(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY)

23UCC513

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS): POLLACHI
END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2025

B.Com.-C.A **MAXIMUM MARKS: 75**
SEMESTER: V **TIME: 3 HOURS**

PART - III
PROGRAMMING IN C & PYTHON

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. **K1**

1. What is the correct syntax to declare an integer variable in C?
   a) int x; b) integer x; c) declare int x; d) int = x;

2. What determines the size of a union in C?
   a) Sum of sizes of all members b) Size of its largest member
   c) Sum of sizes of two largest members d) Always equals size of int

3. What is the default return type if none is specified in a C function definition?
   a) void b) int c) float d) No default; it's an error

4. Which of the following is ***not*** a standard numeric type in Python?
   a) int b) float c) complex d) decimal

5. What's the result of the given Python expression?

```
python
CopyEdit
d = {"john": 40, "peter": 45}
print("john" in d)
```

   a) True b) False c) None d) Error

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. **K2**

6. Explain the difference between =and== in C.
7. Distinguish between 1-D arrays and 2-D arrays in C.
8. List the four categories of user –defined functions in C.
9. What is the difference between mutable and immutable built-in types in Python? Provide one example of each.
10. What is aliasing in the context of Python lists?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. **K3**

11. a) Explain the if...else if ladder with a sample program.

(OR)

b) Explain the concept of switch –case statement with an example program

12. a) Show how to define a structure that contains another structure. Give an example and explain usage.

(OR)

b) Show the declaration of 1D and 2D array. Also list and explain rules for accessing elements in multi-dimensional arrays**.**

(CONTD…..2)

13. a.) Explain “call by value” vs “call by reference” in function arguments, with examples.

(OR)

b.) With the declaration and definition of a function, **w**rite a small C program that makes the function to take two integers, adds them, and returns the sum.

14. a.) Describe the main categories of built-in standard types in Python and give examples.

(OR)

b) What is Unicode in Python strings, and why is it important?

15. a) Explain the uses and differences between *args and **kwargs in function definitions. Give examples.

(OR)

b) Describe the functionalities of mutabilityand aliasing with clear example**.**

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K4 & K5

16. a) Describe the control structures in C with clear example.

(OR)

b) Give a detailed note on the primary data types in C

17. a) Write a C program that declares and initializes a 3x3 2D array, accept values with user input, and computes its transpose. Explain the logic and show sample I/O.

(OR)

b) Explain the concept of Union and Structure with a clear example program. Also bring the differences between them.

18. a) Demonstrate with example coding in C, passing a structure to a function , by value and by reference. Also state the differences and advantages of using both .

(OR)

b) Explain function prototypes and its importance,especially before main(). What will be the issues if omitted? Give an example coding.

19. a) Compare built-in functions, built-in methods, and factory functions in Python.

(OR)

b) Explore Python numeric types and their operations in detail.

20. a) Explain Python’s list slicing syntax and behavior with examples. Also mention how slicing relates to cloning.

(OR)

b) Explain variable scopes in Python with clear examples.

****

ETHICAL PAPER