

Title of the Course	ONE WEEK STC ON "ADVANCED PYTHON FOR ENGINEERING APPLICATIONS"
Operational Plan No	ICT-27
Dates and Venue	07 - 11 September 2026, NITTTR, Chandigarh
Course Contents	● Python Essentials for Engineering Applications ● Python for Exploratory Data Analysis (EDA) & Statistical Analytics ● Advanced Data Visualization and Machine Learning using Python ● Advanced Python Tools for Engineering Design and Analysis ● Hybrid approach for feature extraction from EEG/Time series signals using Python ● Dockerization of Python Applications ● Python for Blockchain-Based Secure Record Systems ● Advanced Data Analytics, Cleaning and Interactive Dashboards using Python ● Python for Computer Vision and Applications ● eSim: An Open Source EDA Tool based on Python Environment ● Transformers and Advanced AI Models in Mobile/Wireless Communication Systems
Course Outcomes:	Participants will be able to: ● Understand and apply core Python programming concepts, object-oriented principles, and modern engineering research applications. ● Perform exploratory data analysis, statistical analytics, and advanced data visualization using Python-based tools, cleaning techniques, and interactive dashboards. ● Develop advanced machine learning models and deploy Python-based solutions for real-world engineering and analytics use cases. ● Apply Python for specialized engineering domains including EEG/time-series signal feature extraction, computer vision, blockchain-based secure record systems, and Dockerization. ● Explore emerging applications of Python in open-source EDA tools such as eSim, and in advanced AI models including Transformers for mobile/wireless communication systems.
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