

INTERNATIONAL INDIAN SCHOOL, DAMMAM
SECOND TERM EXAMINATION-DECEMBER 2015
SET-A

SUB: COMPUTER SCIENCE
CLASS: XI

MAX. MARK:70
TIME: 3 HRS

Note:

All questions are compulsory.

Programming language used is C++.

1. What is Echo printing? [1]
2. What are the different stages of program development? [2]
3. What are the different types of compilation errors? [2]
4. Explain any two methods developed for program verification? [2]
5. What is debugging? [1]
6. What is Modularity in programming? [2]
7. What is #include directive? [1]
8. Predict the output of the following program code when value of 'a' is input as [2]
(i) 6
(ii) 0

```
#include<iostream.h>
void main()
{
int a, b=3;
cin>>a;
if(a)
    b = a++ -1;
cout<<"a="<<a<<endl;
cout<<"b="<<b;
}
```
9. Explain conditional operator with a suitable example. [2]
10. Rewrite the following code using if-else-if: [2]

```
#include<iostream.h>
void main()
{
int x=0,i;
cin>>i;
switch(i)
```

```

{
case -1:
case 0: x+=1;
        break;
case 1:
case 2:
case 3: x+=3;
        break;
default: x-=3;
}
cout<<x;
}

```

11. Write the corresponding C++ expression for the following mathematical expression. [1]
 $4y(P+Q)^2$
12. Using the given values of x, y and z evaluate the following. (Answer in true/false). [1]
 $(x==y) || (!z>=y \& \& --z<=x)$
x=9, y=10, z=2
13. Determine the hierarchy of operations and evaluate the following: [1]
 $K=3/2*4+3/8+3$
14. What is the difference between '=' and '==' operator? [1]
15. Discuss when does an if statement prove more advantageous over switch –case statement. [2]
16. How many time the following loop will execute? [1]

```

#include<iostream.h>
void main()
{
int =1, i = 2;
do
{
j*=i;
}
while(++i<5);
cout<<j;
}

```

17. Rewrite the following program after removing the syntactical error(s) if any. Underline each correction. [2]
- a) #include<iostream.h>
void main[]
{
int n1, n2;
int sub(int m1, int m2)
int result;
cin>>n1;
cin>>n2;
result= sub(n1);
}
void sub(int m1, int m2)
{

```
return(m1-m2);  
}
```

b) `#include<iostream.h>` [2]
`constint size 5;`
`void main()`
`{`
`int array[size];`
`array[size]={19,20,30,50,60};`
`for(ctr=0;ctr<size;ctr++)`
`cout<<array[ctr];`
`}`

18. Write the names of the header files, which is/are essentially required to run/execute the following C++ code: [2]

```
void main ()  
{  
clrscr();  
char C, String [] = "Excellence Overload";  
for (int l=0; String [l] != '\0'; l++)  
if (String [l] == ' ')  
cout<<endl;  
else  
{  
C=toupper(String [l]);  
putchar(C);  
}  
}
```

19. Differentiate between actual parameters and formal parameters with suitable example. [2]

20. What are the rules to be followed while naming the identifier? [2]

21. What will be the output of the following segment? [2]

```
#include<iostream.h>  
int m=5;  
void main()  
{  
void check();  
int m=10*::m;  
cout<<"::m="<<::m<<"m="<<m++<<endl;  
check();  
cout<<"::m="<<::m<<"m="<<++m;  
}  
void check()  
{  
++m;  
}
```

22. Differentiate between call by value and call by reference with a suitable example. [3]

23. Define the term scope rules of a variable. Mention any two types of scope. [2]

24. Consider the following array declarations: [2]

(i) float X[5][15]

(ii) short Y[18][4]

Find the total number of elements in each array and the size(in bytes) of each array.

25. What will be the output of the following C++ code? [2]

a) #include<iostream.h>

void main()

{

int b[10];

for(int i = 1; i<3; i++)

{

for(int j = 1; j<3; j++)

{

b[i] = 4*i+j;

cout<<b[i]<<" ";

}

cout<<endl;

}

}

[3]

b) #include<iostream.h>

#include<ctype.h>

void Changelt(char Text[], char C)

{

for(int k=0;Text[k]!='\0';k++)

{

if(Text[k]>='F' && Text[k]<='L')

Text[k]=tolower(Text[k]);

else if(Text[k]=='E' || Text[k]=='e')

Text[k]=C;

else if(k%2==0)

Text[k]=toupper(Text[k]);

else

Text[k]=Text[k+1];

}

}

void main()

{

char oldText[]="pOwERALone";

Changelt(oldText,'%');

cout<<"New Text:"<<oldText;

}

c) #include<iostream.h> [2]

void Indirect(int Temp=20)

{

for(int l =10; l<=Temp; l+=5)

cout<<l<<" ";

cout<<endl;

}

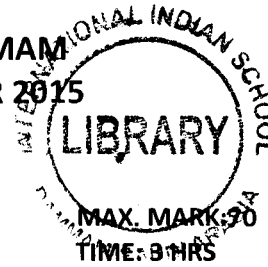
```

void Direct(intNum)
{
    Num+=5;
    Indirect(Num);
}
void main()
{
    int Number=20;
    Direct(Number);
    Indirect();
}

```

26. Write a program to read a matrix and display the sum of the elements in each row of the given matrix. [4]
27. Write a program to accept a string and check if the given string is palindrome or not. [3]
28. Write a program to read a one dimensional array of size 'n' and display the second smallest element with position. [4]
29. Write a C++ program to create the following: [3]
- (i) **fact()** to calculate factorial of a number.
 - (ii) **main()** to read a number 'N' , call the function **fact()** and print the result.
30. Write a program to count the digits in a given number N. [3]
- For example: If the number is 2345, then number of digits is 4**
31. Write a program to read a one dimensional array of size 'n' and divide all those elements by 7 which are divisible by 7 and multiply others by 3. Display the new array. [3]

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SET-B



SUB: COMPUTER SCIENCE
CLASS: XI

Note:

All questions are compulsory.

