



**DEPARTMENT OF COMPUTER SCIENCE
CMS COLLEGE KOTTAYAM**

ADD-ON COURSE

BASIC PYTHON PROGRAMMING

ACADEMIC YEAR 2021-2022



CMS COLLEGE KOTTAYAM (AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE

Course	Details
Title	Python Programming-Basic Level
Degree	BCA
Branch(s)	Computer Science
Total Hours	36
Type	VALUE ADDED COURSE

CO No.	Expected Course Outcomes <i>Upon completion of this course, the students will be able to:</i>	Cognitive Level
1	Read, write, execute by hand simple Python programs.	U
2	Develop Python programs with conditionals and loops.	C
3	Define Python functions and call them.	Kn
4	Use Python data structures — lists, tuples, dictionaries.	Ap
5	Read and write data from/to files in Python Programs.	C

Module	Course Description	Hrs	CO.No.
1.0	DATA, EXPRESSIONS, STATEMENTS	10	
1.1	Python interpreter and interactive mode.	1	1
1.2	Values and types: int, float, booleans, strings, and lists;	1	1
1.3	Variables, expressions, statements,	1	1
1.4	Precedence of operators, comments;	1	1
1.5	Modules and functions	1	1,3
1.6	Function definition and use	1	1,3
1.7	Flow of execution	1	1
1.8	Parameters and arguments	1	1
1.9	Illustrative programs: exchange the values of two variables, circulate the values of n variables, test for leap year.	2	1
2.0	CONTROL FLOW, FUNCTIONS	10	
2.1	Conditionals: Boolean values and operators,	1	2
2.2	Conditional (if), alternative (if-else), chained conditional (if-elif-else);	2	2
2.3	Iteration: state, while, for, break, continue, pass;	1	2
2.4	Fruitful functions: return values, parameters, scope: local and global,	1	3
2.5	Composition, recursion;	1	3
2.6	Strings: string slices, immutability, string functions and methods, string module;	1	1
2.7	Lists as arrays.	1	1
2.8	Illustrative programs: square root, gcd, exponentiation, sum an array of numbers, linear search, binary search.	2	2,3

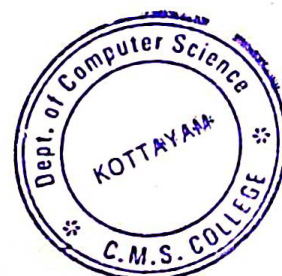
3.0	COMPOUND DATA: LISTS, TUPLES, DICTIONARIES	8	
3.1	Lists: list operations, list slices	1	4
3.2	List methods, list loop, mutability	1	4
3.3	Aliasing, cloning lists, list parameters;	1	4
3.4	Tuples: tuple assignment, tuple as return value;	1	4
3.5	Dictionaries: operations and methods;	1	4
3.6	Advanced list processing - list comprehension;	1	4
3.7	Illustrative programs: selection sort, insertion sort, mergesort, quicksort.	2	4
4.0	FILES, MODULES, PACKAGES	8	
4.1	Files and exception: text files	1	5
4.2	Reading and writing files	1	5
4.3	Format operator;	1	5
4.4	Command line arguments	1	5
4.5	Errors and exceptions	1	5
4.6	Handling exceptions	1	5
4.7	Modules, packages;	1	5
4.8	Illustrative programs: word count, copy file.	1	5

Text Books

1. Allen B. Downey, ``Think Python: How to Think Like a Computer Scientist'', 2nd edition, Updated for Python 3, Shroff/O'Reilly Publishers, 2016 (<http://greenteapress.com/wp/think-python/>)

REFERENCES:

1. John V Guttag, "Introduction to Computation and Programming Using Python", Revised and expanded Edition, MIT Press , 2013
2. Robert Sedgewick, Kevin Wayne, Robert Dondero, "Introduction to Programming in Python: An Inter-disciplinary Approach, Pearson India Education Services Pvt. Ltd., 2016.
3. Timothy A. Budd, "Exploring Python", Mc-Graw Hill Education (India) Private Ltd., 2015.
4. Kenneth A. Lambert, "Fundamentals of Python: First Programs", CENGAGE Learning, 2012.
5. Charles Dierbach, "Introduction to Computer Science using Python: A Computational Problem-Solving Focus, Wiley India Edition, 2013.
6. The Python Tutorial, <https://docs.python.org/2.7/tutorial/>

