



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA,
GUNUPUR
(GIET UNIVERSITY)**

B. Tech (Fourth Semester - Regular) Examinations, April – 2025
23BCDPC24001 – Python Programming for Data Science
(CSEDS)

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions**(The figures in the right hand margin indicate marks)****PART – A****(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

- | | CO # | Blooms Level |
|---|------|--------------|
| a. What is a lambda function. | CO3 | K1 |
| b. Write code snippet to read elements and store in a list. | CO1 | K2 |
| c. List few operations on strings. | CO2 | K1 |
| d. What is an arithmetic expression? . What is the output of this statement? 'hello world' + 100 + 'how are you' explain the reason if the statement produces an error. | CO1 | K1 |
| e. Comment on try, except keywords. | CO4 | K1 |

PART – B**(10 x 5 = 50 Marks)**Answer **ALL** the questions

- | | Marks | CO # | Blooms Level |
|---|-------|------|--------------|
| 2. a. What is the need for role of precedence? Illustrate the rules of precedence in Python with example. | 5 | CO1 | K1 |
| b. Explain the use of in and not in operators in list with suitable examples. | 5 | CO2 | K1 |
| (OR) | | | |
| c. Explain the local and global scope with suitable examples. | 5 | CO1 | K1 |
| d. Develop a python to generate Fibonacci sequence of length (N) and Read N from the console. | 5 | CO2 | K2 |
| 3.a. Explain negative indexing, slicing, index(), append(), remove(), pop(), insert() and sort() with suitable examples | 8 | CO2 | K2 |
| b. Explain identity operators with suitable examples | 2 | CO2 | K2 |
| (OR) | | | |
| c. What are functions? Explain python function with parameters and return statements. | 6 | CO3 | K1 |
| d. Define exception handling. How exceptions are handled in python? Write a program to solve divide by zero exception. | 4 | CO3 | K1 |
| 4.a. Explain with examples (i) isalpha() (ii) isalnum() (iii) ispace() | 6 | CO3 | K2 |
| b. Explain join() and split() methods with examples. | 4 | CO3 | K2 |
| (OR) | | | |
| c. Develop a program with a function named DivExp which takes two parameters a, b and returns a value C (C = a/b). Write suitable assertion for a > 0 in function DivExp and raise an exception for when b = 0. Develop a suitable program which reads two values from the console and calls a function DivExp. | 5 | CO2 | K1 |
| d. Explain the concept of inheritance with an example | 5 | CO2 | K2 |

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|------|--|----|-----|----|
| 5.a. | Define a function which takes TWO objects representing complex numbers and returns new complex number with a addition of two complex numbers. Define a suitable class 'Complex' to represent the complex number. Develop a program to read N (N >=2) complex numbers and to compute the addition of N complex numbers. | 10 | CO3 | K1 |
| b. | Explain init and str methods with an example python program. | 5 | CO4 | K2 |
| (OR) | | | | |
| c. | Explain the following with syntax and suitable code snippet: i) Class definition ii) instantiation iii) passing an instance (or objects) as an argument iv) instances as return values. | 5 | CO3 | K1 |
| d. | Write a python program that uses datetime module within a class, takes a birthday as input and prints the age and the number of days, hours, minutes and second. | 5 | CO4 | K2 |
| 6.a. | Develop code snippet for generation of line graph and bar plot. | 5 | CO6 | K2 |
| b. | What is visualization? Explain the packages available in python for visualization. | 5 | CO5 | K1 |
| (OR) | | | | |
| c. | What is CSV and JSON files? Explain with an example program the usage of json module in python. | 5 | CO5 | K2 |
| d. | Explain clearly about matplotlib package in python. | 5 | CO6 | K1 |

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