Answer any 5 questions from 1 to 6. Each carries 1 score. $(5 \times 1 = 5)$

1. The number $(158)_{10}$ can be represented in Hexadecimal number system as _____.

2. Some of the components in the phases of programming are given below. Write them in order of their occurrence :

   (i) Translation

   (ii) Documentation

   (iii) Problem identification

   (iv) Coding of program

3. The memory size of 'double' data type in C++ is _____ bytes.

4. In C++, name the loop which can be used to ensure that the body of the loop will surely be executed at least once.

5. Any device which is directly connected to a network is generally known as _____.

6. Pick the odd one from the following list :

   (i) Spam

   (ii) Trojan horse

   (iii) Phishing

   (iv) Firewall

8. Write the following memory devices in the order of their speed. (Fastest to slowest order) :

(a) Cache

(b) RAM

(c) Hard Disk

(d) Registers

9. Define syntax error and logical error.

10. Find the invalid identifier names from the following :

A1, d-w, 99, qwA, ZS, AaA, 8c

11. Write the symbols of the following C++ operators :

(a) Conditional operator

(b) Extraction operator

(c) Modulus operator

(d) NOT operator

12. Rewrite the following C++ program code with switch statement :

```
if(val= =1)
    cout<<"Science";
else if (val= =5)
    cout<<"Computer Science";
else
cout<<"Not a course";
```

13. (i) An array is declared as follows :

```
int a[5] = {1, 2, 3, 4, 5};
```

What will be the value of `a[2]+a[3]` ? **(1)**

(ii) How many bytes are allocated by the above array in memory ? **(1)**

14. Compare Linear search and Binary search on arrays in C++.

15. Construct the function prototypes for the following functions :

(i) The function Display( ) accepts one argument of type *double* and does not return any value. **(1)**

(ii) Total( ) accepts two arguments of type *int, float* respectively and return a *float* type value. **(1)**

16. Briefly explain about different types of methods used for passing arguments to a function.

17. Discuss the difference in working methods of hub and switch.

18. (i) Write a note on search engines. **(1)**

(ii) What is meant by Phishing ? **(1)**

$(9 \times 3 = 27)$

Answer any 9 questions from 19 to 29. Each carries 3 scores.

19. (i) Name the technology used in third generation of computers. (1)

    (ii) Draw the John Von Neumann Architecture for functional units of a computer. (2)

20. Which gates are called universal gates ? Draw their symbols.

21. (i) How e-Waste create environmental and health problems ? (1)

    (ii) Name the different methods for e-Waste disposal. (2)

22. Draw a flowchart to find the sum of first 10 natural numbers.

23. What is meant by Literals in C++ ? Explain its types.

24. (i) What is the use of keyword 'const' in C++ ? (1)

    (ii) List the different data type modifiers in C++. (2)

25. Briefly explain different types of type conversions in C++.

26. Briefly explain any three jump statements.

27. (i) How many bytes are required to store the string "WELCOME ALL" ? (1)

    (ii) What is the limitation of cin>>operator while reading a string ? How can we overcome it ? (2)

28. Explain any three network topologies with figures.

29. What is the role of Firewall and Anti-virus scanner in computer networks ?

Answer any 2 questions from 30 to 32. Each carries 5 scores. $(2 \times 5 = 10)$

30. (i) Write about any two methods of representing characters in memory. (2)

    (ii) Draw a logic circuit for Boolean expression $(\overline{A} + BC) + AB$. (3)

31. (i) Define Operating System. Write any two functions of operating system. (2)

    (ii) Write notes on different types of language processors. (3)

32. (i) Explain the difference between entry controlled loop and exit controlled loop. (3

    (ii) Classify the following loops into entry controlled loop and exit controlled loop for loop, while loop, do while loop. (
