GURU GOBIND SINGH PUBLIC SCHOOL
Sector V/B,B.S.City

CLASS : XII SUBJECT : COMPUTER SCIENCEASSIGNMENT 2019

Question 1:

Write the type of C++ tokens (keywords and user defined identifiers) from the following:

1. new
2. While
3. case
4. Num_2

Question 2:

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

Question 3:

Rewrite the following C++ code after removing any/all syntactical errors with each correction underlined

NOTE: Assume all required header files are already being included in the program.

```
#define Equation(p,q)=p+2*q
void main()
{
float A=3.2;B=4.1;
C=Equation(A,B);
cout<<'Output =’<<C<<endl;
}
```

Question 4:

Out of the following, find those identifiers, which cannot be used for naming Variables, Constants or Functions in a C++ program:

Fatal*Tax, double, Case, My Name, NeW, switch, Column31,_Amount

Question 5:

Rewrite the following C++ code after removing any/all syntactical errors with each correction underlined.

NOTE Assume all required header files are already being included in the program.

```
#define Formula(a,b)=2*a+b
void main()
{
float X=3.2;Y=4.1;
Z=Formula(X,Y);
cout<<'Result='<<Z<<endl;
}
```

Question 6:

Rewrite the following C++ code after removing any/all syntactical errors with each correction underlined.

NOTE Assume all required header files are already being included in the program.

```
define formula(a,b,c)a+2*b+3*c;
void main()
```

```
{
int L=1,M=2,N=3,
J=Formula(L,M,N);
cout<<'output ='<<J<<endl;
}
}
```

Question 7:

Find the correct identifiers Out of the following, which can be used for naming Variable, Constants or Functions in a C ++ programWhile, for, Float, new, 2ndName, A%B, Amountl2, _Counter

Question 8:

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

Question 9:

Observe the following C++ code carefully and rewrite the same after removing all the syntax error(s) present in the code. Ensure that you underline each correction in the code.

Important Note:

(i) All the desired header files are already included, which are required to run the code.

(ii) Correction should not change the logic of the program.

```
//define Change(A,B)2*A+B;
void maint()
{
Float X,Y,F;
cin>>X>>Y ;
F=Change[X,Y];
cout<<"Result:"<<F<endline;
}
```

Question 10:

Observe the following OH- code carefully and rewrite the same after removing all the syntax error(s) present in the code. Ensure that you underline each correction in the code.

Important Note:

(i) All the desired header files are already included, which are required to run the code.

(ii) Correction should not change the logic of the program.

```
//define Convert(P,Q)P+2*Q;
void main()
{
Float A,B,Result:
cin>>A>>B;
Result=Convert[A,B];
cout<<"Output:"<<Result<endl:
}
```

Question 11:

Give the difference between the type casting and automatic type conversion. Also, give a suitable C++ code to illustrate both.

Question 12:
What is the difference between local variable and global variable? Also, give a suitable C++ code to illustrate both.
Question 13:
What is the function of typedef in C++? Also, give a suitable C++ code to illustrate it.
Question 14:
What is the function of #define keyword? Give an example to illustrate its use.
Question 15:
Ronica Jose has started learning C++ and has typed the following program. When she compiled the following code written by her, she discovered that she needs to include some header files to successfully compile and execute it. Write the names of those header files, which are required to be included in the code.

```
void main()
double X,Times,Result;
cin>>X>>Times;
Result=pow(X,Times);
cout<<Result<<endl ;
```

Question 16:
Jayapriya has started learning C++ and has typed the following program. When she compiled the following code written by her, she discovered that she needs to include some header files to successfully compile and execute it. Write the names of those header files, which are required to be included in this code.

```
void main()
{
float A,Number,Outcome;
cin>>A>>Number;
Outcome=pow(A,Number);
cout<<Outcome<<endl;
}
```

Question17:
Write the names of the header files to which the following belong:
setw( )
sart( )
Question 18:
Write the names of the header files to which the following belong:
puts( )
randomizer( )
Question 19:
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;
}
```

Question 20:

Write the output of the following C++ program code:

NOTE Assume all required header files are already being included in the program.

