

**VIT****Vellore Institute of Technology**
(Deemed to be University) under section 3 of U.G. Act, 1956

Slot: A1

School of Bio Sciences and Technology**Fall Semester 2024-2025****Continuous Assessment Test – I****Programme Name & Branch: M.Sc. (5 Year Integrated) & Biotechnology****Course Name & code: Computer Programming: Python & TCSE207L****Class Number (s): VL2024250105181, VL2024250105179****Faculty Name (s): Prof.Jagadeesan. S, Prof. Chandra Segar.T****Exam Duration: 90 Min.****Maximum Marks: 50****Answer All the Questions**

Q.No.	Questions	Max Marks														
1.	a). Imagine you are a software engineer planning to develop a library management system to track books, members, and borrowing activities. The system should support operations such as adding new books, registering members, and managing book loans. Explain how Python data types can be effectively used to manage and manipulate data in this library management system. (5 Marks) b). list out built-in functions and its usage. (5 Marks)	10														
2.	Write a program to calculate the salary of a medical representative considering the sales bonus and incentives offered to him/her are based on the total sales. If the sales exceed or equal to ₹1,00,000 follow the particulars of Column 1, else follow Column 2. <table><tr><th>Column 1</th><th>Column 1</th></tr><tr><td>Basic=Rs.4000</td><td>Basic=Rs.4000</td></tr><tr><td>HRA=20% of Basic</td><td>HRA=10% of Basic</td></tr><tr><td>DA=110% of Basic</td><td>DA=110% of Basic</td></tr><tr><td>Conveyance=Rs.500</td><td>Conveyance=Rs.500</td></tr><tr><td>Incentive=10% sales</td><td>Incentive=4% sales</td></tr><tr><td>Bonus=Rs.1000</td><td>Bonus=Rs.500</td></tr></table>	Column 1	Column 1	Basic=Rs.4000	Basic=Rs.4000	HRA=20% of Basic	HRA=10% of Basic	DA=110% of Basic	DA=110% of Basic	Conveyance=Rs.500	Conveyance=Rs.500	Incentive=10% sales	Incentive=4% sales	Bonus=Rs.1000	Bonus=Rs.500	10
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3.	Write a python program to find and display the product of three positive integer values based on the rule mentioned below: It should display the product of the three values except when one of the integer values is 7.															

	In that case, 7 should not be included in the product and the values to its left also should not be included. If there is only one value to be considered, display that value itself. If no values can be included in the product, display -1. Note: Assume that if 7 is one of the positive integer values, then it will occur only once. Refer the sample I/O given below. <table><tr><th>Sample Input</th><th>Expected Output</th></tr><tr><td>1, 5, 3</td><td>15</td></tr><tr><td>3, 7, 8</td><td>8</td></tr><tr><td>7, 4, 3</td><td>12</td></tr><tr><td>1, 5, 7</td><td>-1</td></tr></table>	Sample Input	Expected Output	1, 5, 3	15	3, 7, 8	8	7, 4, 3	12	1, 5, 7	-1	10
Sample Input	Expected Output											
1, 5, 3	15											
3, 7, 8	8											
7, 4, 3	12											
1, 5, 7	-1											
4.	a). List the two types of iterative statements and explain them. (5 Marks) b). Imagine you are working on a project to analyze the distribution of room numbers in a hostel. Write a Python program that reads a sequence of room numbers and counts how many rooms have even numbers and how many have odd numbers. The program should terminate when zero is entered. (5 Marks)	10										
5.	List the different types of conditional control statements and explain them with suitable example.	10										