Guru Gobind Singh Public School

Sector: V/B, Bokaro Steel City

Assignment (Level 2)

Subject : Computer Science

Class : XII

1. Out of the following, find those identifiers, which cannot be used for naming Variable, Constants or Functions in a C++ program:
   Cost, Price*Qty, float, Switch, Address One. Delete, Number12, do
2. Find the correct identifiers Out of the following, which can be used for naming Variable, Constants or Functions in a C ++ program While, for, Float, new, 2ndName, A%B, Amountl2, _Counter
3. Find the correct identifiers out of the following, which can be used for naming Variables, Constants or Functions in a C++
   For, while, INT, NeW, delete, 1stName, Add+Subtract, name1
4. What is the function of typedef in C++? Also, give a suitable C++ code to illustrate it.
5. Write the names of the header files to which the following belong:
   setw( )
   sart( )
6. Write the output of the following C ++ program code:
   NOTE Assume all required header files are already being included in the program.

```
void Location(int &X, int Y=4)
Y += 2;
X += Y;
}
void main()
{
int PX=10, PY=2;
Location(PY);
cout<<PX<<","<<PY<<endl;
location(PX,PY);
cout<<PX<<","<<PY<<endl;
}
```

7.
8. Observe the following C++ code and answer the questions (i) and (ii).

NOTE Assume all necessary files are included.

```
class TEST
{
long TCode;
char TTitle[20];
float Score;
public:
TESTO //Member Function 1
{
TCode = 100;
strcpy(TTitle,"FIRST Test");
```

```
Score=0;
}
TEST(TEST &T) //Member Function 2
{
TCode=E.TCode+l;
strcpy(TTitle,T.TTitle);
Score=T.Score;
}
};
void main()
{
_____      //Statement 1
_____      //Statement 2
}
```

1. Which Object Oriented Programming feature is illustrated by the Member Function 1 and the Member Function 2 together in the class TEST?
2. Write Statement 1 and Statement 2 to execute Member Function 1 and Member Function 2 respectively.

9. T[20] [50] is a two dimensional array, which is stored in the memory along the row with each of its element occupying 4 bytes, find the address of the element T[15][5], if the element T[10][8] is stored at the memory location 52000.

10. Write a function in C++ TWOTOONE( ) which accepts two array X[ ], Y[ ] and their size n as argument. Both the arrays X[ ] and Y[ ] have the same number of elements. Transfer the content from two arrays X[ ], Y[ ] to array Z[ ]. The even places (0,2,4….) of array Z[ ] should get the contents from the array X[ ] and odd places (1,3,5…) of array Z[ ] should get the contents from the array Y[ ].

Example: If the X[ ] array contains 30,60,90 and the Y[ ] array contains
10.20.50. Then Z[ ] should contain
30.10.60.20.90.50.

11. Write the definition of a function Modify(int A[ ], int N) in C++, which should reposition the content after swapping each adjacent pair of numbers in it.
[NOTE Assuming the size of array is multiple of 4]

For example, if an array of 8 integers is as follows:

A[0]	A[1]	A[2]	A[3]	A[4]	A[5]	A[6]	A[7]
86	93	40	36	52	21	70	10

After executing the function, the array content should be changed as follows:

A[0]	A[1]	A[2]	A[3]	A[4]	A[5]	A[6]	A[7]
40	36	86	93	70	10	52	21

12. Write the definition of a function AddUp(int Arr[ ], int N) in C++, in which all even positions (i.e. 0,2,4) of the array should be added with the content of the element in the next position and odd positions (i.e. 1,3,5,) elements should be incremented by 10.

Example: if the array Arr contains

23	30	45	10	15	25

Then the array should become

53	40	55	20	40	35

NOTE

The function should only alter the content in the same array.
The function should not copy the altered content in another array.
The function should not display the altered content of the array.
Assuming, the Number of elements in the array are Even.

