

(FOR THE CANDIDATES ADMITTED

SUBJECT CODE **22 UPS 6E19**

DURING THE ACADEMIC YEAR 2022-23 ONLY)

REG.NO.

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

**END-OF-SEMESTER EXAMINATIONS : MAY– 2025**

**B.Sc. – PHYSICS**

**MAXIMUM MARKS: 50**

**VI SEMESTER**

**TIME : 3 HOURS**

**PART – III**

**C PROGRAMMING AND INFORMATION SECURITY**

**SECTION – A**

**(10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.**

**(K1)**

1. The keyword used to define a constant value in C is.....  
(a) #define (b) const (c) static (d) Both a and b
2. Which loop is best suited when the number of iterations is known?  
(a) while (b) do...while (c) for (d) switch
3. A recursive function is a function that.....  
(a) Calls itself (b) Calls another function  
(c) Runs only once (d) Cannot have parameters
4. What is Dumpster Diving in cybersecurity?  
(a) Searching through a person's trash for sensitive information  
(b) Hacking into a database  
(c) Encrypting personal files  
(d) Physically stealing a computer
5. Cross-Site Scripting (XSS) attacks target which part of a web application?  
(a) Database (b) Server (c) Web browser (d) Operating system

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

**(K2)**

6. Define - identifiers in C.
7. What is an else if ladder?
8. Differentiate between functions with and without return values.
9. What is a protocol in networking?
10. Name a method used to prevent SQL Injection attacks.

**SECTION – B****(5 X 3 = 15 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Explain the basic structure of a C program with an example.  
(OR)  
b) Explain the use of assignment operators in C with example.
12. a) What is an if...else statement? Write a program to check whether a number is even or odd using if...else.  
(OR)  
b) How do you declare and initialize a string in C?
13. a) Explain about Recursion Statement with an example.  
(OR)  
b) Explain the use of malloc() and free() functions in pointers.
14. a) Define transmission media and list its types.  
(OR)  
b) What are the major threats and vulnerabilities in information security?
15. a) Define steganography and its use in digital security.  
(OR)  
b) What is a firewall? How does it enhance network security?

**SECTION – C****(5 X 5 = 25 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) Describe the different types of data types in C with examples.  
(OR)  
b) Explain logical and relational operators in C with examples.
17. a) Explain “for” & “while” loop with example.  
(OR)  
b) Explain the declaration, initialization, and accessing of one dimensional array with examples.
18. a) Discuss different categories of functions with examples  
(OR)  
b) Explain pointer initialization, pointer arithmetic, and pointer dereferencing with examples.
19. a) What is TCP/IP? Explain its layers and their functions.  
(OR)  
b) Discuss the role of authentication, encryption, and firewalls in ensuring network security.
20. a) Explain session management in web security. How can poor session management lead to security breaches?  
(OR)  
b) Explain different authentication methods, including multi-factor authentication.