25AIC12

I SEMESTER BCA (AI) EXAMINATION - NOVEMBER/DECEMBER 2025

SCHEME: Revised CBCS

040

BCA (Artificial Intelligence)

Python Programming

Time: 03 Hours **Max Marks: 80**

Instruction: Answer both **Part A** & **Part B.**

PART - A

1. Answer **ALL** questions. **8x2=16**

   a. What is a keyword? Give an example. CO1 LL1

   b. What is precedence and associativity? CO1 LL1

   c. What is the use of the return statement? CO2 LL1

   d. Give one example of a Built-in function with its purpose. CO2 LL1

   e. Define a Tuple CO3 LL1

   f. Define Sets CO3 LL1

   g. What is Pandas? CO4 LL1

   h. What is Matplotlib? CO4 LL1

PART - B

Answer any **TWO** sub questions from each main. **4x16=64**

2. a) Explain Membership and Identity Operators in Python with suitable examples. CO1 LL2 8

   b) Evaluate the following expressions: CO1 LL2 8

   i) $X_1 = (5 + 3) * 2 ** 3 // 4 + (10 - 3) * 2$

   ii) $X_2 = 5 + 3 * 2 ** 2 > 15$ and not $4 < 2$

   c) Explain Python Libraries, their types, and different ways to import them with examples. CO1 LL2 8

   d) Explain looping statements with break and continue statements in python. CO1 LL2 8

PTO

3.	a)	i) Explain Function Definition and Function Calling with an example.	CO2 LL2	4
		ii) Explain how Parameters and Arguments are used in functions with suitable example.	CO2 LL2	4
	b)	Discuss Default Parameters, Command line and Key word Arguments in Python with suitable examples.	CO2 LL2	8
	c)	Illustrate the concept of Recursive Functions in detail with suitable examples.	CO2 LL2	8
	d)	Write a note on:		
		i) Global and Local Scope	CO2 LL2	6
		ii) Variable Life time	CO2 LL2	2
4.	a)	i) Explain List Creation.	CO3 LL2	4
		ii) Explain Indexing and Slicing in List.	CO3 LL2	4
	b)	Write a python program to Implement Stack and Queue operations using List.	CO3 LL2	8
	c)	Write a program to demonstrate use of dictionaries in python.	CO3 LL2	8
	d)	i) Explain File Types in Python.	CO3 LL2	4
		ii) Explain Create, Open, Write and Read Operations on Files in Python.	CO3 LL2	4
5.	a)	What is GU Interface? Explain Layout Management techniques with examples.	CO4 LL3	8
	b)	What is Data Analysis? Explain Array Creation using NumPy with various Operations on Arrays	CO4 LL2	8
	c)	i) Explain the Series and Data Frame in Pandas.	CO4 LL2	4
		ii) Explain Operations on Data Frame in Pandas.	CO4 LL2	4
	d)	Explain different types of charts in Matplotlib with syntax and examples.	CO4 LL2	8