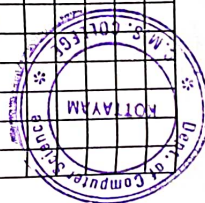


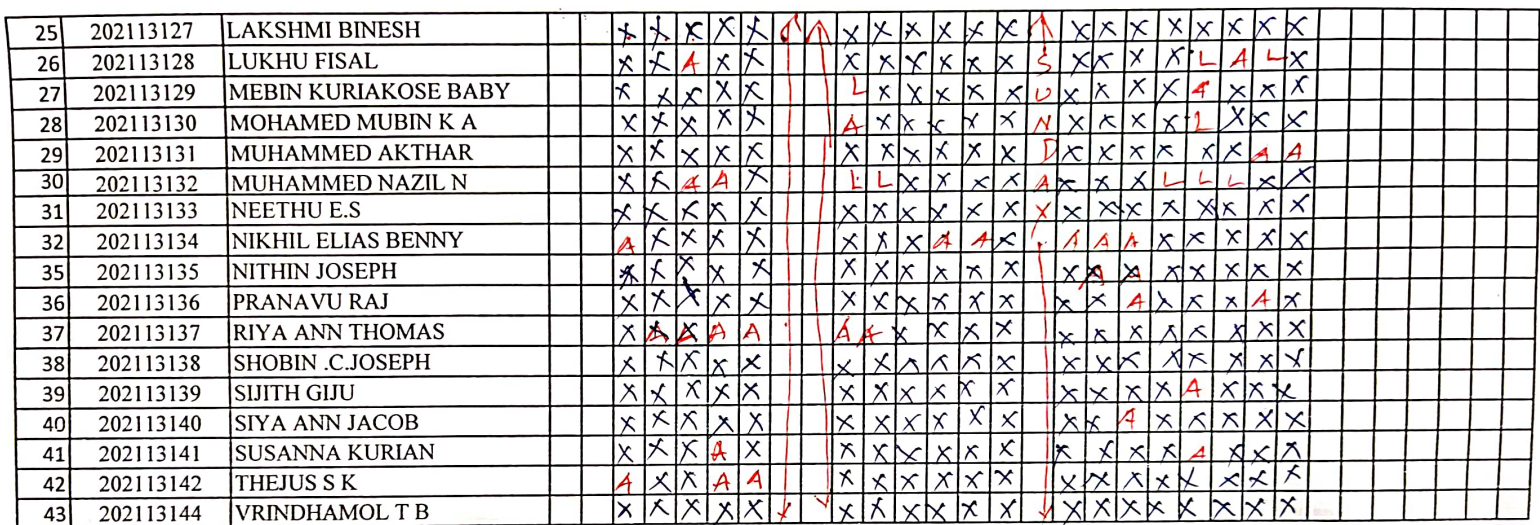
CMS COLLEGE, KOTTAYAM (AUTONOMOUS)
VALUE ADDED COURSE-BASICS OF PYTHON

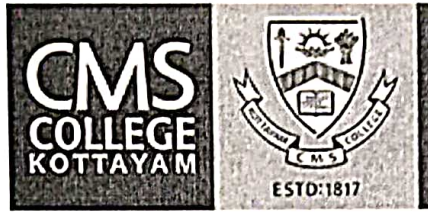
2nd YEAR BCA
ATTENDANCE

Month & Year: January 2022

Sno.	Reg. No.	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	202113101	ABHIJITH KRISHNAN E S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
2	202113102	ABHISHEK RAVEENDRAN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
3	202113103	AKASH TOMY		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
4	202113104	AKSHAY JAYAN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
5	202113105	AL AMEEN JAFAR		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
6	202113106	ALBIN REGIMON CHACKO		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
7	202113107	AMAL SABU S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
8	202113108	ANAND S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
9	202113109	ANANDHU BIJU		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
10	202113110	ANASWARA M DEV		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
11	202113111	ANITH M KURIAN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
12	202113112	ARJITH S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
13	202113113	ARJUN KUMAR M A		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
14	202113114	ARJUN VINOD		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
15	202113115	ARON JACOB MANOJ		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
16	202113116	ARYA .S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
17	202113117	DANIEL JOSE		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
18	202113118	GEETHU SANTHOSH		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
19	202113121	JOASH M BINU		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
20	202113122	JOEL JOHN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
21	202113123	JYOTHI ANNE ABRAHAM		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
22	202113124	KARTHIK NATH P S		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
23	202113125	KESIYA ELIZABETH JACOB		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
24	202113126	KRISHNA VENI C B		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							