```
void Position(int &Cl,int C2=3)
{
Cl+=2;
C2+=Y;
}
void main()
{
int P1=20, P2=4;
Position(P1);
cout<<Pl<<","<<P2<<endl;
Position(P2,P1);
cout<<Pl<<","<<P2<<endl;
}
```

Question 21:

Find the output of the following program:

```
#include<iostream.h>
void in(int x, int y, int &z)
}
x+=y;
y--;
z*=(x-y);
}
void out(int z, int y, int &x)
{
x*=y;
y ++;
z/=(x+y);
}
void main()
{
int a=20, b=30, c=10;
out(a,c,b);
cout<<a<<"#"<<b<<"#"<<c<=><"#"<<endl:
in(b,c,a):
cout<<a<<"@"<<b<<"@"<<c=><<"#"<<endl;
out(a,b,c);
cout<<a<<"$"<<b<<"$"<<c<<"=>$"<<endl;
}
```

Question 22:

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Find out the expected correct output(s) from the options (i) to (iv) for the following C++ code. Also, find out the minimum and the maximum value that can be assigned to the variable stop used in the code.

```
void main()
{
randomize();
int Begin=3,stop;
for(int Run=l;Run<4;Run++)
{
stop=random(Begin)+6;
cout<<Begin++<<stop<<"*";
}
}
```

(i) 36*46*59*
(ii) 37*46*56*
(iii) 37*48*57*
(iv) 35*45*57*

Question 23:

Go through the C++ code shown below and find out the possible output or output from the suggested output (i) to (iv). Also, write the least value and highest value, which can be assigned to the variable Guess.

```
#include<iostream.h>
#include<stdlib.h>
void main()
{
randomze();
int Guess, High=4;
Guess=random(High)+50;
for(int C=Guess;C<=55;C++)
cout<<C<<"#";
```

(i) 50#51#52#53#54#55#
(ii) 52#53#54#55#
(iii) 53#54#
(iv) 51#52#53#54#55

Question 24:

What is function overloading? Give an example in C++ to illustrate function overloading.
or
What do you understand by function overloading? Give an example illustrating its use in a C++ program

Question 25:

Write the output of the following C++ code. Also, write the name of feature of Object Oriented Programming used in the following program jointly illustrated by the functions [I] to [IV].

```
#include<iostream.h>
void Print() //Function[I]
{
for(int K=1; K<=60; K++)
cout<<"-";
cout<<endl;
```

```
}
void Print(int N) //Function[II]
{
for(int K=1; K<=N; K++)
cout<<"*";
cout<<endl;
}
void Print(int A, int B)//Function[III]
}
for(int K=1; K<=B; K++)
cout<<A*K;
cout<<endl;
}
void Print(char T, int N)//Function[IV]
{
for(int K=l; K<=N; K++)
cout<<T;
cout<<endl;
}
void main!)
{
int U=9, V=4, W=3;
char C= '@';
Print(C, V);
Print(U, W);
}
```

Question 26:

Write the output of the following C++ code. Also, write the name of feature of Object Oriented Programming used in the following program jointly illustrated by the functions [I] to [IV]:

```
#include<iostream.h>
 void Lined //Function[I]
 {
 for(int L=1;L<=80;L++)
 cout<<"-";
 cout<<endl;
 }
 void Line(int N) //Function[II]
 {
 for(int L=1;L<=N;L++)
 cout«"*";
 cout<<endl:
 }
 void Line(char C,int N) //Function[III]
 {
 for(int L=1:L<=N:L++)
 cout<<C;
```

```
cout<<endl:
}
void Line(int M, int N)//Function[IV]
{
for(int L=1:L<N;L++)
cout<<M*L;
cout<<endl;
}
void main()
{
int A=9, B=4, C=3;
char K='#':
Line (K,B);
Line (A,C);
```

Question 27:

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

```
#include<iostream.h>
class Book
{
long Bld.Qty;
public:
void Purchase()
{
cin>>BId<<Qty;
}
void Sale
{
cout<<setw(5)<<BId<<"o1d:"<<Qty<<endl;
cout<<"New:"<<—Qty<<endl;
}
};
void main()
{
Book B;
B.Purchase();
Sale();
B.Sale();
}
```

Question 28:

What is the difference between members in private visibility mode and the members in public visibility mode inside a class? Also give a suitable C++ code to illustrate both.

or

Differentiate between public and private visibility modes in context of object oriented programming using a suitable example.

Question 29:

When is public visibility of a mode applied to members of a class? Also give an example to illustrate

Question 30:
Rewrite the following C++ program code after removing the syntax error(s) (if any). Underline each correction.

