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Report on One-day Workshop on "Python Programming and Its Certifications"

The Department of IIOT successfully organized a one-day workshop on "Python Programming & Its Certifications" on 8th March 2025, from 9:30 AM to 4:00 PM at the NI-LabVIEW Lab (Room No 203). A total of 39 students from the 4th semester IIOT, VLSI, ECE, and 6th semester IIOT actively participated in the workshop. The sessions were conducted by the resource person namely Mr.Muthukkumar R., Senior Silicon Validation Engineer, Tessolve Semiconductor, Bangalore.

08.03.2025: Session 1 (09:30AM to 12:30PM):

Introduction to Python

The first session was conducted by Mr. Muthukkumar R, focusing on comprehensive introduction to Python, covering its importance, key concepts, syntax, and data types. Understanding these basics lays the foundation for advanced Python programming and real-world applications.

During the workshop, the trainer introduced Python as a high-level, interpreted programming language, emphasizing its simplicity and readability, which makes it suitable for both beginners and professionals. The session covered Python's widespread applications, including web development, data science, artificial intelligence, and automation. The trainer explained key concepts such as variables, data types, control structures, functions, and object-oriented programming, demonstrating how Python simplifies complex tasks. Through hands-on examples, the trainer showcased how Python's easy-to-read syntax reduces code complexity, making it efficient for tasks ranging from building websites to analyzing large datasets and developing machine learning models.
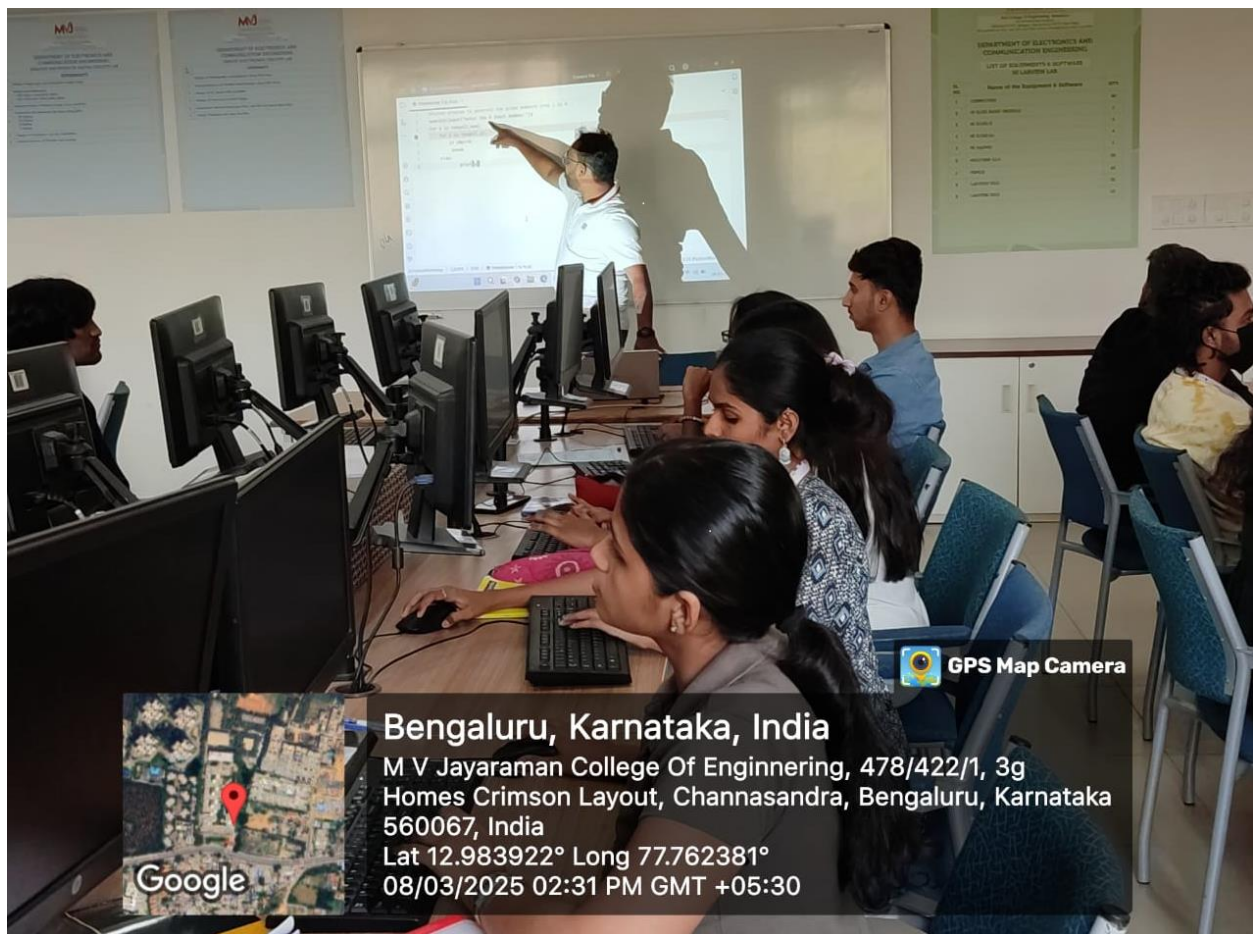
Figure 1: Session by Mr. Muthukkumar R on Python Programming & its Certifications.

08.03.2025: Session 2 (01:30PM to 04:00PM):

Advanced and Hands-on Session in Python Workshop

The second session focused on the advanced and hands-on session covering essential programming concepts, focusing on loops, object-oriented programming (OOPs), file handling, and industry-relevant libraries. The trainer provided in-depth explanations along with practical exercises to ensure a strong grasp of these topics.

The session concluded with interactive coding exercises, reinforcing the covered topics. Challenges included writing custom loops, implementing OOPs in a project, performing file operations, and working with industry libraries. The trainer provided one-on-one assistance, ensuring every participant gained practical experience and confidence in Python programming.

Overall, the session was highly engaging and informative, equipping attendees with both theoretical knowledge and practical skills essential for real-world Python applications.

Figure 2: Students practicing during the workshop.

Students had doubts clearing session from 3.45PM to 4.00PM with the resource person on the various programming concepts and were also discussing about the opportunities for them regarding the internship and projects.

OUTCOME:

By the end of the workshop, participants gained a strong foundation in Python, understanding its significance as a high-level, versatile programming language widely used in various domains such as web development, data science, and automation. They learned key concepts, including variables, data types, control structures, and functions, enabling them to write efficient Python programs. Through hands-on exercises, they explored Python's basic syntax and data types. The session helped them grasp iteration techniques for handling repetitive tasks effectively. Additionally, participants practiced File Handling to read and write files efficiently. The Industry Library Demo introduced essential Python libraries like NumPy, Pandas, and Matplotlib, showcasing their real-world applications. The session concluded with hands-on exercises, reinforcing concepts through practical implementation, equipping participants with the necessary skills to apply Python in real-world projects.

Figure 3: Students alongside the resource persons of the workshop.

The one-day workshop successfully concluded with certificate distribution followed by a vote of thanks delivered by Dr. Thilagaraj M.