

(FOR THE CANDIDATES ADMITTED

24UDA307

DURING THE ACADEMIC YEAR 2024 ONLY)

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2025

B.Sc.CS with DA (SF)

MAXIMUM MARKS: 75

SEMESTER: III

TIME : 3 HOURS

PART - III

24UDA307 - PROBLEM SOLVING USING PYTHON

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

1. Python programs are first compiled to:

- a) Machine code
- b) Intermediate bytecode
- c) Binary code
- d) Assembly code

2. Which keyword is used to define a function in Python?

- a) def
- b) function
- c) fun
- d) define

3. What will be the output of len([1, [2, 3], 4])?

- a) 2
- b) 3
- c) 4
- d) Error

4. Which operation removes all elements from a set?

- a) remove()
- b) delete()
- c) clear()
- d) pop()

5. What is the purpose of the super() function?

- a) To define superclass
- b) To override methods
- c) To call parent class methods
- d) To create a static method

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6. Comment an outline of an interactive mode in Python?

7. Define String.

8. Identify any two features of Python lists.

9. Why do we need dictionaries in Python?

10. Name any two special class attributes in Python.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Examine the steps to install and run a Python program in an interactive mode.

(OR)

b) Describe the Inbuilt Functions of Python with examples.

12. a) Apply the concept of a function to calculate and display the square of a given number.

(OR)

b) Create a Python program using functions to input a list of numbers and return the average of the list.

13. a) Show the use of *args in Python functions.

(OR)

b) Interpret the purpose of the zip() function in Python.

14.a) Demonstrate how to create a dictionary with key-value pairs.

(OR)

b) Compare seek() and tell() functions with an example.

15.a) Illustrate how to create objects of a class and access their attributes and methods.

(OR)

b) Demonstrate runtime polymorphism using method overriding in a class hierarchy.

SECTION – C

(5 X 8 = 40 MARKS)

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

16. a) Demonstrate about the concept of multiple assignments in Python with example.

(OR)

b) Evaluate different looping mechanisms with examples.

17.a) Analyze the syntax and structure of a user-defined function in Python.

(OR)

b) Interpret various string operations in Python.

18.a) Determine how Python supports conversion between strings and lists.

(OR)

b) Examine various inbuilt tuple functions with examples.

19.a) Compare and contrast mutable and immutable sets in Python using examples.

(OR)

b) Evaluate the significance of using file modes in Python.

20.a) Analyze the role of constructor and destructor methods in resource management.

(OR)

b) Examine different types of inheritance with suitable examples.
