



Model Institute of Engineering
& Technology (Autonomous)
Course Handout

Kot, Bhalwal, Jammu

COURSE HANDOUT

PYTHON PROGRAMMING (BCAMJ-301)

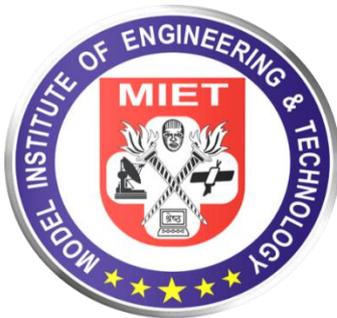
BCA-3RD SEMESTER

ACADEMIC YEAR (2024-25)

Ms. Tajamul Hassan

Assistant Professor

Department of Computer science and Engineering



Department of Computer science and Engineering

Model Institute of Engineering & Technology (Autonomous)

Kot Bhalwal, Jammu - 181122

www.mietjmu.in



Dr. Arun K. Gupta Teaching-Learning Centre

Version 1.1



Please Do Not Print Unless Necessary



Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
BCAMJ-301	Python Programming	Core	4	4	0	0	40	60	100

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Describe the basic data types in Python.
CO2	Demonstrate the use of control statements.
CO3	Analyze the string, sequence types methods for managing the data.
CO4	Develop functions for modular programming.
CO5	Apply object-oriented programming principles and file operations in Python.

SECTION A

Unit-I Introduction to Python Programming Language: Features of Python, Command Line mode and Python IDEs, Identifiers, Keywords, Statements and Expressions, Variables, Operators, Data Types, Indentation and Comments

(10 Hours)

Unit-II Control Statements in Python: Logical Operators, If condition Statement, While Loop, For loop, nested loops, else statement break, continue and Pass statements, Exception handling: catching and raising exceptions, else statement in exceptions, finally block, User defined exceptions.

(10 Hours)

Unit-III String and Sequence Types: String Properties, String indexing and splicing, String operators Membership, Built in functions.

Sequence Types: Lists, List type built in methods, Sets: built in methods, operations, Tuples, Special features of Tuples Tuple operators, Dictionary built in methods and its functions.

(10 Hours)

SECTION B

Unit- IV Functions and Modules: Introduction, Built in Functions, User Define Functions, Function Definition, calling of a function, Function Arguments, Recursive functions and return statement.

Modules: The main module, Multiple modules, Importing a module

(10 Hours)

Unit-V OOps Concept & File Handling: Python OOps Concept, Classes in Python, Creating Classes and Objects, Object initialization, Python Constructor, Types of constructors, Constructor overloading, Classes and functions, Inheritance, and Polymorphism.

File Handling: Introduction, reading a file, writing the file, creating a new file, File methods.

(8 Hours)

Textbooks

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Think Python	Allen B. Downey	O'Reilly	2 nd (2015)
2.	Learning Python	Mark Lutz	O'Reilly	5 th (2013)





3	Core Python Programming	Wesley J. Chun	Pearson	2 nd (2007)
---	-------------------------	----------------	---------	------------------------

Reference Books

S.No	Name of the Books	Name of the Author	Publisher Name	Edition (Pub.Yr.)
1	Dive Into Python 3	Mark Pilgrim	Apress	Ist (2009)
2	Python Programming	Mark Lutz	O'Reilly	4 th (2010)

COURSE PLAN

Unit-I Introduction to Python Programming Language

S.No	Topics	Recommended Books
1	Features of Python, Command Line mode and Python IDEs	Book 1, Ch.1
2	Identifiers, Keywords	Book 3, Ch.2
3	Statements and Expressions	Book 1, Ch.2
4	Variables, Operators	Book 2, Ch.7
5	Data Types	Book 2, Ch.4
6	Indentation and comments	Book 1, Ch.1

Unit-II Control Statements in Python:

7	Logical Operators, If condition Statement, While Loop	Book 1, Ch.1
8	For loop, nested loops	Book 1, Ch.5
9	else statement break, continue and Pass statements	Book 1, Ch.5
10	Exception handling: catching and raising exceptions, else statement in exceptions, finally block, User defined exceptions.	Book 2, Ch.10

Unit-III String and Sequence Types:

11	String Properties, String indexing and splicing	Book 3, Ch.6
12	String operators Membership, Built in functions.	Book 1, Ch.10,11
13	lists, List type built in methods, Sets: built in methods, operations,	Book 2, Ch.5
14	Tuples, Special features of Tuples Tuple operators	Book 3, Ch.6
15	Dictionary built in methods and its functions.	Book 3, Ch.15

Unit-IV Functions and Modules

16	Introduction, Built in Functions,	Book 1, Ch.17
17	User Define Functions, Function Definition, Calling of a function	Book 1, Ch.18
18	Function Arguments, Recursive functions and return statement.	Book 3, Ch.13
19	The main module, Multiple modules, Importing a module	Book 2, Ch.27

Unit-V: Oops Concept and File Handling

20	Python Oops Concept	Book 1, Ch.14
21	Classes in Python, Creating Classes and Objects,	Book 3, Ch.10
22	Object initialization	Book 2, Ch.14
23	Python Constructor, Types of constructors	Book 1, Ch.14
24	Constructor overloading	Book 3, Ch.10
25	Classes and functions, Inheritance, and Polymorphism	Book2, Ch. 14
26	File Handling: Introduction, Reading a file, writing the file, creating a new file, File methods	Book 2, Ch 16

ADDITIONAL WEB RESOURCES



1. **Coursera link:**

<https://www.coursera.org/programs/all/mietjmu/browse?source=search&query=Python%20for%20Beginners%3A%20>

GRADING AND ASSESSMENT

- **Sessional Test:** 20 marks
- **Assignment:** 10marks
- **Attendance:** 10 marks
- **Final Examination:** 100 marks

COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Academic Integrity:** MIET's academic integrity policies apply. Plagiarism will not be tolerated.
- **Late Submissions:** Assignments and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**
Monday (12:05 PM - 12:55 PM)
Friday (12:05 PM - 12:55 PM)
- **Contact Information**
tajamul.cse@mietjammu.in