


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2023</b>			
<b>Course: Python Programming</b> <b>Program: B. Tech. ECE</b> <b>Course Code: CSEG2040</b>		<b>Semester: IV</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: Attempt all the questions</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	What is indexing and negative indexing in Tuple? What is the output of print tuple[1:3], if tuple = ( 'abcd', 786 , 2.23, 'john', 70.2 )?	4M	CO1
Q 2	Write the output of the following code fragment. import pandas as pd s1=pd.Series(200,index=range(2,13,2)) print(s1)	4M	CO3
Q 3	Describe the NumPy methods: concatenate, reshape, arrange, and split.	4M	CO4
Q 4	Explain what is dictionary and how it is created in Python? What is meant by key-value pairs in a dictionary?	4M	CO2
Q 5	A Series object training data consists of 2000 rows of data. Write a program to print (i) First 100 rows of data (ii) Last 5 rows of data.	4M	CO3
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	WAP to find the number of occurrences of a sequence in a NumPy array. Example Arr = [[4,6,3,9], [8,4,6,3], [4,6,4,6], [1,6,4,6]] and the seq = [4,6] then output is 5. Write a Python code using the NumPy library.	10M	CO4
Q 7	List and give examples of the standard data types in Python. Mention the features of lists, dictionary and tuple in Python. <b>OR</b> i. What is a variable? What are the rules for naming a variable?	10M	CO1

	ii. What operators does Python support? Explain logical operators and Bitwise operators in detail.		
Q 8	<p>WAP to build an array of all combinations of two NumPy arrays.</p> <pre> Array-1 [1 2]  Array-2 [4 6]  Combine array: [[1 4]  [1 6]  [2 4]  [2 6]] </pre> <p>Example</p>	10M	CO4
Q 9	Describe different methods to update a list in Python. Write at least any five methods that are used in Python Lists. What are the advantages of Tuple over List?	10M	CO1
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	<p><b>Attempt any four.</b> Write Python programs for the following.</p> <ol style="list-style-type: none"> <li>1. Test whether a given year is leap year or not</li> <li>2. to find the sum of n natural numbers</li> <li>3. To print Fibonacci series</li> <li>4. To find factorial of a given number</li> <li>5. To find whether a given number is Armstrong number or not</li> <li>6. Exchange the value of two variables</li> <li>7. To convert Celsius to Fahrenheit</li> <li>8. Circulate the value of n variables</li> </ol>	20M	CO2
Q 11	<ol style="list-style-type: none"> <li>1. Sequences section and contribution store the section name ('A','B','C','D','E') and contribution (8900,8700,7800,6500,nil) for charity. Your school has decided to donate more contribution by each section, so donation has been doubled. Write code to create pandas series object that stores the contribution amount as the values and section name as indexes with data type as float32. What will be the output?</li> <li>2. Below is the profit in crores for some companies:, “company” and its profit in Crores: <p>TCS 350, Reliance 200, L&amp;T 800, Wipro 150</p> <ol style="list-style-type: none"> <li>i. Write the command which will display the name of the company having profit&gt;250.</li> <li>ii. Write the command to name the series as Profit.</li> </ol> </li> </ol>	20M	CO3