

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2026
(Second Semester)

Branch - **COMPUTER SCIENCE**
COMPUTING 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 data type is immutable in Python? (i) Dictionary (ii) List (iii) Set (iv) String	K1	CO1
	2	What will be the output of: print("Hello"[::-2])? (i) Hel (ii) ell (iii) olH (iv) lleH	K2	CO1
2	3	What will be the output of: a = [1, 2, 3]; a[1] = 5; print(a) (i) [1,2,3] (ii) [1,5,3] (iii) [5,2,3] (iv) Error	K2	CO2
	4	Which method is used to remove a specific key from a dictionary? (i) delete() (ii) pop() (iii) remove() (iv) discard()	K1	CO2
3	5	What is used to create an object in Python? (i) function call (ii) class name followed by parentheses (iii) create () method (iv) new	K1	CO3
	6	Child class inherited from the classes Father and Mother is an example of (i) Multi Level inheritance (ii) Single inheritance (iii) Multiple inheritance (iv) Hierarchical inheritance	K2	CO3
4	7	Which module is used for GUI programming in Python? (i) tkinter (ii) matplotlib (iii) pandas (iv) numpy	K1	CO4
	8	Which widget in tkinter is used to accept single-line user input? (i) Text (ii) Label (iii) Input (iv) Entry	K2	CO4
5	9	Which library is primarily used for data manipulation and analysis in Python? (i) Numpy (ii) Pandas (iii) Matplotlib (iv) Seaborn	K1	CO5
	10	Which function is used to detect missing values in Pandas? (i) isnull() (ii) fillna() (iii) notnull() (iv) sort()	K2	CO5

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.	Give the Syntax of control statements in Python. Illustrate with examples of conditional and looping constructs	K2	CO1
		(OR)		

Cont...

	11.b.	Demonstrate string slicing and commonly used string methods with an example.		
2	12.a.	Explain various set operations with examples.	K2	CO2
	(OR)			
	12.b.	Expound on tuples in Python. Discuss accessing elements, immutability, and tuple methods with suitable examples.		
3	13.a.	Apply the concept of try, except, else and finally blocks in Exception handling and explain with an example.	K3	CO3
	(OR)			
	13.b.	Explain the concept of classes and objects in Python. Illustrate how objects are created and used.		
4	14.a.	Explain geometry management in Tkinter. Compare pack(), grid(), and place() with examples.	K3	CO4
	(OR)			
	14.b.	Create the Registration form for an Inter Collegiate technical fest . (Compulsory widgets to be placed: Label,Button,Text,Radio Button,Check button)		
5	15.a.	Explicate on pandas data structures with an example.	K3	CO5
	(OR)			
	15.b.	Write a Python program to: Create a DataFrame Perform filtering and sorting Handle missing values using appropriate methods		

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	Discuss built in functions, user defined functions and recursive functions in python with an example.	K2	CO1
2	17	Give the python script to perform the following with respect to List and explain any 5 list operations with an example. i)Create a List "Fruits" with 2 items ii)Add "Pear" to the List Fruits. iii) Print the Second item in the list Fruit iv)Remove the item "Pear" from the list Fruit. v) Convert the List Fruit into a SET	K3	CO2
3	18	Write a Python program using OOP concepts to: a)Create a text file b)Write data into the file c)Read and display the contents d)Handle possible exceptions	K3	CO3
4	19	Explain geometry management techniques in tkinter. Discuss pack(), grid(), and place() methods with examples and their use cases.	K3	CO4
5	20	Write a Python program to: a)Read a dataset (Students mark data set) b)Generate at least three different plots (line, bar, scatter) c)Interpret the results (Visualize the top 5 rank students, failed in all subjects)	K5	CO5