PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 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	How do you write a multi-line comment in Python? a) // This is a comment b) /* This is a comment */ c) ''' This is a comment ''' d) # This is a comment	K1	CO1
	2	In Python, what is the result of the expression 5 != 3? a) False b) True c) 5 d) 3	K2	CO2
2	3	Choose the keyword used to define a function in Python? a) def b) function c) define d) func	K1	CO1
	4	Which statement is true about recursive functions in Python? a) Recursive functions can only call themselves directly b) A recursive function must have a base case to stop recursion c) Recursive functions cannot return values d) Recursive functions always result in an error	K2	CO2
3	5	Given the string s = "Hello, World!", what would the following code output? print(s[7:]) a) "Hello" b) "World!" c) "Hello, " d) "World"	K1	CO1
	6	Find , which of the following statements about lists is true? a) Lists are immutable and cannot be changed. b) Lists can hold elements of different data types. c) Lists can only store elements of the same data type. d) Lists are fixed in size.	K2	CO2
4	7	Which of the following is NOT a valid operation for a dictionary in Python? a) d["new_key"] = "new_value" b) d.pop("key") c) d.append("key", "value") d) del d["key"]	K1	CO1
	8	What will the popitem() method do in a dictionary? a) It removes and returns a key-value pair from the dictionary b) It removes a specific key-value pair by key c) It adds a new key-value pair d) It clears the dictionary	K2	CO2
5	9	Choose the correct syntax to raise a custom exception in Python. a) raise CustomException("Message") b) throw CustomException("Message") c) raise Exception("Message") d) exception CustomException("Message")	K1	CO1
	10	Which of the following file modes allows you to read from and write to a file? a) r b) w c) rw d) r+	K2	CO2

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 Python identifiers with example.	K3	CO2
		(OR)		
	11.b.	Develop the string operations in Python and Provide examples for string concatenation, slicing, and indexing.		
2	12.a.	Distinguish between Recursive and Non-Recursive Approaches.	K4	CO3
		(OR)		
	12.b.	Discuss the Anonymous Functions with example.		
3	13.a.	Explain the concept of strings in Python.	K5	CO4
		(OR)		
	13.b.	Discuss the built-in list methods in Python and give an example.		
4	14.a.	Explain the process of converting between tuples and dictionaries and describe how the operations are performed.	K4	CO2
		(OR)		
	14.b.	Classify the function get_max_min that takes a tuple of numbers and returns a new tuple with the highest and lowest number from the given tuple. numbers = (5, 12, 9, 3, 15).		
5	15.a.	Determine the try, except, else, and finally blocks exceptions in python.	K5	CO3
		(OR)		
	15.b.	Evaluate the user defined functions 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	Discuss the key features of Python as a programming language.	K4	CO3
2	17	Determine the Functions in Python.	K5	CO4
3	18	Justify your design decisions for handling errors and explain how your approach efficiently solves the problem.	K4	CO5
4	19	Given the following tuple representing the temperatures of a city for a week : week_temperatures = (72, 75, 78, 80, 79, 77, 76)Solve and perform the following tasks: • Find the highest and lowest temperature of the week. • Slice the tuple to get the temperatures for Monday to Wednesday. • Calculate the average temperature for the week. • Convert the tuple into a list and add a new temperature for Sunday (e.g., 82). • Convert the list back to a tuple and print the updated tuple.Write Python code to perform these tasks and explain it.	K6	CO3
5	20	Explain the various file operations (opening , closing,reading, writing, renaming, and deleting files).	K5	CO4

Z-Z-Z   END