

## **PE-105 Computer Programming & Application**

**Introduction:** Introduction to programming languages, languages life cycle. Working of compilers.

**Logic Development Skills:** Introduction logic development and problem solving. Introduction to Algorithms and their application.

**Basic Programming Constructs:** Data types and scope of variables, pre-processor directives, input/-output constructs, types of operators (logical, arithmetic, relational, assignment), looping structures (for, while and do-while) conditional structures (if, if-else, switch, break and continue).

**Arrays and Functions:** Introduction to arrays, multidimensional arrays and application, functions and procedures, function overloading and values passing through functions, string and string operations, structures, file i/o operations.

**Data analysis and visualization by software:** Basics of software, formula editing, graphs and charts development for analysis.

### **Recommended book(s)**

#### **Text Books:**

1. Dusty Phillips “Python 3 Object Oriented Programming”, 3rdEdition, 2018, Packt Publishing
2. Paul J. Deitel and Harvey Deitel, “C++ How to Program”, 10<sup>th</sup>Edition, Prentice Hall,2017

#### **Reference Books**

1. Stormy Attaway “MATLAB: A Practical Introduction to Programming and Problem Solving”
2. Yashavant P. Kanetkar, Jones & Bartlett Publishers, “Let us C”, 15<sup>th</sup>Edition, 2016.