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25CAP101

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MCA DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Branch – **COMPUTER APPLICATIONS**

PROBLEM SOLVING AND PROGRAMMING

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	What is the primary purpose of using control structures in pseudo-code? a) Adding complexity b) Enhancing readability c) Creating graphics d) Formatting output	K1	CO1
	2	Clarify the symbol is used to represent decision or condition in flowchart? a) Rectangle b) Diamond c) Oval d) Circle	K2	CO1
2	3	What does IDLE stands for? a) Interactive Development and Learning Environment b) Integrated Debugging and Learning Environment c) Integrated Development Learning Environment d) Interactive Debugging and Learning Environment	K1	CO2
	4	How many modes does the python interpreter have? a) 1 b) 2 c) 3 d) 4	K2	CO2
3	5	Which of the following functions returns a list of words of the string? a) find() b) partition() c) split() d) index()	K1	CO3
	6	What is the keyword to define functions in Python? a) func b) function c)define d) def	K2	CO3
4	7	What is the correct method to add an element at the end of the list? a) append() b) add() c) push() d) insert()	K1	CO4
	8	How do you add a new key-value pair to a dictionary d? a) d.add(key, value) b) d[key] = value c) d.insert(key, value) d) d.append(key, value)	K2	CO4
5	9	Which of the following is not a standard exception in Python? a) NameError b) IOError c) ValueError d) AssignmentError	K1	CO5
	10	How do you create a module in python? a) create a .mod file b) create a .module file c) create a .py file d) use module keyword	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.	Classify the basic building blocks of the algorithm.	K2	CO1
		(OR)		
	11.b.	Explain the role of pseudocode in problem solving.		
2	12.a.	Differentiate between tuples and list with examples.	K4	CO2
		(OR)		
	12.b.	Explain how variables are declared and assigned in python with suitable example.		
3	13.a.	Analyze the while and for loops with an example.	K4	CO3
		(OR)		
	13.b.	Point out the use of break and continue statements in python loops.		
4	14.a.	Summarize the list methods and list parameters.	K5	CO4
		(OR)		
	14.b.	Explain the tuple assignment and tuple as a return values with example.		
5	15.a.	Outline the reading and writing files in python.	K6	CO5
		(OR)		
	15.b.	Explain how packages and modules promote code reusability and maintainability.		

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	Describe the strategies for developing algorithms using iteration and recursion.	K1	CO1
2	17	Illustrate the role of interpreter and how interactive mode helps in program development.	K4	CO2
3	18	Outline the importance of using string function and methods in python with examples.	K4	CO3
4	19	Explain the different operations performed on list in python with examples.	K4	CO4
5	20	Summarize the concepts of exceptions handling mechanisms.	K4	CO5

Z-Z-Z END