Printed Pag		ated to AKTU, Lucknow) ntegrated)
	Subject: Problem Solvi	ng using Python
Time: 3	Hours	Max. Marks: 100
<ol> <li>The que</li> <li>Section</li> <li>Section</li> </ol>	estion paper comprises three sections, A, B, and A - Question No- 1 is 1 marker & Question No- B - Question No-3 is based on external choice of C - Questions No. 4-8 are within unit choice que	2 carries 2 marks each. arrying 6 marks each.
5. No shee	et should be left blank. Any written material after	a blank sheet will not be evaluated/checked.
	SECTION A	20
1. Attempt	t all parts:-	
1-a.	Identify the True statement. (CO1)	1
	(a) We use parenthesis () to define a dic	tionary.
	(b) dictionary () function is used to crea	te an empty dictionary.
	(c) Dictionary is a Python data type to s	tore multiple values.
	(d) In Python dictionary we represent format.	an element in the {key1-value1, key2-value2, }
1-b.	Which of below is not a keyword in python? (C	201) 1
	(a) catch	
	(b) lambda	
	(c) True	
	(d) pass	
1-c.	What is the output of the following? (CO2)	1
	x,y='pqrs','abcd'	
	if(x>y):	
	print(y)	
	else:	

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print(x)
                  (a) abcd
                  (b) abrs
                  (c) pqcd
                  (d) pqrs
1-d.
           What does the following code print? (CO2)
                                                                                                               1
           if 5 > 10:
              print("fan")
           elif 8 != 9:
             print("glass")
           else:
             print("table")
                  (a) fan
                  (b) glass
                  (c) table
                  (d) fan glass
1-e.
           What is the output of the following function call? (CO3)
                                                                                                               1
           def fun1(num):
              return num + 25
           fun1(5)
                  (a) 5
                  (b) 25
                  (c) blank
                  (d) 30
1-f.
           What is the output of the following function call? (CO3)
                                                                                                               1
           def add(a, b):
              return a+5, b+5
           result = add(3, 2)
           print(result)
                  (a) None
                  (b) 15
                  (c) 5
                  (d)(8,7)
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1-g.	Suppose $t = (1, 2, 4, 3)$ , which of the following is incorrect? (CO4)		1
	(a) print(t[3])		
	(b) $t[3] = 45$		
	(c) print(max(t))		
	(d) print(len(t))		
1-h.	What will be the output of the following Python code? (CO4)		1
	nums = $set([1,1,2,3,3,3,4,4])$		
	print(len(nums))		
	(a) Error, invalid syntax for formation of set		
	(b) 7		
	(c) 8		
	(d) 4		
1-i.	Identify the right way to close a file. (CO5)		1
	(a) close(file)		
	(b) file.closed		
	(c) file.close()		
	(d) close.file()		
1-j.	(6) The readlines() method returns(CO5)		1
	(a) a list of lines		
	(b) str		
	(c) a list of single characters		
	(d) a list of integers		
2. Attemp	ot all parts:-		
2.a.	Write any four Code of Ethics and Professional Conduct of a software engineer. (CO1)		2
2.b.	Write a Python program to check whether a year is a leap year or not. (CO2)		2
2.c.	What is Lambda functions in python programming? (CO3)		2
2.d.	What is Packing and Unpacking Sequences in python? (CO4)		2
2.e.	What are different access methods in which you can open a file? (CO5)		2
	SECTION B	30	
3. Answe	r any <u>five</u> of the following:-		
3-a.	Differentiate Compiler based programming with Interpreter based programming. (CO1)		6

3-b.	Explain datatypes of python programming language with suitable example. (CO1)	6
3-c.	Write a python program to isolate all integers values which are greater than 5 from the list below, save the answer in a tuple. (CO2)	6
	A=[3, 99, 4.6, 'pkm', 'hello', 66.98, 32, 5, 2, 10, 'noida', 8.8]	
3-d.	Write a python program that inverts a dictionary. That is, it makes key of one dictionary value of another and vice versa. (CO2)	6
3.e.	Write a python program to compute the factorial of given number using reduce () function. (CO3)	6
3.f.	Write a python program to check given string is a valid email address or not. Use regular Expression. (CO4)	6
3.g.	Write a program that exchanges the contents of two files. (CO5)	6
	SECTION C 50	
4. Answe	er any one of the following:-	
4-a.	What is type conversion? Explain all type conversion methods with appropriate example. (CO1)	10
4-b.	Write the algorithm and draw the flowchart to convert the binary number to decimal number. (CO1)	10
5. Answe	er any <u>one</u> of the following:-	
5-a.	Write a python program to display the Floyd's triangle. (CO2)	10
	1	
	2 3	
	456	
	7 8 9 10 11 12 13 14 15	
5-b.	Write a python program to Multiply Two Matrices of 3x3 size. Consider values of matrix are predefined. (CO2)	10
6. Answer any one of the following:-		
6-a.	Write a Python program to count numbers of Vowels, Consonants and integers in a given string using functions, also print the sum of integers in the given string. (CO3)	10
6-b.	Write short notes on: (CO3) i) Mutability and Immutability ii) Namespaces iii) Garbage Collection	10

7. Answer	any one of the following:-		
7-a.	Discuss built-in methods of list and sets with suitable example. (CO4)	10	
7-b.	Discuss built-in methods of String and Dictionary with suitable example. (CO4)	10	
8. Answer any <u>one</u> of the following:-			
8-a.	Write a python program to create a file named niet.txt, Write ten lines text into the file and print the count of all the words starting with 'A' in the file. (CO5)	10	
8-h	Explain Try except Raise and Assert with suitable example (CO5)	10	