

Mymensingh Polytechnic Institute

Computer Science & Technology, 2nd Semester

Subject-Python Programming

Subject code-28521

(Theory)

Week	Content	Remarks
1 st	1. Basics of Programming 1.1. State Computer Program and Programming 1.2. Explain Programming Language and its classification. 1.3. State Translator Program. 1.4. Define Algorithm and Flowchart 1.5. Explain the uses of Flowchart Symbols. 1.6. Prepare Algorithm and Flowchart for simple problems.	
2 nd	1. Basics of Programming 1.7. Explain the Process of Program Planning. 2. BASICS OF PYTHON 2.1. Explain the features of Python. 2.2. Explain Identifiers and Keywords 2.3. Describe the Structure of Python Program	
3 rd	2. BASICS OF PYTHON 2.4. State the uses of Quotation and Comments in Python 2.5. State Command Line Arguments 3. VARIABLE AND DATA TYPES 3.1. State Variables 3.2. Explain the rules of naming variables 3.3. Assign Values to Variables 3.4. Describe Standard Data Types	
4 th	3. VARIABLE AND DATA TYPES 3.5. Explain Data Type Conversion 3.6. Write Program using Variables/ Multiple variables. 4. PYTHON OPERATORS 4.1. State Operators and their types.	Class Test-1
5 th	4. PYTHON OPERATORS 4.2. Describe Arithmetic Operators, Comparison Operators and Logical Operators 4.3. State Assignment Operators, Bitwise Operators and Membership Operators Identity Operators 4.4. Explain Operators Precedence 4.5. Calculate the value of expression according to the precedence of operators.	
6 th	5. BRANCHING STRUCTURE 5.1. Describe the conditional and unconditional branching flow. 5.2. Explain the syntax of if, if.....else, ifelif Statements.	
7 th	5. BRANCHING STRUCTURE 5.3. Draw the flowchart of if, if.....else, ifelif Statements. 5.4. Write Program using if, if.....else, ifelif Statements	Quiz-1
8 th	Mid Term	

9 th	<p>6. LOOPING STRUCTURE</p> <p>6.1. Describe the conditional and unconditional Loop with flowchart.</p> <p>6.2. Explain the syntax of for & while statements.</p> <p>6.3. Draw the flowchart of for & while statements.</p>	
10 th	<p>6. LOOPING STRUCTURE</p> <p>.6.4. Describe Nested Loops</p> <p>6.5. Write simple program using for ,while & nested loop.</p>	
11 th	<p>7. LISTS STRUCTURE</p> <p>7.1. Define List structure.</p> <p>7.2. Assigning Values in Lists</p> <p>7.3. Explain Updating and Deleting List Elements</p> <p>7.4. State Basic List Operations</p> <p>7.5. Explain Built-in List Functions and Methods</p> <p>7.6. Write simple program using Lists.</p>	
12 th	<p>8. TUPLES STRUCTURE</p> <p>8.1. Define Tuples.</p> <p>8.2. Distinguish between Lists & Tuples.</p> <p>8.3. Assigning Values in Tuples</p> <p>8.4. Explain Updating and Deleting Tuple Elements</p> <p>8.5. Describe Basic Tuples Operations</p> <p>8.6. Explain Built-in Tuple Functions</p> <p>8.7. Write simple program using Tuples</p>	Quiz-2
13 th	<p>9. SET STRUCTURE</p> <p>9.1, State Set structure in Python</p> <p>9.2. Mention the properties of Set items</p> <p>9.3. Explain creating a Set using curly braces and set() method</p> <p>9.4. Explain Adding items to the set and Removing items from the set</p> <p>9.5. Describe Python set operation (Union, Intersection, Difference)</p> <p>9.6. Write Program using Set in Python</p>	
14 th	<p>10. DICTIONARY STRUCTURE</p> <p>10.1. Define Dictionary in Python</p> <p>10.2. State Accessing Values in Dictionary</p> <p>10.3. Describe the process of Values are Added into Dictionary values</p> <p>10.4. Describe the process of elements are Deleted from the Dictionary</p> <p>10.5. Mention the properties of Dictionary Keys</p> <p>10.6. Explain Built-in-Dictionary Functions & Methods</p> <p>10.7. Write Program using Dictionary</p>	
15 th	<p>11. FUNCTIONS</p> <p>11.1. Defining a Function</p> <p>11.2. Distinguish between library & user-defined function.</p> <p>11.3. State Calling a Function</p> <p>11.4. Explain Passing by Reference Versus Passing by Value</p> <p>11.5. Describe Function Arguments</p> <p>11.6. Mention uses of Date and Time Functions.</p> <p>11.7. Write simple program using user-defined function.</p>	
16 th	<p>12. FILES I/O OPERATION</p> <p>12.1. State the File Operation.</p> <p>12.2. Describe the File Opening modes.</p> <p>12.3. Describe the File Opening and Closing Functions.</p> <p>12.4. Explain the File Reading and Writing Functions.</p> <p>12.5. Write program for file input/output operation.</p>	C Test-2

Practical:

Week	Content	Remarks
1 st	<p>1. Simple programs using basic structure of a programming Language (Python). 1.1. A program for printing a message. 1.2. A program for adding two integer numbers.</p> <p>2. Simple programs using variables 2.1. A program to calculate the average of a set of N numbers. 2.2. A program to convert the given temperature in Fahrenheit to Celsius and vice versa. 2.3. A program to calculate the area of a circle. 2.4. Write similar programs using variables</p>	
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3 rd	<p>3. programs using operators 3.1. A program to convert days to months and days. 3.2. A program to calculate the area of a triangle. 3.3. A program to compare two integer numbers. 3.4. Write similar programs using operators.</p> <p>4. Programs using Branching Statements. 4.1. A program to select and print the largest of the three numbers. 4.2. A program to compute the roots of a quadratic equation. 4.3. Write similar programs using Branching Statements.</p>	
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5 th	<p>5. Programs using Looping Statements 5.1. A program to print odd or even numbers from 1 to 100. 5.2. A program to find the maximum or minimum number from a set of numbers 5.3. A program for searching prime numbers. 5.4. Write similar programs using Loop Statements.</p>	
6 th	<p>5. Programs using Looping Statements 5.1. A program to print odd or even numbers from 1 to 100. 5.2. A program to find the maximum or minimum number from a set of numbers 5.3. A program for searching prime numbers. 5.4. Write similar programs using Loop Statements.</p>	
7 th	<p>6. Programs using Lists. 6.1. A program to sort numbers in ascending or descending order using one dimensional array. 6.2. A program to print numbers in two dimensional forms. 6.3. Write similar programs using Lists.</p>	
8 th	Mid Term	
9 th	<p>7. Programs using functions. 7.1. A program to calculate the area of a triangle using function. 7.2. A program that uses a function to sort an array of integers. 7.3. A program to calculate factorial of any integer using recursive function.</p>	

	7.4. Write similar programs using functions.	
10 th	8. Programs using files. 8.1. A program to store information to or to read information from file. 8.2. Write similar programs using files.	
11 th	Review & Practice	
12 th	Review & Practice	
13 th	Review & Practice	
14 th	Review & Practice	
15 th	Review & Practice	
16 th	Review & Practice	