```
include<iostream.h>
class FLIGHT
{
long FlightCode;
char Description[25];
public
void Addlnfo()
{
cin>>FlightCode;
gets(Description);
}
void ShowInfo()
{
cout<<FlightCode«":" <<Description<<endl;
}
};
void main()
{
FLIGHT F;
Addlnfo.F();
Showlnfo.F();
}
```

Question 31:
Rewrite the following C++ program code after removing the syntax error(s) (if any). Underline each correction.

```
#include<iostream.h>
class TRAIN
{
long TrainNo;
char Description[25];
public
void Entry()
{
cin>>TrainNo;
gets(Description);
}
void Display()
{
cout<<TrainNo<<":"<<Description<<endl;
}
};
void main( )
{
TRAIN T;
Entry. T();
```

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```
Display.T();
}
```

Question 32:

Rewrite the following program after removing the syntactical error(s) (if any) Underline each correction

```
#include<iostream.h>
class Transport
{
char Model[20];
char Name[20];
void Get()
{
gets(Model);
gets(Name);
}
void Show()
{
cout<<Model<<endl;
puts(Name);
}
};
void main( )
{
Transport T;
T.Get();
Show();
}
```

Question 33:

Write the definition of a class BOX in C++ with the following description

Private Members

- BoxNumber // data member of integer type
- Side // data member of float type
- Area // data member of float type
- ExecArea() // Member function to calculate and assign Area as Side * Side

Public Members

- GetBox() // A function to allow user to enter values of
  // BoxNumber and Side. Also, this
  // function should call ExecArea() to Calculate Area
- ShowBox() // A function to display BoxNumber, Side and Area

Question 34:
Write the definition of a class METROPOLIS in C++ with following descriptions

Private Members

- MCode — Data member for Code (an integer)
- MName — Data member for Name (a string)
- MPop — Data member for Population (a long int)
- Area — Data member for Area Coverage (a float)
- PopDens — Data member for Population Density (a float)
- CalDen( ) — A member function to calculate ------- Density as MPop/Area

Public Members

- Enter( ) — A function to allow user to enter values of MCode,MName,MPop,Area and call CalDen( ) function.
- ViewALL( ) — A function to display all the data members also display a message "Highly Populated Area" if the Density is more than 12000.

Question 35:
Write the definition of a class CITY in C++ with following description:

Private Members

- Ccode — Data member for City Code(an integer)
- CName — Data member for City Name(a string)
- Pop — Data member for Population (a long int)
- KM — Data member for Area Coverage (a float)
- Density — Data member for Population Density (a float)
- DenCal( ) — A member function to calculate --- Density as Pop/KM

Public Members

- Record( ) — A function to allow user to enter values of Ccode, CName, Pop, KM and call DenCal( ) function.
- View( ) — A function to display all the data members also display a message "Highly Populated City" if the Density is more than 10000.

Question 36:
Write the definition of a class PIC in C++ with following description

Private Members

- Pno — Data member for Picture Number (an integer)
- Category — Data member for Picture Category (a string)
- Location — Data member for Exhibition Location (a string)
- FixLocation — A member function to assign exhibition location as per category as shown in the following table

Category	Location
Classic	Amina
Modern	Jim Plaq
Antique	Ustad Khan

Public Members

- Enter( ) — A function to allow user to enter values Pno, Category and call FixLocation( ) function.
- SeeAll( ) — A function to display all the data members.