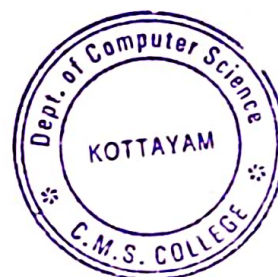
DEPARTMENT OF COMPUTER SCIENCE

Report on Value Added Course in Python Programming-Basic Level

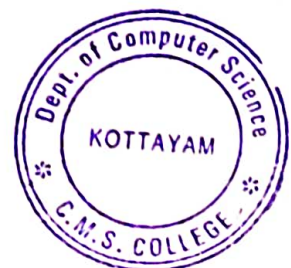
Introduction

The Value Added Course is an additional two credit course implemented by CMS College (Autonomous) with the aim of developing/acquiring skills that can provide job opportunities for the students. Python is a popular programming language. It was created by Guido van Rossum, and released in 1991.

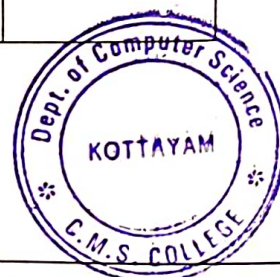
Department of Computer Science conducted value added course on “BASICS -PYTHON Programming” from 3rd, January 2022 to 25th January, 2022. The sessions were conducted by Mrs. Anithakrishna G. A total of 41 students who belong to 2nd years of BCA attended the course for all days.



