

INTERNATIONAL INDIAN SCHOOL, DAMMAM  
MODEL EXAMINATION, JANUARY-2015

SUBJECT: COMPUTER SCIENCE  
CLASS: XI

TIME: 3HRS  
MAX MARKS: 70

SET A

**General Instructions:**

1. All questions are compulsory.
2. Use programming language C++.

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1. What is application software? 1
  2. Differentiate between multiprocessing and multiprogramming. 2
  3. Define: i) Bluetooth 2  
ii) Turnaround time
  4. What is meant by real time operating system? 1
  5. Explain second and fourth generation computers. 2
  6. Convert: 2
    - i)  $(ABCD)_{16} \text{ ----- } (? )_8$
    - ii)  $(1011.101)_2 \text{ ----- } (? )_{10}$
  7. Why should a program have good presentation style? 2
  8. What do you mean by syntax errors and semantics errors? Give examples. 2
  9. What is free formatting? Why should not free formatting be used in a program? 2
  10. List the different steps to be followed while writing a program. 2
  11. Define: i) Source code 2  
ii) Algorithm
  12. What are punctuators? 1
  13. Differentiate between postfix and prefix increment(++) operators with examples. 2
  14. Name the header files that should be included to execute the following code: 2

```
void main( )  
{  
    char a[10]="Hi", b[10]="Hello";  
    cout<<setw(5)<<1234;  
    cout<<strcpy(a,b);  
    exit(0);  
}
```
  15. Evaluate the following C++ expression if the value of i=2 and j=4 1  
 $x=i*3/4+j/4+8-i+5/8$
  16. Write C++ expressions for the following: 2
    - i)  $2+e^x -4y *(P+Q)^4$
    - ii) Amount is greater than or equal to 2000 but less than 5000

17. How many times will the following loop execute: 1  

```
int s=0, i=0;
while(i<7)
s+=i--;
```
18. Rewrite the following code using switch statement: 2  

```
if(x=='a') cout<<"It is a";
else if (x=='b' || x=='B') cout<<"It is b/B";
else if (x==4) cout<<"It is 4";
else cout<<"Unknown";
```
19. Write the output of the following: 2  

```
#include<iostream.h>
void main()
{
int var1=5, var2=10;
for(int i=1; i<=2;i++)
{
cout<<var1++<<"\t"<< --var2<<endl;
cout<<var2-- <<"\t"<< ++var1<<endl;
}
}
```
20. What is the difference between global variable and local variable? Give an example in C++ to illustrate both. 2
21. Rewrite the following program after correcting syntax errors, if any. Underline the correction. 2  

```
#include<iostream.h>
void main( );
{
int P1=15, P2=20;
int A=Assign(P1);
Assign(P1;P2);
}
void Assign(int D1=30, int D2)
{
D1=D1+D2;
cout<<D1<<D2;
}
```
22. Write the output of the following C++ program: 3  
a) 

```
#include<iostream.h>
void Change(int n, int A[ ], int size)
{
for(int i=0; i<size; i++)
{
if(i<n)
A[i]+=i;
else
A[i]*=i;
}
}
```

```

void Display(int A[ ], int S)
{
    for(int i=0;i<S,i++)
        (i%2==0) ? cout<<A[i]<<'#' : cout<<A[i]<<endl;
}
void main( )
{
    intArr[ ]={10,20,30,40,50,60};
    Change(3,Arr,6);
    Display(Arr,6);
}

```

b) #include<iostream.h>

2

```

void main( )
{
    char str[ ]="World Cup 2015";
    for(int i=0; str[i]!='\0';i++)
    {
        if(str[i]>=97 &&str[i]<=122)
            str[i]--;
        else if (str[i]>='0' &&str[i]<='9')
            str[i]=str[i-1];
        else if (str[i]>='A' &&str[i]<='Z')
            str[i]+=32;
        else
            str[i]='#';
    }
    cout<<str<<endl;
}

```

23. Based on the following C++ code, find out the expected correct output(s) from the options (i) to (iv). Also find out the minimum and the maximum value that can be assigned to the variable Guess used in the code at the time when value of Turn is 3. 2

```

#include<iostream.h>
#include<stdlib.h>
void main( )
{
    char Result[ ][10]={"GOLD", "SILVER", "BRONZE"};
    intGetit=9, Guess;
    for(int Turn=1; Turn<4;Turn++)
    {
        Guess=random(Turn);
        cout<<Getit-Guess<<Result[Guess]<<"*";
    }
}

```

Options:

- (i) 9GOLD\*9GOLD\*8SILVER\*
- (ii) 9GOLD\*7BRONZE\*8GOLD\*
- (iii) 9GOLD\*8SILVER\*9GOLD\*
- (iv) 9GOLD\*8SILVER\*8GOLD\*

24. What is the purpose of using typedef command in C++? Explain with suitable example. 2

25. Rewrite the following program after removing the syntactical errors (if any). Underline each correction. 2

```
#include <iostream.h>
structure Pixels
{
    int Color, Style=15;
};
void ShowPoint(Pixels P)
{
    cout<<P.Color<<P.Style<<endl;
}
void main()
{
    Pixels Point1=(5,3);
    ShowPoint(Point1);
    Pixels Point2=Point1;
    Color.Point1+=2;
    ShowPoint(Point2);
}
```

26. Write a program to print every integer between 1 and n divisible by m. Also report whether the number divisible by m is even or odd. 4

27. Write a program to find the sum of  $1 + 1/3^2 + 1/5^2 + \dots + n$  terms. 3

28. Write a program to display the prime numbers and also find the count of prime numbers in the upper half elements in a square matrix. 4

29. Write a program to read a one dimensional array of integers and replace all the even numbers of the array with half its value and odd numbers with twice its values. 4

30. Write a program that reads two strings and copies the two strings to a third string. 3

31. Write a program to check the equality of two matrices. 4

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