

## Object Oriented Programming

- Features of Object oriented programming
- programming - Classes, Objects Methods and Message passing,
- Class method and self-object
- Class variables and Object variables
- Creating Classes, Creating Objects
- Access specifier in python
- Inheritance, Polymorphism Containership, Reusability, Delegation
- Data Abstraction and Encapsulation

## Getting to know python turtle library

- Getting started with turtle
- Programming with turtle
- Moving with turtle, Drawing a Shape
- Changing Screen color, Screen title, pen size, Filling pen up and down
- Filing in Image

## Using Databases in python

- Python MYSQL Database Access
- Create Database Connection
- CREATE, INSERT, READ, UPDATE, and DELETE operation

## EXPECTED OUTCOMES:

- On completion of the course, learner will be able to–
- Inculcate and apply various skills in problem solving.
  - Choose most appropriate programming constructs and features to solve the problems in diversified domains.
  - Exhibit the programming skills for the problems those require the writing of well-documented programs including use of the logical constructs of language, Python.
  - Demonstrate significant experience with the Advance Python program development environment.

## WHO SHOULD PARTICIPATE?

This Induction Program is compulsory to all Third Year Computer Engineering Students.

## ON SUCCESSFUL COMPLETION OF INDUCTION PROGRAM:

- Student will be facilitated and awarded by,
- Online Test Exam
- Appreciation of Meritorious Students
- E-Certificate for each Participant
- Internship Opportunities based on Industry Requirements
- Feedback on Activity

### CHIEF PATRON

**Hon. Sameer Bhujbal**

Trustee, MET's BKC, Nashik

**Hon. Shefali Bhujbal**

Chief Administrator, MET's BKC, Nashik

### PATRON

**Dr. V. P. Wani**

Principal,

MET's Institute of Engineering, BKC, Nashik

### CONVENER

**Dr. M. U. Kharat**

HOD, Dept. of Computer Engineering

### CO-ORDINATORS & EXPERTS

Mr. Atul Choudhary

Mr. Pankaj Devre

Mrs. Madhuri Shinde

### CONTACT US:

In case of any query, feel free to contact us,

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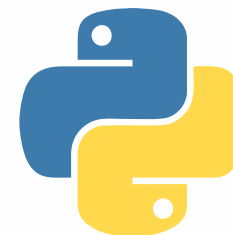
Bhujbal Knowledge City, Adgaon,

Nashik-422003, Maharashtra, India.

## ONLINE INDUCTION PROGRAM on

# ADVANCE PYTHON PROGRAMMING

For Third Year Students



python™

Total Duration: 25 Hours

**17<sup>th</sup> to 21<sup>th</sup> August 2021**

Organized by

**Institute of Engineering,  
Department of Computer Engineering**

### REGISTRATION

**Online through Google Forms**

(Link will be shared on Groups)

THE MET LEAGUE OF COLLEGES  
AS SHARP AS YOU CAN GET

**MET Bhujbal Knowledge City**

**Adgaon, Nashik - 422003**

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ISO 9001:2015 certified. MET is an NGO in special consultative status with UN (ECOSOC)

## About Institute

The campus is situated at Adgaon, Nashik. With 34 acres of lush green landscape having 4 lack sq.ft. of campus building spaces. The college offers Institute of Engineering, Institute of Management, Institute of Pharmacy, Institute of Technology (Polytechnic), Institute of Information Technology, Bhujbal Academy of Science and Commerce along with special lavish campus for School of Architecture and Interior Design.

Institute of Engineering established in 2006 at Bhujbal Knowledge City Nashik under the umbrella of Mumbai Educational Trust (MET) with world class infrastructure, centralized library, conference rooms, seminar halls, and amphitheater. IOE has fully dedicated and well qualified faculty with passion who consider teaching as mission rather than profession.

Institute of Engineering offers undergraduate Engineering in various Programmes like Computer, Artificial Intelligence And Data Science, IT, E&TC, Mechanical, Civil, Electrical, Bachelor in Vocation (Graphics & Multimedia, Electronics Management Services) and post graduate Programmes in MCA, Computer and Mechanical along with Research Center in Computer and Mechanical. Institute of Engineering approved by AICTE and affiliated to SPPU, Pune. Institute is gracefully accredited with NAAC.

## About Department

The Computer Engineering Department of MET's Institute of Engineering is established in the year 2006, and has grown over the years into a competent department with state of the art computing facilities, and dedicated faculty. Having started with a four year under-graduate program, B.E (Computer Engineering), the department now proudly host of the Post

Graduate program, M.E Computer Engineering along with Research Center.

The goal of the department is to establish state of the art computing environment to develop competent computer engineers imbibe with the spirit of professionalism and responsible citizenship. The department emphasizes the Vision of the Mumbai Education Trust's, for excellence in education. Highly qualified, dedicated faculty and good infra-structure facilities, make this dream realizable.

Computer Engineering Department, UG Programme has been accredited by National Board of Accreditation with effect from 1st July 2017 to 30th June 2020 and 2020-2023.

## PROGRAMME OBJECTIVES:

Prime objective is to give students a basic introduction to programming and problem solving with computer language Python. And to introduce students not merely to the coding of computer programs, but to computational thinking, the methodology of computer programming, and the principles of good program design including modularity and encapsulation.

1. To understand problem solving, problem solving aspects, programming and to know about various program design tools.
2. To learn problem solving with computers
3. To learn basics, features and future of Python programming.
4. To acquaint with data types, input output statements, decision making, looping and functions in Python
5. To learn features of Object-Oriented Programming using Python
6. To acquaint with the use and benefits of files handling in Python

## COURSE CONTENTS:

### Basics of Python Programming

- Features of Python
- History and Future of Python
- Writing and executing Python program
- Literal, Constants, Variables and Identifiers, Input operation
- Reserved words, Indentation
- Operators and Operator precedence expressions

### Data Types with built-in functions

- Numbers, String
- Tuples, Lists, Dictionary, Sets

### Decision Control Statements

- Selection/conditional branching Statements
- Basic loop Structures/Iterative statements
- Statement used with loops

### Function, Modules and Packages

- Need for functions,
- **Function:** definition, call, arguments and Types of arguments
- Variable scope and lifetime,
- The return statement,
- Lambda or anonymous function,
- Documentation string,
- Creation to modules in python,
- **Use of standard library modules:** math, os, sys, datetime, random, regular expression
- Creation of packages in Python

### File Handling and Directory

- **Files:** Introduction, File path, Types of files, File Handling operation,
- Directory, Directory method,
- **Directory:** Creating, Assessing, Adding and updating values.
- **Buit-in** directory method