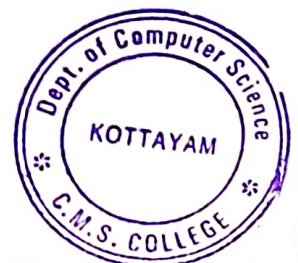
PLAN OF WORK / WORK SCHEDULE



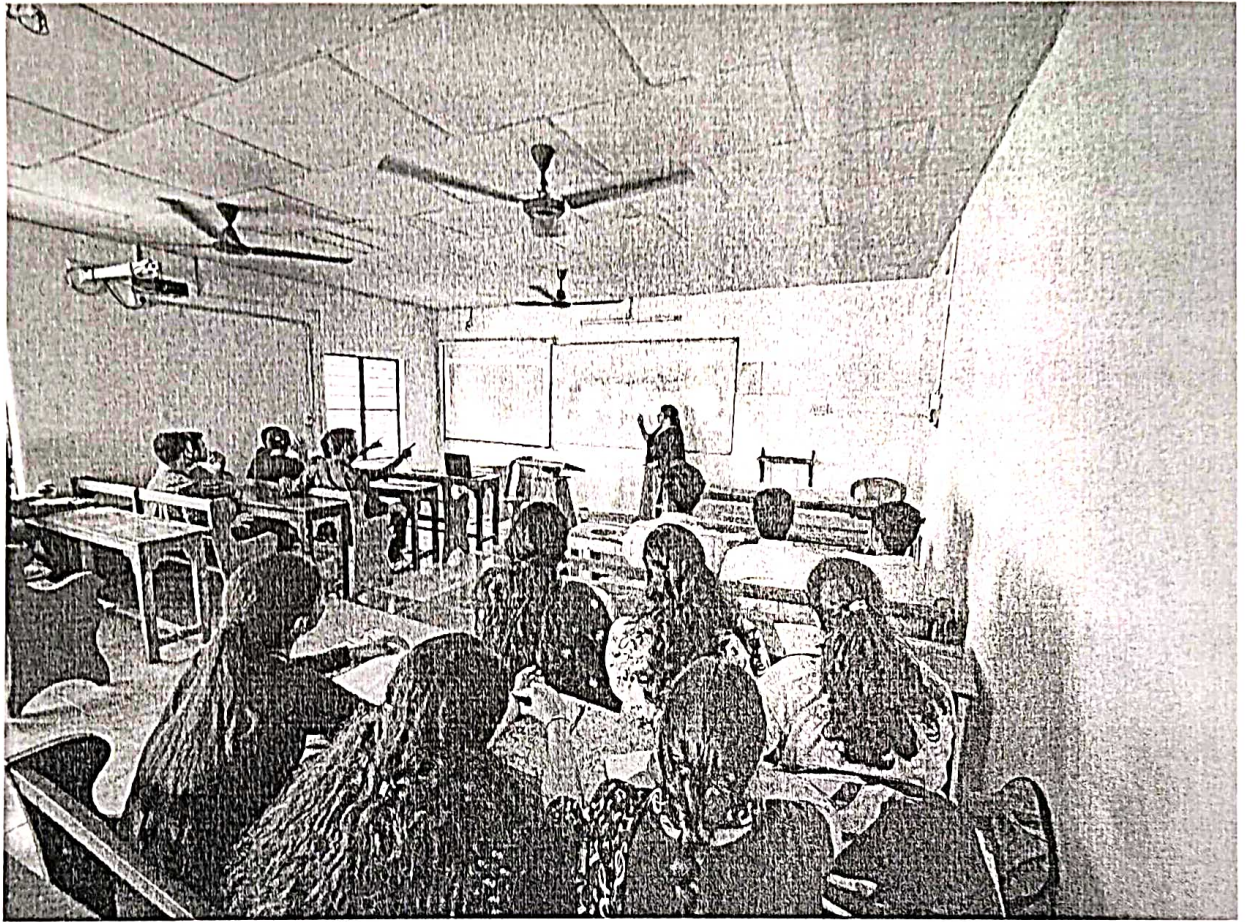
SL.NO	Date	Topic	Time
1	03/01/22 Mon(class started)	Python interpreter and interactive mode.	9am-10am
2	04/01/22	Values and types: int, float, booleans, strings, and lists	9am-10am
3	04/01/22	Variables, expressions, statements	4pm - 5pm
4	05/01/22	Precedence of operators, comments	9am-10am
5	05/01/22	Modules and functions	4pm-5pm
6	06/01/22	Function definition and use	9am-10am
7	06/01/22	Flow of execution	4pm-5pm
8	07/01/22	Parameters and arguments	9am-10am
9	07/01/22	Illustrative programs: exchange the values of two variables, Circulate the values of n variables, test for leap year.	4pm-5pm
10	10/01/22	Conditionals: Boolean values and operators,	9am-10am
11	11/01/22	Conditional (if), alternative (if-else), chained conditional (if- elif-else)	9am-10am
12	12/01/22	Iteration: state, while, for, break, continue, pass;	9am-10am
13	13/01/22	Fruitful functions: return values, parameters, scope: local and global	9am-10am
14	14/01/22	Composition, recursion	9am-10am
15	15/01/22	Strings: string slices, immutability, string functions and methods, string module	10am-12pm
16	15/01/22	Lists as arrays.	12pm-1pm
17	15/01/22	Lists: list operations, list slices	2pm-4pm
18	17/01/22	List methods, list loop, mutability	9am-10am

