



Bhoj Reddy Engineering College for Women

(Sponsored by Sangam Laxmibai Vidyapeet, Accredited by NAAC with A Grade, Approved by AICTE and Affiliated to JNTUH)
Recognised by UGC under section 2(f) of the UGC Act, 1956.
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana. www.brecw.ac.in



Department of Electronics and Communication Engineering & Department of Electrical and Electronics Engineering

29 April 2025

Report of Workshop on “Python for Engineering Innovation: From Basics to Real-World Fun” for all II B Tech ECE & EEE students during 25 and 26 April 2025

The Departments of Electronics and Communication Engineering (ECE) and Electrical and Electronics Engineering (EEE) successfully organized a two-day hands-on workshop titled “Python for Engineering Innovation: From Basics to Real-World Fun” for all II B.Tech ECE and EEE students. The event was conducted on 25th and 26th April 2025 at West Block Seminar Hall-2 (WB 402). The sessions were scheduled between 09:30 AM and 4:30 PM on both days. The workshop was conducted by M/s Mantrang EdTech, a reputed training organization specializing in technology-based skill development. Under Internal Quality Assurance Cell (IQAC).

The primary objective of the workshop was to bridge the gap between fundamental Python programming skills and their real-world engineering applications. Designed to be highly interactive and project-driven, the sessions provided students with hands-on experience, fostering practical understanding through live coding, mini-projects, and real-world problem-solving activities.

A total of 184 students (ECE – 128 and EEE – 56) registered for the workshop. Each participant paid a nominal registration fee of ₹110/-, which included a participation certificate. The fee collection was processed through the UniCampus College Portal, and transaction records were submitted in hardcopy to the respective workshop coordinators, Ms. K. Virija (ECE) and Ms. R. Manju Bhargavi (EEE). Faculty members without academic schedules during the sessions also attended to enhance the learning environment.

The workshop was delivered by a team of trainers from Mantrang EdTech, including Mr. Himanshu Vyas, Mr. Pranay, Mr. Venkat, and Ms. Anamika. The honorarium for the trainers was fixed at ₹20,000/- for the two-day workshop, covering all sessions and material.

Banner:

The banner features the college logo on the left and the NAAC logo on the right. The text is centered and reads: **Bhoj Reddy Engineering College for Women** (Sponsored by Sangam Laxmibai Vidyapeeth, Accredited by NAAC with A Grade, Approved by AICTE and Affiliated to JNTUH) Recognized by UGC under section 2(f) of the UGC Act, 1956. Vinay Nagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana. www.brecw.ac.in. Below this, it lists the **Departments of Electronics and Communication Engineering, Electrical and Electronic Engineering and Internal Quality Assurance Cell (IQAC)** as the organizing body. The workshop is a **Two-day hands-on workshop** on **“Python for Engineering Innovation: From Basics to Real-World Fun”**, in collaboration with **M/s Mantrang EdTech** for **II Year ECE & EEE Students**. The dates are **25 & 26 April 2025**, from **09:30 to 16:30 Hrs.**, at **Seminar Hall II (WB-402)**.

Figure 1: Banner of the ECE & EEE Workshop

Circular:



File No: BRECW/PO/ ECE & EEE/Workshop/AY 24-25/107 Date: 23/04/2025.

Circular

All the II B Tech ECE& EEE students are hereby informed that ECE & EEE Departments are conducting a two-day workshop on **"Python for Engineering Innovation: From Basics to Real-world Fun"** The workshop will be conducted in collaboration with "M/s Mantrang Ed Tech" under the Internal Quality Assurance Cell (IQAC)

The schedule of the workshop is as follows:

S No.	Class	Date & Time (Hrs.)	Venue
1	II BTech EEE, ECE A & B	25 and 26 April 2025 09:30 – 16:30	Theory & Hands-on session at West Block Seminar Hall-2 (WB 402)

All the students must attend the Workshop without fail.

