



ONE WEEK ONLINE FDP ON PYTHON/R PROGRAMMING

(Sept. 7-12, 2020)

(IN SELF LEARNING MODE)

For Faculty Members and Research Scholars

(Applicants can participate either in Python or in R)

Course Fee: Rs. 500/-

A/C No.-**2724101113370**

IFSC: **CNRB0002724**

A/C Holder's Name: **REGISTRAR, IIT BOMBAY**

After Successful Online Payment, [Click here to Register](#)

Registration Opens till September 5, 2020

Organized by:

IQAC, D. R. College, Golaghat, Assam

in association with

Spoken Tutorial Project, IIT Bombay

under

National Mission on Education through ICT, MHRD, GOI

Topics to be covered...

Python

- Getting started with IPython
- Using plot command interactively
 - Embellishing a plot
 - Saving Plots
 - Multiple plots
 - Subplots
- Additional features of IPython
 - Loading Data From Files
 - Plotting Data
 - Other Types Of Plots
 - Plotting Charts
- Getting started with Lists
- Getting started with for
- Getting started with strings
- Getting started with files
 - Parsing data
 - Statistics
- Getting started with arrays
 - Accessing parts of arrays
- Image manipulation using Arrays
 - Basic Matrix Operations
 - Advanced Matrix Operations
 - Least square fit
- Basic datatypes and operators
 - Sequence datatypes
 - Input-output
 - Conditional Statements
 - Loops
 - Manipulating lists
 - Manipulating strings
- Getting started with tuples
- Dictionaries
- Sets in Python
- Getting Started with Functions
- Advanced Features of Functions
 - Using Python Modules
 - Writing Python Scripts
 - Testing and Debugging
- Handling Errors and Exceptions

R

- Overview of R and R studio
- Installing R and R studio on linux
- Installing R and RStudio on Windows
- Introduction to basics of R
- Introduction to Data Frames in R
- Introduction to RStudio
- Introduction to R script
- Working directories in RStudio
- Indexing and Slicing Data Frames
- Creating Matrices using Data Frames
- Operations on Matrices and Data Frames
 - Merging and Importing Data
 - Data types and Factors
 - Lists and its Operations
- Plotting Histograms and Pie Chart
- Plotting Bar Charts and Scatter Plot
 - Introduction to ggplot2
 - Aesthetic Mapping in ggplot2
- Data Manipulation using dplyr Package
 - More Functions in dplyr Package
 - Pipe Operator
 - Conditional Statements
 - Functions in R

E CERTIFICATES WILL BE PROVIDED BY IIT BOMBAY SPOKEN TUTORIAL PROGRAM AFTER SUCCESSFUL COMPLETION OF THE COURSE

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Organising Committee

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