13. Find the output of the following program.

```
#include<iostream.h>
#include<conio.h>
struct score
{
int Year;
float topper;
};
void Change(score *s, int x=20)
{
s->topper=(s->topper+25)-x;
s->Year++;
}
void main()
{
score Arr[]={{2007, 100},{2008, 951}};
score *Point=Arr;
Change(Point, 50);
cout<<Arr[0].Year<<"#"<<Arr[0].topper<<endl;
Change(++Point);
cout<<Point->Year<<"#"<<Point->topper<<endl;
}
```

14. Give the output of the following program segment. (Assume, all required header files are included in the program).

```
void main()
{
char *NAME="a ProFile";
for(int x=0;x<strlen(NAME);x++)
if(islower(NAME[x]));
else
if(isupper(NAME[x]))
if(x%2!=0)
NAME[x]=tolower(NAME[x-l]
else
NAME[x]--;
cout<<NAME<<endl;
}
```

15. Give the output of the following program segment. (Assume, all required header files are included in the program.)

```
void main()
{
char *s="GOODLUCK";
for(int x=strlen(s)-1;x>=0;x--)
{
for(int y=0;y<=x;y++)
cout<<s[y];
```

```
cout<<endl;
}
}
```

16. Give the output of the following program segment. (Assume, all required header files are included in the program.)

```
void main()
{
int array[] = {2,3,4,51};
int *arptr=array;
int value=*arptr;
cout<<va1ue<<'\n';
value=*arptr++;
cout<<value<<'\n';
value=*arptr;
cout<<value<<'\n';
value=*++arptr;
cout<<value<<'\n';
}
```

17. Find the output of the following program:

```
 #include<iostream.h>
#include<conio.h>
#include<ctype.h>
typedef char Str80[80];
void main()
{
char *Notes;
Str80 Str="vR.zGooD";
int L=6;
Notes = Str;
while(L>=3)
{
Str[L]=isupper(Str[L])?
tolower(Str[L]);
toupper(Str[L]);
cout<<Notes<<endl;
L--;
Notes++;
getch();
}
}
```

18. Answer the questions (i) to (iv) based on the following:

```
class Exterior
{
int OrderId;
char Address[20];
protected:
float Advance;
public:
Exterior();
void Book();
```

```
void View();
};
class Paint : public Exterior
{
intWallArea, ColorCode;
protected:
char Type;
public:
Paint();
void PBook();
void PView();
};
class Bill : public Paint
{
float Charges;
void Calculate();
public:
Bill();
void Bi11ing();
void Print();
};
```

(i) Which type of inheritance out of the following is illustrated in the above example?

- Single Level Inheritance
- Multilevel Inheritance
- Multiple Inheritance

(ii) Write the names of all the data members, which are directly accessible from the member functions of class Paint.

(iii) Write the names of all the member functions, which are directly accessible from an object of class Bill.

(iv) What will be the order of execution of the constructors, when an object of class Bill is declared?

Obtain the output from the following C++ program as expected to appear on the screen after its execution.

Important Note:

All the desired header files are already included in the code, which are required to run the code.

```
void main()
{
char*String="SARGAM";
int *Ptr, A[]={1,5,7,9};
Ptr=A;
cout<<*Ptr<<String<<endl;
String++;
Ptr+=3;
cout<<*Ptr<<String<<endl;
}
```

19. Answer the questions (i) to (iv) based on the following :

```
class PRODUCT
{
int Code:
char Item[20];
protected:
float Qty;
public:
PRODUCT ( );
```

```
void GetIn( ); void Show( ):
};
class WHOLESALER
{
int WCode;
protected:
char Manager[20];
public:
WHOLESALER();
void Enter();
void Display ();
};
class SHOWROOM : public PRODUCT,
private WHOLESALER
{
char Name[20],City[20];
public:
SHOWROOM();
void Input ();
void View ( );
};
```

(i) Which type of Inheritance out of the following is illustrated in the above example?

- Single Level Inheritance
- Multilevel Inheritance
- Multiple Inheritance

(ii) Write the names of all the data members, which are directly accessible from the member functions of class SHOWROOM.

(iii) Write the names of all the member functions, which are directly accessible by an object of class SHOWROOM.

(iv) What will be the order of execution of the constructors, when an object of class SHOWROOM is declared?

20. What is copy constructor? Give an example in C++ to illustrate copy constructor.

or

What is a copy constructor? Give a suitable example in C++ to illustrate with its definition within a class and a declaration of an object with the help of it