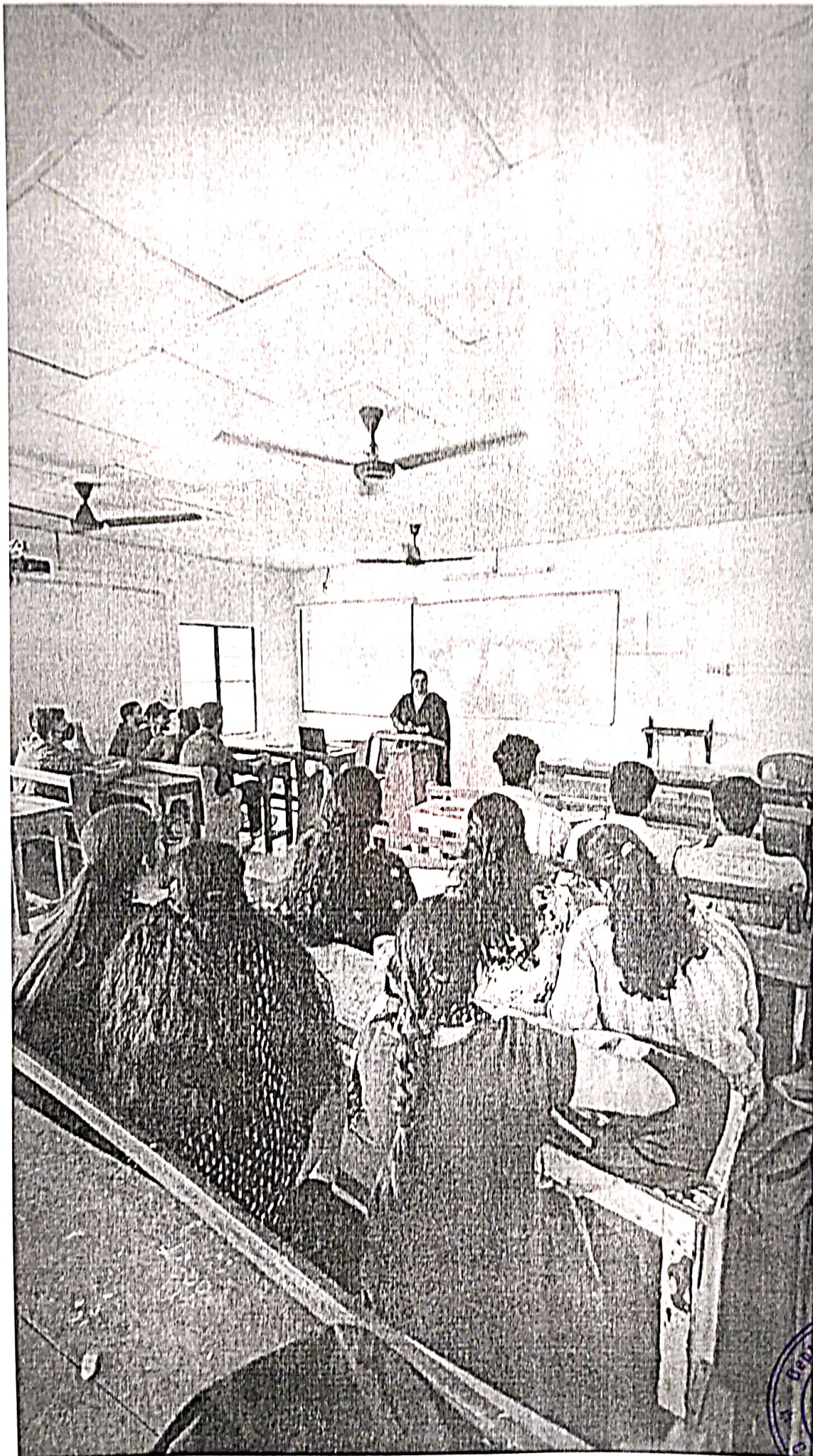


19	18/01/22	Aliasing, cloning lists, list parameters	9am-10am
20	19/01/22	Tuples: tuple assignment, tuple as return value	9am-10am
21	19/01/22	Dictionaries: operations and methods	4pm-5pm
22	20/01/22	Advanced list processing - list comprehension	9am-10am
23	20/01/22	Illustrative programs: selection sort, insertion sort, mergesort, quicksort.	4pm-5pm
24	21/01/22	Files and exception: text files	9am-10am
25	21/01/22	Reading and writing files	4pm-5pm
26	22/01/22	. Format operator	10am-12pm
27	22/01/22	Command line arguments	1pm - 2pm
28	22/01/22	Errors and exceptions , Handling exceptions	2pm-4pm
29	24/01/22	Modules, packages;	9am-10am
30	24/01/22	Illustrative programs: word count, copy file	4pm-5pm



PHOTOS

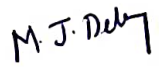




CONCLUSION

This value added program completed successfully during the period 3rd January to 25th January. Hands on training classes were provided more practical knowledge on python. The course enables the students to excel in placement drive and developing projects.


Course Coordinator


Head of the Department

Principal

