

M. G. Vidyamandir's  
**M. S. G. Arts, Science & Commerce College, Malegaon Camp**  
**Department of Electronic Science**

**VALUE ADDED COURSE**

**“PYTHON LANGUAGE PROGRAMMING”**

**Duration: 24 days From 04/05/2022 To 03/06/2022**

**Total Lectures: 36**

**Credits: 03**

**Syllabus**

**Unit-I: Introduction to Digital Computers**

**(10 Lectures)**

- 1.1 **Introduction-** Evolution of Computers, block diagram, concept of hardware, software, firmware,
- 1.2 **Computer languages-** Concept of low-level languages (Machine language and assembly language), assembler, High level languages, interpreter, compiler, comparison of low-level and high-level languages,
- 1.3 **Concepts of Computer- Programming-** source program, object program, compilation and linking, Algorithm, flow-chart.

**Unit-II: Introduction to Python**

**(16 Lectures)**

- 2.1 **Introduction-** History, feature of Python, setting up path, working with python Interpreter, basic syntax, variable and data types, operators
- 2.2 **Conditional statements-**If, If-Else, nested if-else, switch statements, illustrative Examples.
- 2.3 **Looping-** For, While statements, Nested loops, illustrative examples.
- 2.4 **Control Statements-** Break, Continue, Pass statements, illustrative examples.
- 2.5 **String Manipulation-** Accessing String, Basic Operations, String Slices, Functions and Methods, illustrative examples.
- 2.6 **Lists-**Introduction, accessing list, operations, working with lists, functions & methods, illustrative examples.
- 2.7 **Tuple-**Introduction, accessing tuples, operations, working with tuples, functions

& methods, illustrative examples.

**2.8 Dictionary**-Introduction, accessing values in dictionaries, working with dictionaries, properties, functions, illustrative examples.

**2.9 Functions**- Defining a function, calling a function, types of function, function arguments, anonymous function, global & local variable, Examples.

### **Unit-III: Modules and Packages**

**(10 Lectures)**

#### **3.1 Built-in Modules**

3.1.1 Importing modules in python program

3.1.2 Working with Random Modules.

3.1.3 E.g. - built-ins, time, datetime, calendar, sys, etc

#### **3.2 User Defined functions**

3.2.1 Structure of Python Modules

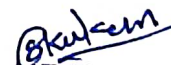
#### **3.3 Packages**

3.3.1 Predefined Packages

3.3.2 User defined Packages

### **Reference Books:**

1. Think Python, Allen Downey, O'Reilly, 2012
2. Introduction to Problem Solving with Python by E. Balagurusamy
3. Dive into Python, Mike
4. Learning Python, 4th Edition by Mark Lutz
5. Programming Python, 4th Edition by Mark Lutz
6. Python Programming: An introduction to computer by John Zelle, 3rd Edition.

  
HEAD

Department of Electronic Sci.  
M.S.G.College, Malegaon Camp