

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2025
(First Semester)**

Branch - INFORMATION TECHNOLOGY

DATA ANALYSIS AND VISUALIZATION USING PYTHON

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks $(10 \times 1 = 10)$

Module No.	Question No.	Question	K Level	CO
1	1	Who developed Python Programming Language? a) Guido van Rossum b) Rasmus Lerdorf c) Wick van Rossum d) Niene Stom	K1	CO1
	2	Which of the following is the correct extension of the Python file? a) .python b) .pl c) .py d) .p	K2	CO1
2	3	Which of the following is used to define a block of code in Python language? a) Indentation b) Key c) Brackets d) All of the mentioned	K1	CO2
	4	What will be the value of the following Python expression? $4+3\%5$ a) 2 b) 7 c) 1 d) 4	K2	CO2
3	5	Which of the following is not a core data type in Python programming? a) Tuples b) List c) Class d) Dictionary	K1	CO3
	6	Which of the following methods is used to get a list of all keys in a Python dictionary? a) keys() b) get_keys() c) list() d) get()	K2	CO3
4	7	A ----- is a two dimensional data structure. a) List b) DataFrame c) Series d) None	K1	CO4
	8	We can add a new row to a dataframe using ----- method. a) rloc[] b) iloc[] c) loc[] d) None	K2	CO4
5	9	Which of the following is not a valid type of chart. a) Bar b) Box c) Line d) Curve	K1	CO5
	10	The readlines() method returns -----. a) str b) a list of lines c) a list of single characters d) a list of integers	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	CO
1	11.a.	Construct Python program using operators. (OR)	K3	CO1
	11.b.	Organize various steps in software development process.		
2	12.a.	Compare List and Tuples. (OR)	K5	CO2
	12.b.	Explain about Triple quoted string in python.		
3	13.a.	Prioritize the steps in Dictionary creation and its operations. (OR)	K5	CO3
	13.b.	Interpret the importance of Numpy libraries.		
4	14.a.	Identify the necessary steps to create series from dictionary. (OR)	K3	CO4
	14.b.	Construct various Data aggregation method in python.		
5	15.a.	Create a program to Read data from csv file. (OR)	K6	CO5
	15.b.	Develop the steps to handle missing values in python.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	CO
1	16	Implement various Conditional statements in python.	K3	CO1
2	17	Explain the steps in function creation and function calling in python.	K5	CO2
3	18	Criticize different File operations in python.	K5	CO3
4	19	Construct a Data frame and apply various operations.	K3	CO4
5	20	Create a python program to apply various Data Visualization techniques.	K6	CO5