

(FOR THE CANDIDATES ADMITTED

25UDA204

DURING THE ACADEMIC YEAR 2025 ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY-2026

BSC CS WITH DA

MAXIMUM MARKS: 75

SEMESTER: II

TIME : 3 HOURS

PART - III

25UDA204 - PROBLEM SOLVING USING PYTHON

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

1. Which virtual machine executes Python bytecode?
a) JVM b) CPython c) PVM d) LLVM
2. _____ statement is compulsory inside a function body.
a) Indentation b) print c) return d) pass
3. What is the index of the first element in a list?
a) 1 b) 0 c) -1 d) 2
4. Dictionaries store data in the form of _____.
a) tuples b) lists c) sequences d) key-value pairs
5. Which function calls the constructor of the immediate parent class?
a) super() b) parent() c) base() d) init()

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6. Define the importance of identifiers in Python.
7. Differentiate between parameters and arguments.
8. Give an outline of tuple indexing.
9. Name two modes to open a file in Python.
8. Mention any two types of inheritance in Python.

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Examine how different types of comments are applied in Python programs.

(OR)

- b) Describe the working of loop control statements in Python with an example.

12. a) Assess the use of a lambda function to perform arithmetic operations.

(OR)

b) Apply the concept of local and global variables with an example.

13. a) Interpret the purpose of list operators to concatenate and repeat two lists.

(OR)

b) Show the use of variable-length arguments in a function.

14.a) Determine how sets can be used to remove duplicate elements from a list.

(OR)

b) Demonstrate union, intersection, and difference operations.

15.a) Implement a destructor in a class and show when it is called.

(OR)

b) Examine method overloading by creating a class with a method that can add three numbers.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Discuss in detail the history and features of Python.

(OR)

b) Evaluate the methods used for formatting numbers and strings.

17.a) Analyze the immutability of Python strings with examples.

(OR)

b) Determine the use of Python's built-in string functions.

18.a) Investigate the effect of modifying a list inside a function.

(OR)

b) Examine the differences between lists and tuples in terms of mutability and performance.

19.a) Explain the use of sets to remove duplicates from a large dataset.

(OR)

b) Illustrate the use of seek() function to read specific portions of a file.

20.a) Evaluate the differences between instance variables and class variables with examples.

(OR)

b) Assess the concepts of getter and setter methods for private attributes.
