



**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)**

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**A Report on Three Week Hands-on Training Session on
"Python Programming: From Zero to Deployment"
Organized by Department of Computer Applications
from 24.05.2025 to 12.06.2025**



Report Submitted by: Mr. Pala Hanok, Assistant Professor, Department of Computer Applications.

Resource Person: Dr. Tirumalasetty Venkateswara Rao, Corporate Trainer, Hexaware Technologies, Hyderabad

Venue: Auditorium - MITS

Duration: 01.30 PM to 04.30 PM

Target Audience: I MCA II Semester (198 students)

Mode of Conduct: Offline

Report Received on 21.06.2025.

Inauguration:

A three-week hands-on training session on "Python Programming: From Zero to Deployment" was officially inaugurated on 24th May 2025 with an engaging welcome address delivered by Anoosha K & Devaka K, First-Year MCA Students. In their speech, students expressed gratitude to the Management, Principal, Vice Principals, Head – Training & Placement Cell, Head – Department of Computer Applications, and the coordinator of the programme for their unwavering support, which made the event possible. They also warmly welcomed the resource person for the training session, Dr. Tirumalasetty Venkateswara Rao, Corporate Trainer, Hexaware Technologies, Hyderabad.

The program began with a formal welcome by **Dr. N. Naveen Kumar**, Head - Department of Computer Applications. In his address, he highlighted the importance of training program and also thanked the Management, Principal, Vice Principals and Faculty for their continuous support in organizing enriching training activities for MCA students.

Objective of the Training Program:

The primary aim of this training session was to enhance the practical programming skills of I Year MCA students by introducing Python programming from basic to advanced level. The focus was on writing clean, logical, and problem-solving oriented code with real-time application exposure. Students were trained progressively from simple syntactic constructs to advanced programming challenges.

Structure of the Training Program:

The program was conducted over **19 sessions**, spanning **three weeks**, with each session lasting for three hours (01:30 PM – 04:30 PM). The sessions were hands-on involving live coding, problem-solving, demonstrations, and student practice.

Topics Covered:

The detailed day-wise topics covered are as follows:

Day	Date	Time	Topics/Programs Covered
1	24-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Input process and display the output 2. Using while loop 3. List comprehension 4. Conditional comprehension 5. Rate of interest 6. Infinite loop and break statements 7. Converting the infinite loop into finite loop using the Boolean variable, 8. For i varies from 1 to 1000 increasing in steps
2	25-05-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> 1. String slicing 2. A government conduct a survey on popularity of Shiridi Sai in Madanapalle, then find how much popular this god is here? (using average) 3. Finding the largest word from the given English words 4. Finding GCD and HCF using while loop and format function 5. Functions <ol style="list-style-type: none"> 1. Reversing a string 2. Finding simple interest 3. Generating mails 4. Counting no. of vowels in a string or word
3	26-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Palindromes and counting no. of palindromes in given list 2. Conversion from int to char and char to int 3. Patterns 4. Initializing 2D and 3D arrays 5. Clockwise and anti-clockwise spiral using numbers and alphabets
4	27-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Find sum of digits of a given number 2. Selecting a number from the list, that are having the sum equal to “9” 3. Prime numbers and counting prime numbers using range and sum of the prime numbers between a given range 4. Reversing a number 5. Dictionary 6. Ø Sorting keywise or valuewise 7. Ø Updating and inserting value 8. Ø Taking number as “key” and finding the frequency of “value” 9. Lambda functionà mean, median, simple interest, printing in ascending order and descending based on length and sorting according to order of alphabets
5	28-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Finding frequency of characters in the word and numbers

			<ol style="list-style-type: none"> Helping the teacher by sorting the names for the purpose of roll call Printing the names in ascending and descending order based on sorting of alphabets Sorting numbers using for loop Finding 2nd largest number using bubble sort Finding the 4th smallest number from the given numbers Swapping using loops Binary search Fibonacci search using for loop, while loop and methods
6	29-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Checking whether the sentence is having all the alphabets is there or not Anagram Encoding the given characters of a word Method of count and say problem Finding “n”th prime Counting all prime numbers of a given range Printing Fibonacci and primes numbers as a series and finding the next sequence Nearest primes from both the sides of a number
7	30-05-2025	01:30 PM-04:30 PM	Recursive and Non-recursive methods <ol style="list-style-type: none"> Sum of “n” natural numbers Factorial of “n” GCD Palindromes Sum of digits of number Reversing a number, Printing numbers without using loop Reversing the number without using loop
8	31-05-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Printing numbers without using loop using recursive and non-recursive methods Converting binary the number into binary number using recursive and non-recursive methods Converting binary to decimal number using recursive and non-recursive methods Sorting using indices Knapsack à Greedy algorithm
9	02-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Fractional Knapsack using recursive and non-recursive methods Length of largest palindrome in the given string using recursive and non-recursive methods Finding the count of alphabets, chars, digits, special characters, spaces from the given string using recursive and non-recursive methods
10	03-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Reversing a string using stack Reversing a number using stack Given a number and you are allowed to remove "k" digits from number, then find out least number

