

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION DECEMBER 2025**  
(Fourth Semester)  
Branch - **ELECTRONICS**

**PYTHON PROGRAMMING AND APPLICATIONS**

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	Choose the correct extension for a Python file? a) .py                      b) .java c) .html                    d) .txt	K1	CO1
	2	Find the control statements, which is used to skip the current iteration of a loop in Python? a) break                    b) continue c) return                   d) pass	K2	CO2
2	3	Show the correct syntax to define a function in Python? a) function my_func():    b) def my_func: c) def my_func():        d) function def my_func:	K1	CO2
	4	Which of the following statements is correct regarding global variables in Python? a) A global variable can only be used inside functions b) Global variables must be declared using the global keyword inside functions c) Global variables cannot be accessed outside functions d) Global variables are faster to access than local variables	K2	CO1
3	5	Which of the following is a correct way to access the first element of a list in Python? a) list(0)                  b) list[0] c) list(1)                  d) list{0}	K1	CO2
	6	What does the pop() method do in a Python list? a) Removes the first element of the list b) Removes the last element of the list c) Inserts an element at the beginning of the list d) Inserts an element at the end of the list	K2	CO1
4	7	Which method is used to remove a key-value pair from a dictionary in Python? a) remove() b) del() c) popitem() d) discard()	K1	CO1
	8	Which of the following methods is used to add a key-value pair to a dictionary? a) add() b) insert() c) setdefault() d) update()	K2	CO2
5	9	What does the os.rename() method do in Python? a) Deletes a file b) Renames a file or directory c) Moves a file d) Reads a file	K1	CO1
	10	What type of exception is raised when there is a division by zero in Python? a) ValueError              b) ZeroDivisionError c) IndexError               d) KeyError	K2	CO2

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 identifiers in Python.	K3	CO2
	(OR)			
	11.b.	Discuss about reserved keywords in Python Programming.		
2	12.a.	Explain the usage of built-in functions, user-defined functions, and function composition.	K3	CO3
	(OR)			
	12.b.	Analyze the concept of function overloading using default arguments.		
3	13.a.	Explain the difference between lists and tuples with examples.	K4	CO4
	(OR)			
	13.b.	Discuss the various categories built-in operators in Python.		
4	14.a.	Build a student management system using tuples and dictionaries and explain it.	K4	CO5
	(OR)			
	14.b.	Discuss the immutability of tuples and how tuple unpacking works.		
5	15.a.	Demonstrate how to create and read files in Python.	K5	CO3
	(OR)			
	15.b.	Justify the user defined exceptions in python.		

**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	Elaborate the concepts of variables and operators in python.	K4	CO5
2	17	Build a Python script using Built in function.	K4	CO4
3	18	Explain the trade-offs between using mutable (lists) and immutable (tuples) data types, and how these decisions impact the overall performance of the program.	K4	CO5
4	19	<p>Develop Python program to manage a list of products in a store. Each product is represented as a tuple containing the information such as Product Name (string), Product Price (float), and Stock Quantity (integer)</p> <ol style="list-style-type: none"> <li>Create a list of tuples to represent 5 different products with the information mentioned above.</li> <li>Write a function that takes this list as input and returns the name of the most expensive product.</li> <li>Demonstrate tuple assignment by swapping the values of two products in the list (for example, swap the stock quantity of two products). Show how you can use tuple assignment for swapping the product details without needing a temporary variable.</li> </ol>	K5	CO3
5	20	Build the key concepts and basic syntax of Exception Handling mechanism in python.	K5	CO4