

[Late Admission]



Graphic Era
HILL UNIVERSITY

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GEHU/04M/9.1.3

Mid Term (Odd) Semester Examination 2025

Roll no.....

Name of the Course and semester: B. Tech (3rd Semester)

Name of the Paper: *Python Programming*

Paper Code: TCS-346

Time: 1.5-hour

Maximum Marks: 50

Note:

- (i) Answer all the questions by choosing any one of the sub questions
- (ii) Each question carries 10 marks.
- (iii) Please specify COs against each question.

Q1. (10 Marks)

- a. Explain the difference between syntax and semantics in Python and give suitable examples to show how a syntactically correct program can still produce semantic errors. (CO1)

OR

- b. Describe the main data types in Python such as integers, floats, strings, and Booleans. Explain how they differ in terms of representation, usage, and operations supported. (CO1, CO2)

Q2. (10 Marks)

- a. Explain Write a Python program to read a text file named data.txt and count how many lines, words, and characters it contains. Display the result in the following format: (CO2)

Lines: <number>
Words: <number>
Characters: <number>

OR

- b. Differentiate between parameters and arguments in functions. Also explain how functions return values and how default and keyword arguments work in Python. (CO1)

Q3. (10 Marks)

- a. Write a function `count_vowels(text)` that returns the number of vowels in a given string. Example: (CO1)

<code>count_vowels("Python Programming") # Output: 4</code>

OR

- b. What are modules in Python? Explain the difference between built-in and user-defined modules. How do you import and use functions from these modules? Provide an example. (CO1, CO2)



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Q4.

(10 Marks)

- a. Create a custom module named `math_utils.py` containing a function `square(num)` that returns the square of a number. Then, write another Python script that imports this module and uses the `square()` function to display the square of 5. (CO1)

OR

- b. What is exception handling in Python and why is it important? Describe the use of `try`, `except`, `else`, and `finally` blocks with an example of handling a `ZeroDivisionError`. (CO1, CO2)

Q5.

(10 Marks)

- a. Compare lists, tuples, and dictionaries in Python. Discuss their syntax, mutability, and ideal use cases. Include an example demonstrating how data can be accessed or modified in each type. (CO2)

OR

- b. What are variables and expressions in Python? Explain how variables are created, assigned values, and used within expressions. Include examples of valid variable names and basic arithmetic expressions. (CO1)