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

B. Tech (Fourth Semester - Regular) Examinations, April – 2025

23BCMPC24001 – Python Programming for Machine Learning

(CSE AIML)

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. Define Extensible and Embedded features.	CO1	K1
b. Illustrate the difference between a method and a constructor in Python.	CO4	K3
c. How do you read multiple values from the keyboard in a single line in Python? Explain with an example.	CO2	K3
d. Define the purpose of type(), id(), range(), print().	CO1	K1
e. List out the differences between a List and a Numpy array.	CO2	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Explain the in-built functions provided by Python for type casting with suitable examples.	5	CO1	K1
b. Write a Python program to accept three numbers from the command line and display the biggest among them.	5	CO1	K1
(OR)			
c. Justify whether returning multiple values from a function is possible or not, with an example.	5	CO3	K3
d. Justify whether the nesting of the ternary operator is possible or not. Write a Python program for a minimum of 3 numbers using a ternary operator and the input must be dynamic.	5	CO2	K3
3.a. Explain the different types of functions in Python with examples: built-in, user-defined, lambda.	5	CO2	K2
b. Describe the concept of passing arguments to functions in Python. Write examples to demonstrate positional, keyword, default, and variable-length arguments.	5	CO3	K2
(OR)			
c. Write a Python program to calculate the sum of squares of numbers using a lambda function and map(). Explain how map() and lambda work together.	5	CO3	K3
d. Discuss the use of break, continue, pass, and else statements in loops with an example.	5	CO2	K2
4.a. How do you import the math module in Python? Explain any five functions from the module with appropriate examples.	5	CO2	K2
b. Justify the purpose of the finally block in Python exception handling with an example.	5	CO3	K3

	(OR)			
c.	Define the default except block with multiple excepts with an example.	5	CO3	K1
d.	How to handle the user-defined exception in Python with an example.	5	CO5	K4
5.a.	Explain the use of ones(), zeros(), shape, reshape(),and empty() functions in NumPy with examples.	5	CO3	K3
b.	Describe the process of saving and loading NumPy arrays to and from disk with an example.	5	CO3	K3
	(OR)			
c.	Differentiate between copy() and view() in NumPy with examples.	5	CO4	K4
d.	Perform statistical operations on a NumPy array, such as finding the maximum, minimum, sum, and product. Explain the working of each function used.	5	CO4	K3
6.a.	Describe the process of loading data into a Pandas DataFrame from a JSON file with an example.	5	CO4	K3
b.	Demonstrate how to plot a histogram and a box plot using Matplotlib and explain its usefulness in data visualisation.	5	CO3	K3
	(OR)			
c.	Discuss the use of Matplotlib for data visualisation. Write a program to create a line chart with customised colour, line style, and markers.	5	CO4	K3
d.	Demonstrate how the corr() function works in Pandas with an example.	5	CO3	K4

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