

**VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA**  
**Odd Mid Semester Examination for Academic Session 2025-26**

COURSE NAME: B. Tech

SEMESTER: 3rd

BRANCH NAME: Mechanical

SUBJECT NAME: PROGRAMMING IN PYTHON

FULL MARKS: 30

TIME: 90 Minutes

Answer All Questions.

The figures in the right-hand margin indicate Marks. *Symbols carry usual meaning.*

Q1. Answer all Questions. [2 × 3]

- (a) Briefly describe (i) keywords, and (ii) data types, in context to Python programming. - CO1
- (b) Differentiate between tuples, sets and dictionaries in Python programming. - CO2
- (c) How built-in functions be differentiated from a user-defined function in a Python? - CO3

Q2. [4+4]

- (a) What is meant by indentation and where it is required? How indentation error can be rectified? - CO1
- (b) Write the syntax for (i) If loops (ii) For loops, and (iii) While loops. Provide examples for each loop.

OR

- (a) What are different types of operators in python? Explain any five types of operators in details with programming examples. [8] - CO1

Q3. [3+5]

- (a) What is the use of append and extend function? Describe with an example. - CO2
- (b) Write a Python code with example wherein the user will be asked for name and registration number. The code will also be used to convert the name in upper case and lower case in addition to replacing the name with your city's name. The output should display "Welcome to " followed by your city's name.

OR

- (a) Write a python program to display the following pyramid pattern [8] - CO2

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*
 * *
* * *
* * * *
* * * * *
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Q4. [5+3]

- (a) Write a python code to find the total surface area and volume of a cylinder with user assigned values. Provide the result with an example. If required, import suitable libraries and packages. - CO3
- (b) What is the use of return statement in creating a function and how it is different from print statement during function creation.

OR

- (a) Write a program to swap individual elements between two tuples. [4+4] - CO3
- (b) Write a python program to create a user defined function with 3 parameters to calculate the average of the three numbers.

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