

Gulf Sahodaya(Saudi Chapter) Examination - 2015

Class : XI

Computer Science(083)

Time: 3 Hrs

Instructions:

All questions are compulsory

Programming language used is C++

Max. Marks : 70

1. What is System Clock Speed? (1)
2. Name two commonly used Operating Systems. (1)
3. What is the base of Hexadecimal number system? What are the symbols used to write a hexadecimal number? (1)
4. What is Open Source Software? (1)
5. Expand and explain: BIOS (2)
6. Fill in the blanks: $(ADBE)_{16} = (\text{_____})_8 = (\text{_____})_2$ (2)
7. Explain the terms:(i) ALU (ii)Real time OS (2)
8. What is modularity in programming? (1)
9. What do you mean by algorithm? (1)
10. Explain run time errors and logical errors? (2)
11. What is the difference between free formatting and pretty printing? (2)
12. What is the importance of comments in a program? (2)
13. What is program maintenance? Mention any two types of program maintenance. (2)
14. What are the characteristics of a good program? (2)
15. What are keywords? (1)
16. What are unary operators and binary operators? Give examples for each. (2)
17. What is the difference between 'a' and "a" in C++? (2)
18. List the header files required to execute the following program. (1)

```
void main()  
{  
    char a[] = "Welcome", name[];  
    gets(name);
```

```
strcat(a, name);  
puts(name);  
}
```

19. Evaluate the following expression if a=15 b=20 and c=2: (1)

```
f=a/2+b-3*c++;
```

20. Write C++ expressions for the following: (2)

- i) $\sqrt{b^2 - 4ac}$
ii) $10000 \leq \text{Salary} \leq 20000$

21. What will be the values of x and y after the following loop is executed? (1)

```
int y=5;  
for(int x=1;x<=10;x+=3)  
{  
cout<<y--;  
}
```

22. Rewrite the following code using if - statement: (2)

```
switch(m)  
{  
case 2: days=28; break;  
case 4:  
case 6:  
case 9:  
case 11: days=30; break;  
default: days=31;  
}
```

23. Find the output of the following program: (2)

```
#include<iostream.h>  
void main()  
{  
int x=10, y=20;  
while(x>6)  
{  
cout<<x--<<'&'<<++y<<endl;  
--x;  
}  
}
```

24. What is the difference between an array and a structure? (1)

25. Differentiate local variable and global variable? Give examples. (2)

26. Rewrite the following program after correcting syntactical errors, if any. (2)

```
Underline each correction.  
#include <iostream.h>  
void fun(int num1,num2=20)
```

```

    {
        num2=num1*num2;
    cout<<num1, num2;
    }

```

```

void main()
{
    n1=40, n2=30;
    fun(n1;n2);
    fun(n2);
}

```

27. Find the output of the following program: (3)

```

#include <iostream.h>
struct Pixel
{
    int C,R;
};
void Display(Pixel P)
{
    cout<<" Col" <<P.C<<" Row" <<P.R<<endl;
}
void main()
{
    Pixel X={40,50},Y,Z;
    Z=X;
    X.C+=10;
    Y=Z;
    Y.C+=5;
    Y.R+=20;
    Z.C-=15;
    Display(X);
    Display(Y);
    Display(Z);
}

```

28. Find the output of the following program: (2)

```

#include<iostream.h>
#include<string.h>
#include<ctype.h>
void convert(char str[],int size)
{
    for(int i=0; i<size; i++)
    {
        if(isupper(str[i])) str[i]=tolower(str[i]);
        else if(islower(str[i])) str[i]=toupper(str[i]);
        else if(isdigit(str[i])) str[i]= str[i]+1;
        else str[i]='@';
    }
}

```

```

void main()
{
    char text []="AnnuaLExaM 2015!!";
    int len=strlen(text);
    convert(text, len);
    cout<<text<<"\n";
}

```

29. For the following C++ program, choose possible output(s) from options (i) (2) to (iv) given below:

```

#include<iostream.h>
#include<stdlib.h>
void main()
{
    randomize();
    int x=5,N;
    for(int i=1;i<=4;i++)
    {
        N=25+random(x);
        cout<<N<<' ';
        x--;
    }
}

```

- i) 29:27:25:26: ii) 30:25:27:26: iii) 26:28:29:25: iv) 28:27:26:25:

30. Write a program to find the sum of the series $1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \dots$ (3)
31. Write a program to count the number of alphabets and digits in a string. (3)
32. Write a program to reverse a number given by the user. [e.g. if the input is 136, the output should be 631] (4)
33. Write a program to read a one dimensional array and add up all the multiples of three in it. (4)
34. Write a program to read a two dimensional array and replace all upper half elements with zeroes. (4)
35. Write a program to check the equality of two matrices. (4)