			<ol style="list-style-type: none"> Given an array of numbers, then find a pair whose sum is "k" , if found return True otherwise return False using Brute Force technique or 2 pointer technique/ cocktail algorithm or hashing-dictionary AnyMethod Minimum cost path of a matix
11	04-06-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> Stopping Criterion using recursion algorithm for finding the Maximum paths Finding minimum cost of a given journey based on sum of daily, weekly and monthly tickets House Robber problem for getting the maximum money from an integer array nums representing the amount of money of each house, where the thief can't robber in the adjacent houses Find number of subsets that have a marked a sum is 6 or 4 or 7 or n then find the maximum number of subsets that can be formed by the given set
12	05-06-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> Length of longest increasing subsequence Wine selling problem Length of longest subsequence of a given string A classic "candy distribution" problem asks how to distribute candies to a line of children with specific rules Stock sell and buy problem type
13	06-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Stock sell and buy problem type-2 and type-3 Matching brackets. Find out whether the given string is true or not Coins Problem Jumps count Problem
14	07-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> Gold mine Problem N-Queen Problem Class and Initializing objects Linked List using Stack Linked List using Queue
15	08-06-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> Adding node before and after a node using linked list Deleting a node not in head and not in tail Reversing a list using linked list Binary search tree using recursive method Sorting list using Bubble Sort.
16	09-06-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> Maximum height of a binary search tree using recursion method Checking whether the tree is balanced or not Minimum and Maximum values of a tree., Reversing the nodes in the binary search tree Deleting a node from the binary search tree "n" th Fibonacci using recursion and dynamic programming Minimum cost path problem using dynamic programming.
17	10-06-2025	01:30 PM -04:30 PM	<ol style="list-style-type: none"> Checking a given string whether it is password or not using dynamic programming Rats in a house- Minimum containers required to feed all rats by using Dynamic programming House robber problem by using dynamic programming and recursion Missing coins in a paired bag using dynamic programming and recursion

			5. Dynamic programming solution for longest length of subsequence
18	11-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Rock, paper and scissor problem 2. Majority of characters is lower then convert to lower and vice versa and Removing the digits from the given String 3. Two words are given, how many times the ascii of each character to be moved to make final string, to equal the string 4. Character Transformation with ASCII Difference 5. Bitwise Operations 6. Artifact Year Range (Max - Min) 7. Unique Animal ID Pairing (Combinations) 8. Maximum Coins from Consecutive Chests (Kadane's Algorithm) 9. Total and Heaviest Ingredient Weight 10. Flower Points Calculation (Sum of Values) 11. Pseudo codes.
19	12-06-2025	01:30 PM-04:30 PM	<ol style="list-style-type: none"> 1. Forming Teams with Fair Distribution (Experienced & Freshers) 2. Delete Alternate Characters in a String 3. Delete First N Characters from String 4. Leader Numbers in an Array (Greater than Neighbors) 5. Stone Crushing Game – Fittest Survives (Max 2 Weights Logic) 6. Minimum Distance Between Two Strings in a List 7. Patterns problem

Program Outcome:

- Students acquired strong foundational skills in Python programming.
- They gained confidence in handling competitive programming challenges.
- The training bridged the gap between academic learning and industry expectations.



Student Feedback:

The students actively participated throughout the training and expressed great appreciation for the structured and hands-on learning approach. Many students reported improved confidence in writing code independently and solving complex programming tasks.



Vote of Thanks:

The training session concluded with a vote of thanks delivered by Mr. Pala Hanok who expressed his heartfelt thanks to the Management, Principal, Vice Principals, Head- Department of Computer Applications, Head – Training & Placements, Faculty & Non-Teaching staff and all the participants for their active involvement and contribution to the event's success.



Special thanks to **Dr. Tirumalasetty Venkateswara Rao**, the esteemed resource person, for delivering rich and engaging sessions to enhance students' programming skills in Python Programming.