data member and member function, polymorphism, operator overloading, dynamic binding and virtual function.

**Exception Handling-** Exception handling, Template, Stream class, File handling.

## **2. Advanced Computer Peripheral Installation and Networking**

**Introduction to Advance Devices** - Laptops, Notebooks, Tablets, Smart Phones, Palmtops. Portable System models and configurations from different manufacturers: - Apple, DELL, Samsung, HP, Toshiba, Fujitsu, Acer.

**Compact Version Operating Systems and Applications for Portable Computers** - WINDOWS 10, Android and various releases, various flavours of Linux that being loaded on handheld devices, Apple Macintosh and iOS.

**Low Powered Portable System Processors And Graphics Processors GPU-** Intel Mobile Pentium, Mobile Celeron Processors, ARM Cortex processors, AMD Mobile Athlon-4 and Mobile Duron. Mobile processor packaging and compact Motherboards.

**Smart Devices Used In Portable Mobile Computers** – Solid State Drives (SSDs), Compact Hard Drives, CD/DVD R/W used in Mobile computers. Various type of secondary memory deployed in compact devices like Compact FLASH, Micro SD Cards, Wireless Bluetooth based Keyboards and mouse, Inbuilt and External keyboards, Compact multimedia keyboards, TrackPoint, Touchpad's, Wireless mouse.

**Specialized Output Devices** - Dual Scan (passive Matrix) Displays. Active Matrix, Flat- Panel LCD/LED/AMOLED/IPS Displays, Active TFT Displays, touch panel.

**Networking And Interfacing Used With Portable Mobile Computers** - PCMCIA Ethernet LAN card, PCMCIA Wireless Card. Type –I, Type –II Type –III types of cards, and their slots. Infrared ports, Docking Stations, USB port, OTG USB, Mini USB, HDMI, micro HDMI port.

**Preventive maintenance for Portable Mobile Computers** – Power Supply constraints, Battery charging, Handling and Storage, Cleaning of Displays, Running diagnostic software tools, Antivirus Software, Handling Plug-in /Plug- out Hardware.

**Portable Mobile Computers in wireless LANs-** Wireless Standards, IEEE 802. 11(a/b/g/n/ac), 802. 16 (Wi-max) RF Data Communication. Types of wireless networks IBSS Ad-Hoc, BSS and ESS Network Fundamentals and deployment, Key Characteristics of 802. 11 Wireless LANs, Typical Range of 802. 11a/b/g/n/ac WLAN, Wireless Security Threats, Authenticity, Authorization, Accountability, Wireless Security of 802. 11b/g/n/ac in Typical Network.