

SUBJECT :COMPUTER SCIENCE

TIME : 3 HRS

CLASS: XI

MAX MARKS : 70

SET A

417 K 7

General Instructions:

1. All the questions are compulsory.
2. Programming must be done in C++.
3. Marks are indicated against each question.

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1. Define Software.Mention the types of software? (1)
 2. Give any two differences between a compiler and an Interpreter ? (1)
 3. What is firmware ? (1)
 4. Name any two super computers developed in India. (1)
 5. Define Disk Defragmenter. (1)
 6. Expand EPROM . What is the difference between PROM and EPROM ? (1)
 7. Expand : (i) ENIAC (ii) EDSAC (2)
 8. Convert (i) $2AC9_{16} = (?)_8$
(ii) $11101.0101_2 = ()_{10}$ (2)
 9. What are the different types of compile time errors? Give example for each. (2)
 10. Mention the different steps you would follow while writing a program. (2)
 11. Define : (i) pretty printing (ii) Guard Code. (2)
 12. What is the role of comments and indentation in a program? (2)
 13. What is Exception? (2)
 14. What are the different kinds of program maintenance? (2)
 15. What are the rules to be followed while naming the Identifier ? (2)
 16. What are data types? What are all predefined data types in c++? (2)
 17. What will be the size of following constants?
'A\A' , "A\A" (1)
 18. Determine the hierarchy of operations and evaluate the following C++ expression (1)
int l , ka = 2 , m = 4
 $l = ka * 3 / 2 + m / 4 + 8 - ka + 5 / 8 ;$

19. Write the C++ expression for the following. (2)

(i) $\sqrt{e^{4x}}$

(ii) $|(a + b)^3|$

20. What is the output of the following statement (1)

```
char ch = 'a';
ch = (ch == 'b') ? ch : 'b' ;
cout << ch ;
```

21. What will be the output of the following code ? (2)

```
#include<iostream.h>
void main()
{
    int a=5, b=10;
    for(int i=1;i<2;i+=2)
    {
        cout<<"\n" << a ++<<"$" << ++ a << "$" << a ++;
        cout<<"\n" << ++b<<"@" << b ++ <<"@" << ++b;
    }
}
```

22. Will the following program execute successfully ? if not , correct the coding (2)

```
#include<iostream.h>
void main()
{
    int i , j , k;
    k = Sum ( i , j );
    cout >> k;
}
int Sum( int i , j )
{
    return ( i * j );
}
```

23. What is meant by Scope? What are the kinds of scope supported by C++ ? (2)

24. Write the names of the header files of the following functions.

i) setw() ii) isdigit() iii) strcmp() iv) fmod() (2)

25. Observe the following code and select the output from the options (i) to (iv) which will not be expected from the program ? What will be the minimum and the maximum value assigned to the variable Turn ? (Assume the required header files are included) (2)

```
void main( )
{ randomize() ;
char A [ ] = "C++PROGRAM";
long L;
for (int i = 0 ; A[i] != 4 ; i++)
```

```

{
L = random(sizeof(L)) + 5;
Cout<<A[L]<< “-”;
} }

```

(i) R-P-O-R- (ii) P-O-R-T- (iii) O-R-A-G- (iv) A-G-R-M

26. Give the output of the following program : (2)

```

#include<iostream.h>
int c = 3 ;
void func( int X , int Y , int &Z)
{ c = X + Y ; Z = c + Y ;
  Y+= X;
  cout << X << ',' << Y << ',' <<Z<< '\n' ;
}
void main( )
{
int c = 2 , a = 5 ;
func( c , c , a);
cout << ::c << ',' << c << ',' << a << '\n' ;
func ( c , c , a);
}

```

27. Give the output of the following program segment: (2)

```

void main( )
{
char DATA = “IntRAnE’T”;
for ( int a = 0 ; a < strlen(NAME) ; a++)
if ( islower(DATA [ a ] ) )
DATA [ a ] = toupper ( DATA [ a ] );
else
if ( islower(DATA [ a ] ) )
if ( a % 2 == 0 )
DATA [ a ] = tolower ( DATA [ a ] );
else
DATA [ a ] = ( DATA [ a - 1 ] );
puts(DATA) ;
}

```

28. Rewrite the following program after removing the syntactical error(s), if any. (2)

Underline each correction.

```

#include<iostream.h>
int main( )
{ struct emp
{ char emp_Name[20];

```

```

    char emp_code;
    int CL = 5;
} EMP ;
gets(emp_Name);
gets(emp_code);
return 0 ;
}

```

29. Give the output of the following program : (3)

```

#include<iostream.h>
struct Point
{ int X ,Y ;
};
void Show (Point P)
{
    cout << P.X << ':' << P.Y << endl;
}
int main()
{
    Point U = { 20,10},V,W ;
    V = U ;
    V . X += 20 ;
    W = V ;
    U .Y += 10 ;
    U . X += 5 ;
    W . X -= 5 ;
    Show ( U ) ;
    Show ( V ) ;
    Show ( W ) ;
    return 0 ;
}

```

30. Write a C++ program to find the sum of prime numbers in upper triangular matrix. (4)

31. Write a C++ program to search for a specific element in a 1-D array . (Linear search) (4)

32. Write a C++ program to count the number of alpha numeric characters without using function. (3)

33. Write a C++ temperature conversion program that gives the user the option of converting Farenheit to Celsius or Celsius to Farenheit depending upon the user choice.(3)

34. Write a C++ program that invokes a function Swap() to swap two integers using call by reference method (3)

35. Write a C++ program to reverse each word of a string. (3)
