


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2023</b>			
<b>Course: Python</b> <b>Program: B.Tech Mechatronics</b> <b>Course Code: CSEG3044P</b>		<b>Semester: 6<sup>th</sup></b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions: Attempt all questions</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Differentiate between mutable and immutable objects in Python programming language.	4	CO1
Q 2	Observe the following Python code very carefully and rewrite it after removing all syntactical errors with each correction underlined.  <pre> Def execmain():     x = input("Enter a number:")     if (abs(x)= x):         print "You entered a positive number"     else:         x=-1         print "Number made positive:" x </pre>	4	CO1
Q 3	Find the output of the following: <pre> L1 = [100,900,300,400,500] START = 1 SUM = 0 for C in range(START,4):     SUM = SUM + L1[C]     print(C, ":", SUM)     SUM = SUM + L1[0]*10     print(SUM) </pre>	4	CO1
Q 4	Write a user-defined function to generate odd numbers between <b>a</b> and <b>b</b> (including <b>b</b> ). <b>a</b> and <b>b</b> should be received as an argument by the function.	4	CO1
Q 5	Write a few methods that are used in Python Lists.	4	CO1
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	Describe list comprehension using an example where it performs the operations of “map” and “filter” functions.	10	CO2

Q 7	Write a Program to enter the string and to check if it's palindrome or not using loop.	10	CO2
Q 8	Describe the relationship between a class and object? Write a program which shows how to define a class, how to access member functions and how to create and access objects in python.	10	CO2
Q 9	Write a function <b>evenodd()</b> which accepts list <b>L</b> , <b>odd_L</b> and <b>even_L</b> as its parameters. Transfer all even values of list <b>L</b> to <b>even_L</b> and all odd values of L to <b>odd_L</b> .	10	CO2
<b>OR</b>			
	<p>The API of Datamuse has the following base URL:  <a href="https://datamuse.com/api/">https://datamuse.com/api/</a></p> <p>The API has the following query parameters,</p> <p>ml Means like  sl Sounds like  sp Spelled like  rel_rhy Rhymes with  syn Synonym with  max Maximum number of results to return</p> <p>Using the above information, create a function that connects with the API and returns 5 words that mean "Food" and rhyme with "ABLE".</p>		
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	<p>Write a Python class <b>Restaurant</b> with attributes like <i>menu_items</i>, <i>book_table</i>, and <i>customer_orders</i>, and methods like <b>add_item_to_menu</b>, <b>book_tables</b>, and <b>customer_order</b>. Perform the following tasks now:</p> <ol style="list-style-type: none"> <li>1. Now add items to the menu.</li> <li>2. Make table reservations.</li> <li>3. Take customer orders.</li> <li>4. Print the menu.</li> <li>5. Print table reservations.</li> <li>6. Print customer orders.</li> </ol>	20	CO3
<b>OR</b>			
	Write a Python class <b>BankAccount</b> with attributes like <i>account_number</i> , <i>balance</i> , <i>date_of_opening</i> and <i>customer_name</i> , and methods like <b>deposit</b> , <b>withdraw</b> , and <b>check_balance</b> .		
Q 11	<ol style="list-style-type: none"> <li>a. Create a class named <b>Person</b> which should take the attributes <i>name</i>, <i>sex</i> and <i>birth_year</i>. It should have a method named <b>getAge</b> which should print the age of the person. Also define how this class should be printed.</li> <li>b. Now create a subclass named <b>Employee</b> which should inherit from the <b>Person</b> class and also have the attributes <i>ID</i>, <i>hourly_pay</i>, and <i>hours</i>. It should have a method <b>getSalary</b> which should calculated the salary based on <i>hours</i>.</li> <li>c. If <i>hours</i> are more than 40, then its should pay 10% extra for the excess hours.</li> <li>d. Check your calculations using python testing.</li> </ol>	20	CO3