

An Institute of National Importance

CURRICULUM

Programme	Master of Computer Applications								Year of Regulation				2024-25		
Department	Computer Science and Engineering								Semester				II		
Course Code	Course Name					Pre-Requisite		Credit Structure				Marks Distribution			
								L	T	P	C	Continuous Evaluation	Quiz/ Viva	Total	
CA454	Python Programming							0	1	2	2	70	30	100	
									CO's	Statement				Bloom's Taxonomy	
Course Objectives	To introduce programming using Python and to write programs in python on a computer, and to edit, compile, debug, correct, recompile and run those.					Course Outcomes		CA454.1	Able to understand the basic concepts of scripting and the contributions of scripting language.				Understand		
	To inculcate the ability to do algorithmic thinking to analyze real-world problems and develop algorithms to solve those.							CA454.2	Able to develop Python programs with conditionals and loops, functions and calling them.				Create		
	To train the students in choosing right data representation formats based on a problem specification.							CA454.3	Able to analyse and explore python data structures like Lists, Tuples, Sets and dictionaries.				Analyze		
								CA454.4	Able to develop Python program to read and write data from/to files				Create		
COs	Mapping with Program Outcomes (POs)												Mapping with PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CA454.1	3		1		1					1	1	1			
CA454.2	2	3	3	2	1				1					1	
CA454.3	3	3	3	2	1				1					3	
CA454.4	3	2	1	2										1	
CA454	2.75	2.67	2.00	2.00	1.00				1.00	1.00	1.00	1.00		1.67	

No.	Content	Hours	COs
I	<p>1. Python program to print the paragraph as shown below: “ Hello World ”</p> <pre>% Hello World % \\ Hello World \\</pre> <p>2. Python program to print the result of the following arithmetic expression where a=4, b= 5.</p> $\frac{5a + ab^2}{\sqrt{a^2+9}}$	02	CA454.1 CA454.2 CA454.3 CA454.4
II	<p>3. Python program to check a given number is odd or even and positive or negative.</p> <p>4. Python program to read three numbers and find the greatest one.</p>	02	
III	<p>5. Python program to read five numbers and find the second smallest number.</p> <p>6. Python program to find GCD and LCM of two numbers.</p>	02	
IV	<p>7. Python program to store ten numbers in a list and find the largest and smallest.</p> <p>8. Python program to store N numbers in a list and count the total positive, negative, odd and even numbers [0 < N < 11].</p>	02	
V	<p>9. Python program to check whether a given number is prime or not.</p> <p>10. Python program to print first N numbers of Fibonacci series.</p>	02	
VI	<p>11. Python program to create a menu with the following options 1. TO PERFORM ADDITION 2. TO PERFORM SUBTRACTION 3. TO PERFORM MULTIPLICATION 4. TO PERFORM DIVISION Accepts users input and perform the operation accordingly. Use functions with arguments.</p> <p>12. Python program to check whether the given string is palindrome or not.</p>	02	
VII	<p>13. Python program to find factorial of a given number using functions.</p> <p>14. Python function that takes two lists and returns True if they are equal otherwise false</p>	04	
VIII	<p>15. Python program to open and write “hello world” into a file.</p> <p>16. Python program to read a csv file using pandas module and print the first and last five lines of a file.</p>	04	
IX	<p>17. Python program to open a file and check what are the access permissions acquired by that file using os module.</p> <p>18. Python program to copy the contents of a file to another file.</p>	04	
X	<p>19. Python program to count frequency of characters in a given file.</p> <p>20. Python program to print each line of a file in reverse order.</p>	04	
Total Hours		28	

1. Mark Lutz, “Programming Python”, Prentice Hall India, 7th Edition, 2017
2. Mark Lutz, “Learning Python”, McGraw-Hill publication, 6th Edition, 2021
3. Luciano Ramalho, “Fluent Python”, O'Reilly Media, 2nd Edition, 2021

1.	Allen Downey, “Think Python”, O'Reilly Media, 2nd Edition, 2015
2.	Marl Pilgrim, “Dive into Python”, APress Media LLC, 1st Edition, 2005
3.	Brett Slatkin , “Effective Python: 59 Specific Ways to Write Better Python”, Pearson Education, Inc, 2nd Edition 2019

