

# First Term Higher Secondary Examination, August 2025

**XII****Part – III****Time: 2 Hours****COMPUTER SCIENCE**

Cool-off Time: 15 Minutes

**Maximum: 60 Scores****Part – I****Answer any 5 questions from 1 to 6. Each correct answer carries 1 score. (5×1=5)**

1. \_\_\_\_\_ is the keyword used to declare a structure in C++?
2. Which operator is used to access structure members via a pointer?
3. Showing only the essential features and hiding complexities from outside world refers to\_\_\_\_\_.
4. Attempting to insert in an already full stack leads to \_\_\_\_\_.
5. Default port number for HTTPS is \_\_\_\_.
6. Name the data structure that follows FIFO principle.  
(a) Stack (b) Queue (c) Array (d) Linked List

**Part – II****Answer any 9 questions from 7 to 18. Each correct answer carries 2 scores. (9×2=18)**

7. Explain the difference between declaring a pointer to a structure and accessing structure members using the pointer.
8. Read the following C++ statements:  
    `int*p, a=5;`  
    `p=&a;`  
    (i) What is the specialty of the variable p ? (1)  
    (ii) What will be the content of p after the execution of second statement ? (1)
9. Orphaned memory blocks are undesirable. How can they be avoided?
10. Differentiate between data abstraction and data encapsulation
11. What is the difference between structure and class ?
12. What is polymorphism. Give an example.
13. Linked list usually do not have the problem of overflow. Discuss.
14. Write an algorithm to perform insertion operation in a Queue.
15. Write short notes on Linked list.
16. List different types of tags in HTML with example?
17. How will you distinguish a static web page from a dynamic web page?

18. Classify the following scripting languages into client side and server side.

ASP, JavaScript, PHP, VBScript

### Part – III

**Answer any 9 questions from 19 to 29. Each correct answer carries 3 scores. (9×3=27)**

19. (i) In C++, define a structure named 'student' with rollno, name and mark as its members. (1)  
(ii) State the advantages of using structures over arrays. (2)
20. What is a pointer in C++? Declare a pointer and initialize with the name of your country.
21. Explain different memory allocations used in C++?
22. What is the object oriented programming paradigm? Give any two advantages?
23. Differentiate between client side scripting and server side scripting.
24. Explain different types of inheritances which use more than two classes
25. A program is implemented to find the area of a circle and the area of a rectangle with two functions having the same name but with different signature.  
(a) Name the concept (1)  
(b) Explain this concept (2)
26. Explain about operations performed on STACK data structure.
27. Write an algorithm to add a new item into a queue.
28. Write HTML code for a web page of an institution with the following features. It should have a marquee welcoming users, a heading in different fonts and a picture and address of the institution.
29. (a) Name the different types of communication on the web and explain briefly. (2)  
(b) What is a web server? (1)

### Part – IV

**Answer any 2 questions from 30 to 32. Each correct answer carries 5 scores. (2×5=10)**

30. (i) An HTML document is saved with a name having \_\_\_\_ extension (1)  
(ii) Write name and meaning of any two attributes of <BODY> tag. (2)  
(iii) Write HTML code segment to display H<sub>2</sub>SO<sub>4</sub>. (2)
31. (a) Read the following code fragment:  
    int a[] = {5, 10, 15, 20, 25};  
    int \*p = a;  
Predict the output of the following statements:  
    cout << \*p;  
    cout << \*p+1;  
    cout << \* (p+1) ; (3)  
(b) What is self referential structure? (2)
32. a. What is data structure? (1)  
    b. Explain operations on data structures (4)