Organized by

Department of Computer Science and Engineering, MNIT Jaipur

5 day's Skill Development Workshop on "Fundamentals of PYTHON Programming Skills"
31 August, 1-2 and 7-8 September 2019

Sponsored By

TEQIP – III
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Objectives

- To make you think deeper and harder in happenings of the hood of the fundamentals of a Python language.
- To develop strong foundation on extract program development through basics and advanced Python constructs.
- To understand importance of advanced python as a programming tool for skilled developer.
- To motivate the learner for python as a problem solving framework and empower them the capability of the transition from concepts to practice of python programming skills in their habits.
- To enhance skills for research and employability opportunities in the field of Data Science & Analytics, Big Data, Deep Learning, AI,ML, Web Testing, Gaming, Smart Devices etc

Registration:
For MNIT Students (UG/PG/PhD): **NIL (Free)**
For others: Rs.2000/-

Registration Deadline:
On or before 29 August, 2019

To register fill the Google form:

https://forms.gle/TxVPT3LyULjdnXsz5

Resource Experts
Distinguished Experts from MNIT/Industries/ NIT'S

Purpose of Workshop:
Python programming is now day's the most popularized, powerful and preferred general purpose language for programming. It can be used for developing both the desktop as well as web applications. It is also used to develop complex scientific, numeric applications and variety of apps. This high level programming language is easy-to-read and can be accessible to beginners also. Thus, Python programming language is necessary as it provides real skills for the future as it has plenty of libraries that support visualization, manipulation, Big data, Bio informatics, data analysis and data scientists worldwide in various domains. Therefore, python considered to be the **"Future Big Thing"** and a **"Must"** for carrier development as Professionals. For example, Python is being used in every large software industries/organizations and by dozens of Google like engineers extensively and are looking for more trained people with Python skills. Now, day's insufficient expertise python programmers are with these skills.

The purpose of this workshop is to well tune the needs, raise the understanding and strengthen the portfolio of basic as well as advanced PYTHON programming skills of the participants with extensive hands-on programming practice sessions. Thus, this workshop will open the research and employability opportunities in the field of AI, ML, Data Science and Analytics, Big Data, Web development and frameworks, Bio Informatics, Deep Learning, Web Testing, Gaming and Smart Devices etc.

Workshop Course Modules (25 Hr. Lecture, 15 Hr. Hands on Lab)

- **Introduction to Python** : Build the logic and write programs in Python , basic Data Types, Keyword, Identifier, Standard input/output, Variables, operators, control flow, expressions, files, functions, and error handling
- **Selection and Branching:** Branching Constructs, Conditionals and Boolean expressions, **Making Repetitions**: Iteration, looping and control flow
- **Collection of Data Sequences:** Lists, Tuples, Sets, Dictionaries, Strings, String methods and formatting
- **Functions:** Types, Function arguments, parameter passing, scope , Recursive functions, Lambda functions, Iterators, Generators, Decorators
- **File Management:** File Handling, Exception Handling, Debugging in Python, Case Study discussion, Python Packages & Frameworks
- **Object Oriented Concepts:** Class, Objects, Methods ,Functions, Python usage in AI ,ML and Deep Learning etc., Case Studies, Python Programming Tips

Workshop Outcomes
- Enriched and up-skilled python language fundamentals and coding skills useful to excel in Placements/Interviews/Academics/Research/Software Developments.
- Implementation knowledge of object oriented concepts, packages, database and GUI applications in python.
- Be exposed to advanced applications of python in domains like Artificial intelligence & Machine learning, S/W Developers, Gaming & Smart Devices etc.
- Knowledge of various important python libraries along with their applicability.

* Certificate (equivalent to 3 Credit 40 Hrs. courses) will be provided to the participants of all 5'day sessions.

Tentative Workshop Contents: (All modules are covered with hands on coding practices)

Schedule	Expert Lectures 8:45:00AM – 1:00PM	Programming Sessions 2:00PM – 6:15 PM
Day 1 **Module 1** 31/08/19	**Introduction to Python :** Build the logic and write programs in Python , Python's basic Data Types, Variables, operators, operands and expressions, files, functions, and error handling	**Practice Lab Session:** Module 1 Basic Programming's and error debugging tips
Day 2 **Module 2** 01/09/19	**Selection and Branching:** Branching Constructs, Conditionals and Boolean expressions **Making Repetitions:** Iteration, looping and control flow Numbers and Strings	**Practice Lab Session:** Module 2
Day 3 **Module 3** 02/09/19	**Collection of Data Sequences:** Lists, Tuples, Sets, Strings, Dictionaries **String methods and formatting**	**Practice Lab Session:** Module 3
Day 4 **Module 4** 07/09/19	**Functions:** Types, Definition and use, Function arguments, Parameter passing , block structure, scope Recursive function, Lambda functions **Iterators, Generators, Decorators,** **Python Packages & Frameworks Modules,** **Exception Handling, Case study Discussion**	**Practice Lab Session:** Module 4
Day 5 **Module 5** 08/09/19	**File Management:** Handling Files and Text Processing **Object Oriented Concepts:** Class, Objects, Methods, Functions **Python Usage in AI, ML, Deep Learning etc.** **Case Studies, Python Programming Tips**	**Practice Lab Session:** Module 5