Madhav Institute of Technology and Science, Gwalior

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A REPORT

ON

PEER-LEARNING SESSIONS ON
PYTHON PROGRAMMING
FOR THE FACULTIES OF MITS GWALIOR

Organized By:

Department of Electrical Engineering,
Madhav Institute of Technology & Science Gwalior
Gole ka Mandir, Gwalior - 474005, M.P., India

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Introduction:

This report provides the details of the two-week long peer-learning sessions, successfully organized by the Department of Electrical Engineering, and attended by 19 faculties from CSE, ME, Civil, Chemical, EMC, and EE departments of the MITS Gwalior. These sessions, held from May 16, 2023, to May 26, 2023, aimed to equip participants with a solid foundation in Python programming concepts and practical skills, enabling them to effectively teach Python Programming courses for undergraduate students.

Recognizing Python's widespread use and versatility, the Department of Electrical Engineering took the initiative to conduct this workshop, with the help of experts from the host department itself. The expert panel brought extensive knowledge and experience in Python programming, ensuring high-quality instruction throughout the workshop.

The peer-learning sessions were designed to foster knowledge sharing and collaboration among faculty members, enhancing teaching capabilities and promoting a culture of continuous learning. The workshop aimed to create a vibrant learning community where participants could learn from each other and collectively enhance their Python programming skills.

The curriculum covered both foundational and advanced topics in Python programming, tailored to meet the needs of faculty members delivering Python courses. The sessions focused on imparting theoretical knowledge as well as practical skills that participants could directly apply in their teaching.

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To maximize engagement and immersion, interactive teaching methodologies were employed, including lectures, discussions, coding exercises, collaborative projects, and code reviews. These activities created a dynamic learning environment that encouraged active involvement, critical thinking, and effective problem-solving.

Participants provided feedback through evaluation forms, expressing their thoughts, suggestions, and recommendations for future workshops. The overwhelmingly positive feedback affirmed the workshop's effectiveness in achieving its objectives and the participants' satisfaction with the content, delivery, and organization of the sessions.

This report presents a detailed breakdown of the workshop's structure, curriculum, engaging activities, participant feedback, and recommendations for future workshops. It showcases the Department of Electrical Engineering's commitment to fostering professional growth, promoting knowledge exchange within the institution, and empowering faculty members with the necessary expertise in Python programming.

Panel of Expert:

Peer-learning sessions on Python programming were enriched by the expertise of the highly qualified and esteemed panel of following faculties from the Department of Electrical Engineering:

1) Dr. Gaurav Khare
2) Dr. Nikhil Paliwal
3) Dr. Saurabh Rajput
4) Dr. Vikram

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Workshop Schedule:

The peer-learning session was designed to span over two weeks, with each week focusing on different aspects of Python programming. This peer-learning session was initially proposed to be conducted from May 1, 2023 to May 12, 2023, however because of the scheduling conflict with the on-going End-Semester Examinations in MITS, the peer-learning sessions were rescheduled from May 16, 2023, to May 26, 2023. The structure of the workshop included a combination of lectures, hands-on exercises, and interactive discussions.

- ● Week 1: Foundations of Python Programming

  The first week of the workshop emphasized building a solid foundation in Python programming. The topics covered during this week included:

Date	Topic	Faculty Name
May 16, 2023	Introduction to Python and Installation: 1) Introduction to Python and its uses 2) Installation of Python 3) Basic Python syntax and data types	Dr Gaurav Khare, Dr. Nikhil Paliwal
May 17, 2023	Variables and Operators: 1) Variables and their types 2) Arithmetic, comparison, and logical operators 3) Operator precedence	Dr. Saurabh Rajput
May 18, 2023	Control Statements: 1) Conditional statements (if-else) 2) Loops (while, for)	Dr. Vikram
May 19, 2023	Lists and Tuples: 1) Introduction to Lists and Tuples 2) Accessing elements 3) Slicing and Concatenation	Dr. Nikhil Paliwal
May 19, 2023	Dictionaries and Sets: 1) Introduction to Dictionaries and Sets 2) Accessing and modifying elements 3) Key-value pairs	Dr. Nikhil Paliwal

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- ## Week 2: Advanced Python Concepts and Applications

The second week focused on more advanced concepts and practical applications of Python. The topics covered during this week included:

Date	Topic	Faculty Name
May 23, 2023	Functions: 1) Introduction to Functions 2) Parameters and Arguments 3) Return statement	Dr. Vikram
May 24, 2023	File Handling: 1) Introduction to File Handling 2) Reading and Writing to files 3) Exception Handling	Dr. Gaurav Khare
May 25, 2023	Object-Oriented Programming: 1) Introduction to Object-Oriented Programming 2) Classes and Objects 3) Inheritance and Polymorphism	Dr. Saurabh Rajput
May 26, 2023	Modules and Libraries: 1) Introduction to Modules and Libraries 2) Importing modules 3) Popular libraries like NumPy and Pandas	Dr. Gaurav Khare
May 26, 2023	Data analytics using Python programming	Dr. Gaurav Khare

List of Participants:

Sr. No.	Faculty Name	Department
1	Prof. A. S. Ojha	Engg. Math & Computing
2	Dr. Minakshi Dahiya	Engg. Math & Computing
3	Dr. DIVYA CHATURVEDI	Engg. Math & Computing
4	Dr. Rakesh Kumar Dubey	Chemical Engg.
5	Dr. Hemant Chaubey	Electronics Engg.
6	Dr. Sushmita Chaudhari	Electronics Engg.
7	Dr. Vikas Mahor	Electronics Engg.
8	Dr Nitin	Mechanical Engg.

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9	Dr Prachi Singh	Civil
10	Dr Hemat Shrivastava	Civil
11	Ms Aashi Singh Bhadouria	CSE
12	Ms Manisha Pathak	CSE
13	Ms Kratika Sharma	CSE
14	Ms Jigyasa Mishra	CSE
15	Ms Hemlata Arya	CSE
16	Dr. Bhavna Rathore	Electrical
17	Prof. Manoj Kumar	Electrical
18	Dr. Kaushal Pratap Sengar	Electrical
19	Dr. Murli Manohar	Electrical

Glimpse of Peer-learning Sessions:

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Sample Certificate:

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

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CERTIFICATE
OF COMPLETION

This Is Presented To

<<PARTICIPANT NAME>>

for completing two-week long peer-learning session on Python Programming, organized by dept. of electrical engineering during May 16 - May 26, 2023.

Dr. Sulochana Wadhwani
Prof. & Head,
Dept. of Electrical Engg.
MITS Gwalior

Dr. Gaurav Khare
Assistant Professor
Department of Electrical Engineering

Dr. Sulochana Wadhwani
Professor & Head
Department of Electrical Engineering