Note:
The faculty who are handling II BTech should mark the attendance as per the timetable.
All the teaching and non-teaching faculty who do not have classwork are requested to attend the workshop.

S. D. Principal
23/4/25

To
All HoDs and HoFs for circulation among the students and staff members
Copy to

- Secretary
- Chief Operating Officer
- Director-HR & Academics
- Vice Principal
- IQAC Coordinator
- Seminar & Workshop Coordinator
- Maintenance Officer, BRECW
- Notice Boards
- I/c Security
- File

Figure 2: Circular of the ECE & EEE Workshop

Inauguration session was attended by, ECE seminar and workshop in charge K Virija and ECE HoD Mrs S Manjula, ECE and EEE HoD Mrs S Deepti, EEE Seminars & Workshop in-charge Mrs R Manju Bhargavi, EEE staff and II EEE students & department staff respectively The venue was Seminar Hall (WB 402).



Figure 3: Inauguration of the Workshop

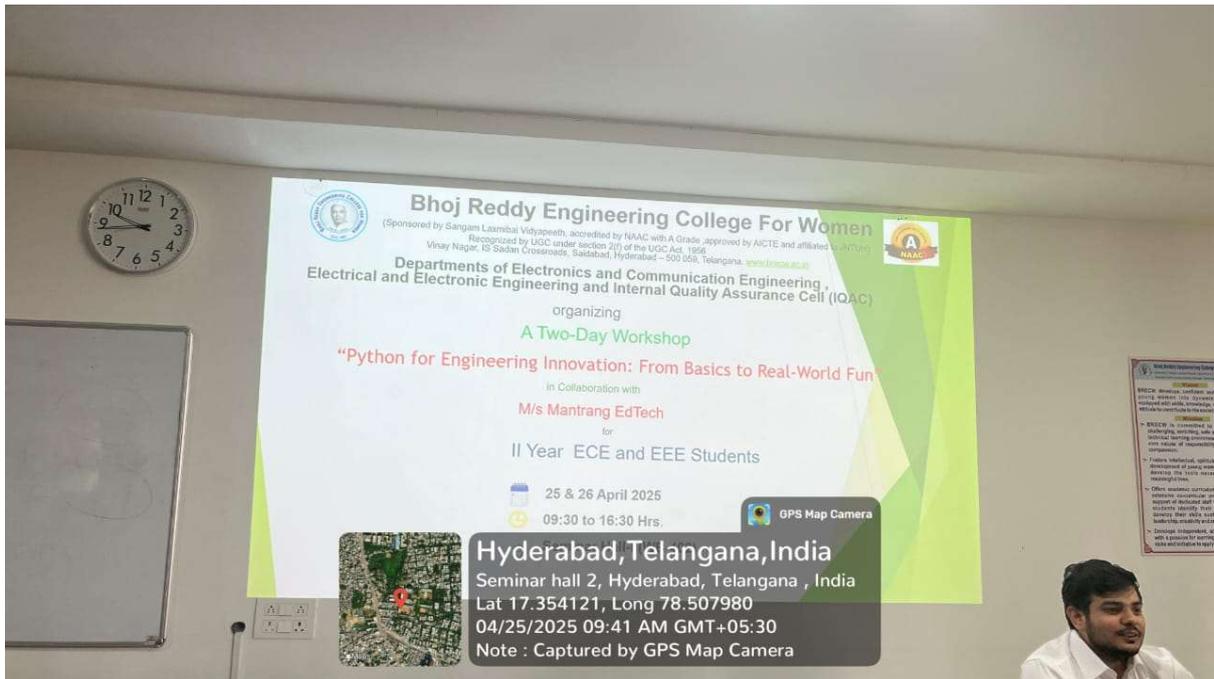


Figure 4: Mr. Himanshu Vyas During the Inaugural Session on 25 April 2025



Figure 5: During the session on Day 1

The workshop was delivered by a team of trainers from Mantrang EdTech, including Mr. Himanshu Vyas, Mr. Pranay, Mr. Venkat, and Ms. Anamika. The honorarium for the trainers was fixed at ₹20,000/- for the two-day workshop, covering all sessions and material.

