

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

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

Branch – INFORMATION TECHNOLOGY

DATA ANALYSIS & VISUALIZATION USING PYTHON

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry EQUAL marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is the correct extension of the Python file? a) .python b) .pl c) .py d) .p	K1	CO1
	2	Find the correct character which is used to give single-line comments in Python? a) // b) # c) ! d) /*	K2	CO1
2	3	Which keyword is used for function in Python language? a) Function b) def c) Fun d) Define	K1	CO2
	4	Which of the following is not a core data type in Python programming? a) Tuples b) Lists c) Class d) Dictionary	K2	CO2
3	5	Select the correct statement which is used to create an empty set in Python? a) () b) [] c) { } d) set()	K1	CO3
	6	The readlines() method returns _____ a) str b) a list of lines c) a list of characters d) a list of integers	K2	CO3
4	7	Which Pandas data structure is used for one-dimensional data? a) series b) data frame c) array d) list	K1	CO4
	8	Which library is most commonly used for data manipulation and analysis in Python? (a) Matplotlib (b) Seaborn (c) Pandas (d) NumPy	K2	CO4
5	9	Which function is used to read data from a CSV file into a Pandas DataFrame? (a) read_csv() (b) load_csv() (c) from_csv() (d) import_csv()	K1	CO5
	10	What function is used to create a basic line plot in matplotlib? (a) scatter() (b) plot() (c) bar() (d) hist()	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the python operators.	K3	CO1
	(OR)			
	11.b.	Write about conditional statements.		
2	12.a.	Demonstrate List and Tuples with example.	K3	CO2
	(OR)			
	12.b.	Sketch the string functions with example.		
3	13.a.	Explain the dictionaries in python.	K5	CO3
	(OR)			
	13.b.	Interpret the persistent variables with example.		
4	14.a.	Explain the series creation with index.	K5	CO4
	(OR)			
	14.b.	Apprise the transposing a data frame with example.		
5	15.a.	Discuss about the data cleaning in python.	K6	CO5
	(OR)			
	15.b.	Elaborate the bar plot with example.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the python data types with example.	K3	CO1
2	17	Discuss about the sets and its operations.	K3	CO2
3	18	Elaborate the NumPy libraries and its applications.	K5	CO3
4	19	Demonstrate the dataframe and its operations.	K5	CO4
5	20	Elaborate the matplotlib with example.	K6	CO5