Programming language used is C++.

1. What is free formatting? [1]
2. What are the characteristics of a good program? (any 4 points) [2]
3. What are logical errors? Why logical errors are difficult to locate? [2]
4. Explain any two methods developed for program testing. [2]
5. What is program documentation? [2]
6. What is meant by robustness? [1]
7. What is the difference between '/' and '%' operators with suitable examples. [1]
8. What are string literals? [2]
9. Predict the output of the following program code when value of 'a' is input as [2]
 - (i) 0
 - (ii) 7

```
#include<iostream.h>
void main()
{
int a, b=2;
cin>>a;
if(a)
    b = a++ -1;
cout<<"a="<<a<<endl;
cout<<"b="<<b;
}
```
10. How many times the following loop will execute? [1]

```
int j=1, i=2 ;
while(++i<5)
{
    j*=i;
```

```
cout<<j;
}
```

11. Write the corresponding C++ expression for the following mathematical expression. [1]

$$4y \frac{\sqrt{xy}}{2}$$

12. Using the given values of x, y and z evaluate the following. (Answer in true/false). [1]
(x==y) || (!(z<=y) &&(--z>=x))

x=10, y=5, z=11

13. Determine the hierarchy of operations and evaluate the following: [1]
K=5/3*2+1/3+ 4

14. Rewrite the following code using if-else-if: [2]

```
#include<iostream.h>
void main()
{
int x=0,i;
cin>>i;
switch(i)
{
case -1:
case 0: x+=1;
break;
case 1:
case 2:
case 3: x+=3;
break;
default: x-=3;
}
cout<<x;
}
```

15. What is the purpose of default clause in a switch statement with a suitable example? [1]

16. Write one advantage and one disadvantage of conditional operator (?:) in place of an if-else statement. [2]

17. Consider the following array declarations: [2]

- (i) int X[5][25]
(ii) float Y[7][4]

Find the total number of elements in each array and the size(in bytes) of each array..

18. Rewrite the following program after removing the syntactical error(s) if any. Underline each correction. [2]

- a) #include(iostream.h)
void main()
{

```

int n1, n2;
int add(int m1, int m2)
int result;
cin>>n1;
cin>>n2;
    result= add(n2);
}
double add(int m1, int m2)
{
    return(m1+m2);
}

```

b) `#include<iostream.h>` [2]

```

void main()
{
int message[]="Programming";
ctr=0;
while(message[ctr]!='\0');
{
cout>>message[ctr];
++ctr;
} }

```

19. Write the names of the header files, which is/are essentially required to run/execute the following C++ code: [2]

```

void main()
{
clrscr();
char text[] ="Something" ;
cout<< "Remaining SMS chars: "<<setw(5)<<160-strlen(text)<<endl;
}

```

20. Differentiate between call by value and call by reference with a suitable example. [3]

21. Explain the term Global and Local variable. Give a suitable C++ code to illustrate both. [2]

22. What will be the output of the following segment? [2]

```

#include<iostream.h>
int m=8;
void main()
{
void check();
int m=2*::m;
cout<<"::m="<<::m<<"m="<<m++<<endl;
check();
cout<<"::m="<<::m<<"m="<<++m;
}
void check()
{
++m;
}

```


23. Differentiate between function prototype and function definition with suitable example. [2]
24. What are escape sequences? Which escape sequences represent newline and tab? [2]
25. What will be the output of the following C++ code segments? [2]

a)

```
#include<iostream.h>
void main()
{
int b[10];
for(int i = 1; i<3; i++)
{
for(int j = 1; j<3; j++)
{
b[i] = 5*i+j;
cout<<b[i];
}
cout<<endl;
}
}
```

[3]

b)

```
#include<iostream.h>
#include<ctype.h>
void ChangelT(char Text[], char C)
{
for(int k=0;Text[k]!='\0';k++)
{
if(Text[k]>='L' && Text[k]<='P')
Text[k]=tolower(Text[k]);
else if(Text[k]=='E' || Text[k]=='e')
Text[k]=C;
else if(k%2==0)
Text[k]=toupper(Text[k]);
else
Text[k]=Text[k]-1;
}
}
void main()
{
char oldText[]="eNuMERAtes";
ChangelT(oldText,'@');
cout<<"New Text:"<<oldText;
}
```

c)

```
#include<iostream.h>
int Execute(int M)
{
if(M%3==0)
return M*3;
else
return M+10;
}
```

[2]

```

}
void Output(int B=2)
{
for(int T=0;T<B;T++)
cout<<Execute(T)<<"*";
cout<<endl;
}
void main()
{
Output(4);
Output();
}

```

26. Write a program to read a matrix of size 'mxn', and display the transpose of the given matrix. [4]
27. Write a program to find the sum of all the digits in a given number N. [3]
- For example: If the number is 648, then sum=6+4+8=18**
28. Write a program to read a one dimensional array of size 'n' and display the second largest element with position. [3]
29. Write a C++ program to create the following: [3]
- (i) **sum()** to calculate sum 'N' natural numbers.
 - (ii) **main()** to read a number 'N' , call the function **sum()** and print the result.
30. Write a program to read a one dimensional array of size 'n' and divide all those elements by 5 which are divisible by 5 and multiply others by 2. Display the new array. [4]
31. Write a program to accept 2 strings and check if the given strings are equal or not. [3]