Day 1: Building Python Skills

Session 1: Building Advanced Python Skills

This session focused on strengthening students' grasp of Python by exploring advanced programming constructs. Beginning with a quick refresher on Python basics, the session delved into functional programming techniques using lambda, map(), and filter() functions, allowing students to write concise and efficient code for real-time data processing. Students were introduced to file handling operations, including reading from and writing to files, and managing data in JSON format—skills vital for real-world application development.

Participants then moved on to understanding the principles of Object-Oriented Programming (OOP) in Python, covering core concepts such as classes, objects, inheritance, and encapsulation. These concepts were reinforced through guided coding examples.

The session concluded with a mini project: Multithreaded Counter, where students implemented basic multithreading in Python to simulate simultaneous processes—giving them practical exposure to concurrency in programming.

Session 2: Objects & Speeding Things Up

Building on the first session, this segment emphasized writing efficient, scalable code using object-oriented principles. Students explored how Python handles object creation and memory management and learned techniques to optimize performance in larger applications.

The facilitators introduced code profiling tools, helping students identify bottlenecks and optimize execution speed. Participants also explored how Python modules and packages can be structured for reusability and modular development.

Hands-on exercises were interwoven throughout the session, allowing students to apply these concepts immediately, fostering confidence in tackling real-world programming tasks.





Figure 6,7,8 : During the session on Day 2

Day 2: Python in Action

Session 3: Data & Automation Fun

The second day began with exploring Python's application in data analysis and automation—skills increasingly essential in engineering workflows. Students were introduced to NumPy for numerical computations and Pandas for data manipulation. Using real datasets, they learned to perform data cleaning, transformation, and analysis—skills commonly used in data-driven decision-making.

In the latter part of the session, trainers introduced web scraping techniques using the requests library and BeautifulSoup, enabling students to extract data from web pages. Students practiced retrieving live content from websites and processing the data into usable formats—demonstrating how Python can be a powerful tool for automating data collection.

Session 4: APIs, AI, & Wrap-Up

The final session explored how Python interfaces with APIs (Application Programming Interfaces) to access data and services from external platforms. Students learned how to make HTTP requests, handle responses, and integrate third-party APIs—opening doors to dynamic, connected applications.

The session then transitioned into an introductory machine learning (ML) exercise. Using a beginner-friendly ML model, students were guided through training a simple algorithm to predict weather trends based on collected data.

The workshop culminated in a capstone project: Weather Data + ML-based Prediction, where students combined skills from all previous sessions. They scraped real-time weather data via an API, processed it using Pandas and NumPy, and used a basic ML model to make predictive inferences. This project helped solidify the end-to-end workflow of a Python-based real-world application.



Figure 10: During the Valedictory on Day 2

Bhoj Reddy Engineering College for Women remains committed to organizing such workshops, fostering a learning environment that prepares students for the challenges and opportunities presented by emerging technologies. The college expresses its sincere appreciation to Mr. Himanshu Vyas, Mr. Pranay, Mr. Venkat, and Ms. Anamika, the distinguished resource persons for their invaluable contributions to the success of the workshop.

