

**VIT**

Vellore Institute of Technology

SLOT: A1

**SCHOOL OF BIO SCIENCES AND TECHNOLOGY  
CONTINUOUS ASSESSMENT TEST - II  
FALL SEMESTER 2024-2025**

**Programme Name & Branch** : M.Sc. (5 Year Integrated) & Biotechnology  
**Course Code and Course Name** : TCSE207L & Computer Programming: Python  
**Faculty Name(s)** : Prof. Jagadeesan. S, Prof. Chandra Segar. T  
**Class Number(s)** : VL2024250105181, VL2024250105179  
**Date of Examination** : 13.10.2024  
**Exam Duration** : 90 minutes  
**Maximum Marks: 50**

**General instruction(s):** Answer All Questions

- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level (1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- Course Outcomes (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)
  - Adapt and combine standard algorithms to solve a numerical or non-numerical problem.
  - Adequately utilize standard programming constructs such as repetition, selection, functions, composition, modules, aggregated data
  - Delineate what a given program in Python aims.

| Q. No | Question                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | M  | CO | BL |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|
| 1.    | <p>The Beatles were one of the most popular music groups of the 1960s, and the best-selling band in history. Some people consider them to be the most influential act of the rock era. Indeed, they were included in Time magazine's compilation of the 20th Century's 100 most influential people. The band underwent many line-up changes, culminating in 1962 with the line-up of John Lennon, Paul McCartney, George Harrison, and Richard Starkey (better known as Ringo Starr).</p> <p>Imagine you are a developer tasked with managing a list of The Beatles band members for a music database. Write a python program to perform various list operations such as adding members, removing members, and inserting members at specific positions.</p> | 10 | 3  | 3  |
| 2.    | <p>Imagine you are managing two different warehouses. Warehouse A contains items with IDs {0, 2, 4, 6, 8}, and Warehouse B has items with IDs {1, 2, 3, 4, 5}. Write a python program to analyze the inventory to make informed decisions by using set. (4*2.5=10 Marks)</p> <p>a) Combine items from both warehouses without duplicates.<br/>b) Identify items present in both warehouses.<br/>c) Find items unique to Warehouse A.<br/>d) Discover items that are unique to each warehouse, excluding shared ones.</p>                                                                                                                                                                                                                                    | 10 | 3  | 3  |
| 3.    | <p>Write a Python program to generate the bill for the customer of an ice cream shop based on the purchase. Assume every flavor of the ice cream costs different. Input the stocks of the shop. Initially, input the available number of ice cream flavor in the shop and then input the ice cream flavor name and its cost per cup. Based on this information create a dictionary to map the cost of an ice cream according to its flavor. Then input the customer purchased ice cream flavor and quantity (no of cups) based on these inputs generate the bill amount and print the same.</p> <p>Input:<br/>3 (no of flavor available in the shop)</p>                                                                                                    | 10 | 3  | 3  |



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|                                                                          | Chocolate<br>15<br>Strawberry<br>20<br>Vanilla<br>12<br>Strawberry<br>2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (flavor 1)<br>(flavor 1's cost per cup)<br>(flavor 2)<br>(flavor 2's cost per cup)<br>(flavor 3)<br>(flavor 3's cost per cup)<br>(customer purchased flavor)<br>(number of cups) |            |   |   |            |                                                                          |                |                                                        |           |   |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---|---|------------|--------------------------------------------------------------------------|----------------|--------------------------------------------------------|-----------|---|
|                                                                          | Output: 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | (bill amount)                                                                                                                                                                    |            |   |   |            |                                                                          |                |                                                        |           |   |
| 4.                                                                       | (a). Feedback= " Great product! However, the battery life is too short. Email: customer@example.com " Write a python program to perform the following task:<br>a) Remove any leading or trailing whitespace from the feedback.<br>b) Find and count the number of times the word "great" appears.?<br>c) Replace any occurrence of the word "bad" with "good" in the feedback.<br>d) Convert the entire feedback to lowercase for uniformity?                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                  | 5          | 4 | 2 |            |                                                                          |                |                                                        |           |   |
|                                                                          | (b). Let's assume you posted a story in social media which goes viral today. However, haters try to troll the content and attacking your comment section! As to neutralize the threat in the comment section, one way of dealing this situation is to remove all of the vowels from the trolls' comments. Design a python code that takes a string argument and returns a new string with all vowels removed.<br><table><tr><th>Test Case1</th><th>Test Case2</th></tr><tr><td>Input: This content goes viral and making issues to the content creator"</td><td>Input=" aeiou"</td></tr><tr><td>Output:" Ths cntnt gs vrl nd mkng sss t th cntnt crtr"</td><td>Output=""</td></tr></table>                                                                                                                                                        |                                                                                                                                                                                  | Test Case1 |   |   | Test Case2 | Input: This content goes viral and making issues to the content creator" | Input=" aeiou" | Output:" Ths cntnt gs vrl nd mkng sss t th cntnt crtr" | Output="" | 5 |
| Test Case1                                                               | Test Case2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                  |            |   |   |            |                                                                          |                |                                                        |           |   |
| Input: This content goes viral and making issues to the content creator" | Input=" aeiou"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                  |            |   |   |            |                                                                          |                |                                                        |           |   |
| Output:" Ths cntnt gs vrl nd mkng sss t th cntnt crtr"                   | Output=""                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                  |            |   |   |            |                                                                          |                |                                                        |           |   |
| 5.                                                                       | An institution mandated all its employees to submit their PAN card through the google form. There are some mischievous employees who purposefully submitting random number as PAN card number instead of PAN card number format. You design a python code to check whether the data entered by the employee is the valid PAN card number or not. If it is a valid PAN card format, print "Valid" otherwise print "Invalid". The rule for PAN Card number is as follows:<br>a) In total, it should be an alphanumeric string of length 10.<br>b) The first half of the PAN is alphabets only<br>c) The last character should be an alphabet<br>d) The remaining characters are numbers only<br>e) No special Characters are allowed<br>f) Only Upper-case characters are allowed<br><br>Sample Test Case:<br>Input= "BIIPR2222K"<br>Output = valid |                                                                                                                                                                                  | 10         | 4 | 3 |            |                                                                          |                |                                                        |           |   |

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