



Mid Term (Odd) Semester Examination October 2024

Roll no.....

Name of the Course and semester: Diploma CSE IV

Name of the Paper: Python Programming

Paper Code: DTCS-402

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.

1.

- a. What is meant by **Zen of Python**? Explain any 10 Python design principles.
CO1(10 Marks)

OR

- b. What do you mean by the term “programming paradigm”? Draw a table stating the difference between imperative and declarative approaches in programming. Also write the applications of Python programming with example. CO1(10 Marks)

2.

- a. What sort of a language is Python: Interpreted or Compiled or Both? Explain the phases of compilation of a Python code with the help of an example. Write a piece of code in Python to find factorial of a number. CO1(10 Marks)

OR

- b. What do you understand by Python script? How to write a python script in python shell, support with the help of an example. State the differences between Python versions: Python 2 & Python. Additionally brief about five features of Python language.
CO1(10 Marks)

3.

- a. What are the basic data types in Python? Explain each data type with example. Alongside, implement the following functions:
CO2(10 Marks)

- i. input()
- ii. id()
- iii. type()
- iv. print()
- v. len()

OR

- b. What do you mean by lists in Python? Explain slicing in brief. Create a list by taking input from user and perform the following operations:
 - i. Reverse the created list
 - ii. Delete the last element of the list
 - iii. Add an element in the list at a specified index
 - iv. Sort the list
 - v. Delete all the elements of listCO2(10 Marks)

4.

- a. What are membership operators in Python? Explain with example. Also write a piece of code to create a multiplication table using loops and operators. CO2(10 Marks)

OR



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- b. What is meant by a dictionary in Python? List the differences between a dictionary and a tuple in Python . CO2(10 Marks)

Given the dictionary:

student_scores = {"Alice": 85, "Bob": 90, "Charlie": 78, "David": 92}

Use the **max()** function to find the student with the highest score.

5.

- a. Give a brief about decision control structure in Python. Write a code in Python to accept percentage from user and display the grade according to the following criteria:
CO 2(10 Marks)

Marks	Grade
>90	A
>80 and <=90	B
>=60 and <=80	C
below 60	D

OR

- b. What do you mean by list and set comprehensions? CO3 (10 Marks)
- Given a string: text = "Python programming makes coding fun!"
Write a set comprehension to extract all unique **uppercase** letters from this string.
 - Explain the purpose of the following built-in functions in Python with an example:
 - map()
 - filter()