



**International Institute of Geospatial Science & Technology**  
**(IIGST)**

(A constituent unit of SAIARD)

*Presents*

*Three Months Online Certificate Course on*

*6<sup>th</sup> Batch*

# Python Libraries

For GIS and Mapping

**20<sup>th</sup> March, 2022** Onwards



**GOOGLE MEET**

# Knowledge Support

## Areas to be covered are:

**1. Introduction** • 1.1 Why Python - Advantages and Disadvantages • 1.2 Why is Python called interpreted? • 1.3 Interesting facts and Features of Python • 1.4 Python Installation and various IDE • 1.5 Use of Python in GIS • 1.6 Let's start Python program

**2. Basic Concepts** • 2.1 Syntax and comments • 2.2 Variables, Data Types & Type Casting • 2.3 Basic operators and operations • 2.4 Decision Making and loops • 2.5 Data Structures & their methods • 2.5.1 Lists • 2.5.2 Tuples • 2.5.3 Sets • 2.5.4 Dictionary • 2.6 Functions • 2.7 Scope & Modules

**3. Advanced Concepts** • 3.1 OOP concepts • 3.2 Class & Objects • 3.3 Constructors in Python • 3.4 Method Overloading in Python • 3.5 isinstance in Python • 3.6 Descriptors • 3.7 Multiprocessing and multithreading in Python • 3.8 Database Access • 3.9 XML processing

**4. Python In GIS** • 4.1 Introducing Python Using the Python Window in ArcGIS • 4.2 Introducing ArcPy and using ArcPy Modules • 4.3 GIS data access and manipulation with Python • 4.4 Python for GIS analysts • 4.5 Approach of python scripting in GIS • 4.6 Introduction of PyQgis • 4.7 Introduction to open-source Libraries handling Geospatial data • 4.8 GDAL/OGR • 4.9 GEOPANDAS • 4.10 RASTERIO • 4.11 OPENCV

## The course curriculum followed

This two weeks capacity building program includes: theory practical (hands on training sessions) with interactive sessions with experts and project work.

- 📄 Tutorials with data
- 📄 Teaching and learning resources

**The main features of this program is :** Structured curriculum with a tentative program schedule.

**Class Timing:** 7.00–8.30 pm

**Application Link:** <https://cutt.ly/anbgqck>

**Registration fees: 1000/- (INR)**

### Bank Details:

*Just scan the QR code & pay or pay in the given bank account*

**Bank-** SBI

**Account No-** 38377901244

**IFSC Code-** SBIN0016629

**Beneficiary Name-** SAIARD



**E-Certificate** will be provided on behalf of IIGST

**For any queries:** 6289169916

[iigstkolkata@gmail.com](mailto:iigstkolkata@gmail.com)

**Website:** [www.iigst.in](http://www.iigst.in)