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

1. Name the logic gate which produces the output 1, only if all the inputs are 1.

2. The program written in high level language is called _____.

3. Which type of statement is m = 10 ?

4. If a = 2, b = 3 and c = ++a + b++. Find the value of 'c'.

5. The smallest index of an array is _____.

6. A unique address (12 digit hexadecimal number) assigned to each NIC is called _____.

Answer any 9 questions from 7 to 18. Each correct answer carries 2 scores. $(9 \times 2 = 18)$

7. Expand the following :
   (a) ENIAC
   (b) VLSI

8. Draw the block diagram of John Von Neumann's computer architecture.

9. If $(x)_8 = (101011)_2 = (y)_{16}$. Find the values of x and y.

10. What are the major functions of operating system ?

11. Distinguish between logical error and syntax error in a program.

12. Write an algorithm to print the numbers up to 100 in reverse order.

13. List the data type modifiers in C++.

14. List any 4 operations that can be performed in an array.

15. Compare strcmp( ) and strcmpi( ).

16. Explain the difference between call by value method and call by reference method.

17. Explain the format of URL with an example.

18. Write the advantages of social media.

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

19. List and explain any three methods of representing characters in computer memory.

20. Prove that $(X + Y \cdot Z) = (X + Y) \cdot (X + Z)$ using algebraic method.

21. Categorize the software given below into operating system, application package, and utility program.

    Linux, OpenOffice Calc, Windows, WinZip, Kaspersky, OpenOffice Writer

22. (a) Draw a flow chart for the following algorithm :

    Step 1 : Start

    Step 2 : N=1

    Step 3 : Print N

    Step 4 : N=N+1

    Step 5 : if N<=10 Then goto step 3

    Step 6 : Stop

    (b) Write the output of the above algorithm.

23. Identify invalid identifiers and write reason.

    (a) _4ac   (b) a@b   (c) For   (d) 4ac   (e) main

24. Differentiate between Type Casting and Type Promotion.

25. Rewrite the following program using while loop and do......while loop :

```
#include<iostream>
using namespace std;
int main( )
{
for (int i=1;i<=10;i++)
{
cout<<i;
}
return 0;
}
```

26. Write an algorithm for bubble sorting.

27. Write the use of the following string function in C++ :
    (a) gets( )
    (b) getline( )
    (c) write( )

28. Write the syntax and use of following functions in C++ :
    (a) strcpy( )
    (b) pow( )
    (c) islower( )

29. Explain any 3 advantages of email.

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

30. Define the term e-Waste. Explain briefly about any four e-Waste disposal methods.

31. Write a program to check whether the given number is palindrome or not.

32. Define Network topology. Explain about the four major topologies.