2021

COMPUTER SCIENCE

Total marks : 70 Time : 3 hours

General instructions:

i) Approximately 15 minutes is allotted to read the question paper and revise the answers.

ii) The question paper consists of 32 questions. All questions are compulsory.

iii) Marks are indicated against each question.

iv) Internal choice is given in some questions.

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. What is compiler? **1**

2. What is a turnaround time? **1**

3. What is the full form of EBCDIC? **1**

4. Define system bus. **1**

5. What is meant by spooling? **1**

6. Define access time. **1**

7. How is a variable created? **1**

8. What is abstraction? **1**

9. What is #include directive? **1**

10. What is cascading? **1**

11. Define run time error. **1**

12. Mention one advantage of flowchart. **1**

13. What are literals in C++? How many types of literals are allowed in C++? **2**

14. Define syntax error. Give one example. **2**

15. What would be the output of the following program? **2**

```
#include<iostream.h>
void main()
```

```
{
        int a=1, b=2 , c=4;
        a=+c + ++b/c;
        cout<< "a="<<a;
}
```

16. Explain two types of compile time errors. **2**

17. Explain in brief testing and debugging of program. **2**

18. Write an algorithm to compute factorial of a number. **2**

19. Find the output of the following program segment(assuming all required header files are included in): **2**

```
void main
{
    for(int i=1 ; i<=5 ; i++)
    {
        cout<<endl;
        for(int j=0 ; j<=i ; j++)
        cout<<"*"<<'\t';
    }
}
```

20. What are the purposes of the following mathematical functions? **2**
    a) ceil(x)
    b) fabs(x)

21. Differentiate between register storage class specifier and static storage class specifier. **2**

22. What is subscript? What is the purpose of subscript in an array? **2**

23. What is the purpose of function prototype? **2**

24. **a.** Describe different number systems in detail.

    Or **4**

    b. Differentiate between impact and non-impact printer.

25. Explain the following operators: **4**
    i. Prefix operator
    ii. Binary operator
    iii. Sizeof operator
    iv. Comma operator

26. Mention four characteristics of a good program. **4**

27. Explain the format of the 'for' loop: **4**
    i. Start condition
    ii. Continue condition
    iii. Re-evaluation
    iv. Program statements

28. Write a C++ program to implement Fibonacci series using while loop. **4**

29. **a.** Differentiate between call by value and call by reference.
    Or **4**
    b. Write a C++ program to swap two numbers without using a third variable.

30. **a.** Write a C++ program to find sum of two numbers using function prototype.
    Or **4**
    b. What is the difference between while () and do while () loop?

31. Write a C++ program to input an array num with 10 different integer values and search a particular value and its position in array using linear search. **4**

32. **a.** Give two similarities and two differences between a structure and a class.
    Or **4**
    b. Explain the following string manipulation functions:
    i. Strcpy(s1,s2)
    ii. Strcat(s1,s2)
    iii. Strcmp(s1,s2)
    iv. Strupr(s1)

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