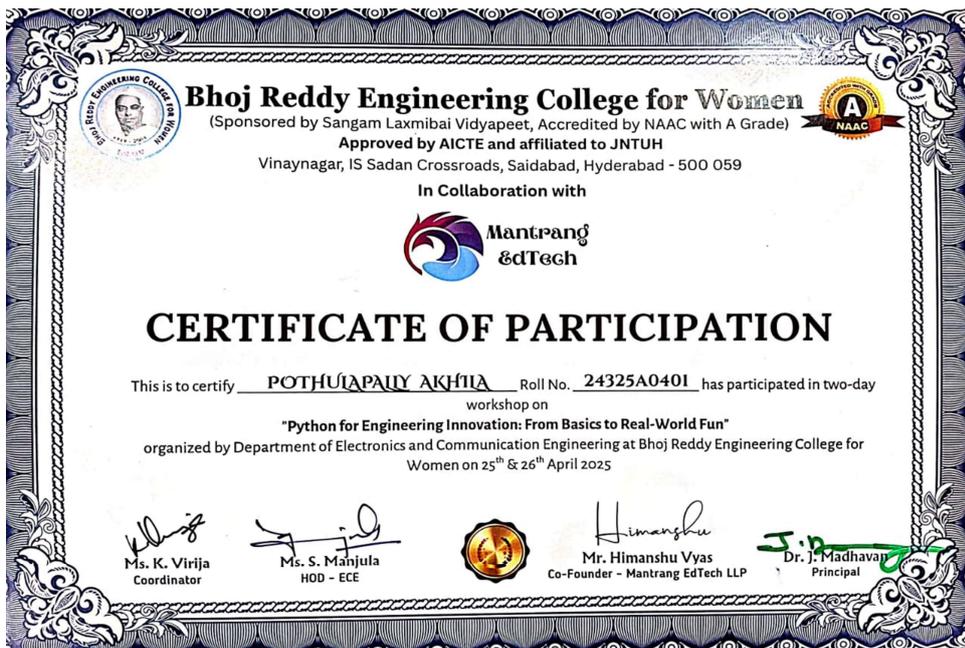


Figure 9: Sample Certificate

Sample Feedback Form:

The Feedback from the students was collected. Total 184 students provided the feedback. Overall feedback of the workshop is Excellent and active participation of students during the workshop was notable, and students were engaged throughout the session. Student's thoughtful questions and insightful comments added a lot of value to the overall discussion. We could tell that students have a good grasp of the subject matter as the workshop was informative and enlightening. In future, we can encourage students to continue attending such events and to keep learning and growing in their field of interest



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Department of Electronics and Communication Engineering

TWO-DAY WORKSHOP FEEDBACK FORM

Dates: 25 & 26 April 2025
 Topic: "Python for Engineering Innovation: From Basics to Real-World Fun"
 Conducted in collaboration with M/s Mantrang EdTech

(Rate the feedback with tick mark)

S.No	Particulars	Excellent (5)	Very Good (4)	Good (3)	Satisfactory (2)	Poor (1)
1	The sessions were well-structured and easy to follow	✓				
2	The workshop covered a comprehensive range of concepts		✓			
3	Hands-on activities and practical demonstrations helpful in understanding the concepts	✓				
4	The workshop provide insights into the current industry practices			✓		
5	This workshop will be helpful for developing my Mini / Major projects		✓			
6	Suggestions for improvement of the workshop in future:	From next time please give some glimpse of ML.				

Figure 10: Sample Feedback

Throughout the workshop, student attendance was meticulously recorded by respective faculty members according to the class timetable and duly entered into departmental registers.

Upon successful completion, all participants were awarded a Certificate of Participation. The workshop received positive feedback from students for its practical approach, engaging sessions, and the valuable real-world skills imparted.

Overall, the workshop achieved its objectives of enhancing students' Python programming skills, promoting innovative thinking, and preparing them for engineering challenges through practical exposure. Mrs R Manju Bhargavi, Seminars and Workshops In-charge faculty expressed her sincere gratitude for allowing ECE & EEE departments to conduct a workshop at BRECW. She appreciated the support that management gave and said it was informative session. Once again, she said thank you for allowing them to contribute to the learning and development of their students and the session was concluded by the vote of thanks by Ms Chinmai student of II EEE.

Ms. K Virija & Ms. R Manju Bhargavi
 Seminars and Workshops
 In-charge-ECE & EEE

Ms. S Manjula
 HOD ECE

Ms. S Deepti
 HOD EEE