Question 37:

Write the definition of a class Photo in C++ with following description

Private Members

- Pno — Data member for Photo Number (an integer)
- Category — Data member for Photo Category (a string)
- Exhibit — Data member for Exhibition Gallery (a string)
- FixExhibit — A member function to assign Exhibition Gallery as per Category as shown in the following table

Category	Exhibit
Antique	Zaveri
Modern	Johnson
Classic	Terenida

Public Members

- Register( ) — A function to allow user to enter values Pno, Category and call FixExhibit( ) function.
- ViewAll( ) — A function to display all the data members.

Question 38:

Write the definition of a class STAFF in C++ with following descriptions

Private Members

- SID — Data member for staff Id (long int type)
- Type — Data member for Type of Staff (char type)
- Pay — Data member for Pay (float type)
- Name — Data member for Name (string type)
- AssignPay — Exhibition Location as per category Pay as per Type assigned in the following table

Type	Pay
D	95000
M	75000
E	60000
S	45000

Public Members

- Enroll( ) //A function to allow user to enter values //SID, Type, Name and call //AssignPay( ) function
- SeeData( ) //A function to display all the data members

Question 39:

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.

Question 40:
Find and write the output of the following C++ program code
NOTE Assume all required header files are already being included in the program.

```
class Stock
{
long int ID;
float Rate;
int Date;
public:
Stock(){ID=1001 ; Rate=200; Date=l;}
void RegCode(long int I, float R)
{
ID = 1;
Rate=R;
}
void Change(int New,int DT)
{
Rate+=New;
Date=DT;
}
void Show()
{
cout<<"Date:”<<Date<<endl;
cout<<ID<<"#"<<Rate<<endl;
}
};
void main()
{
Stock A,B,C;
A.RegCode(1024,150);
B.RegCode(2015,300);
B.Change(100,29);
C.Change(-20,20);
A.Show();
B.Show();
C.Show();
}
```

Question 41:
Observe the following C++ code and answer the questions (i) and (ii). Assume all necessary files are included:

```
class FICTION
{
long FCode;
char FTitle[20];
float FPrice;
public:
FICTION() //Member Function 1
{
cout<<"Bought"<<endl;
FCode = 100;
strcpy(FTitle,"Noname");
FPrice=50;
}
FICTION(int C,char T[],float P) //Member Function 2
{
FCode = C;
strcpy(FTitle, T);
FPrice=P;
}
void Increase(float P) //Member Function 3
{
FPrice+=P;
}
void Show() //Member Function 4
{
cout<<FCode<<":"<<FTitle<<":"<<FPrice<<endl;
}
~FICTION() //Member Function 5
{
cout<<"Fiction removed!"<<endl;
}
};
void main() //Line 1
{          //Line 2
FICTION F1, F2(101, "Dare",75); //Line 3
for(int 1=0;I<4;I++)    //Line 4
{    //Line 5
F1. Increase(20);F2.Increase(15); //Line 6
F1. Show();F2.Show(); //Line 7
} //Line 8
} //Line 9
```

1. Which specific concept of object oriented programming out of the following is illustrated by Member Functionl and Member Function 2 combined together ?

- Data Encapsulation
- Data Hiding
- Polymorphism

- Inheritance

How many times the message “Fiction removed!” will be displayed after executing the above C++ code ? Out of Line 1 to Line 9, which line is responsible to display the message “Fiction removed!” ?

Question 42:

Find and write the output of the following C++ program code

NOTE Assume all required header files are already being included in the program.

```
class Share
{
long int Code;
float Rate;
int DD;
public:
Share(){Code=1000;Rate=100;DD=1;}
void GetCode(long int C, float R)
{
Code=C;
Rate=R;
}
void Update(int Change, int D)
{
Rate+=Change;
DD=D;
}
void Status()
{
cout<<"Date: "<<DD<<endl;
cout<<Code<<"#”<<Rate<<endl;
};
void main()
{
Share S,T,U;
S.GetCode(1324,350);
T.GetCode(1435,250);
S.Update(50,28);
U.Update(-25,26);
S.Status();
T.Status();
U.Status();
}
```

Question 43:

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

NOTE Assume all necessary files are included :

```
class BOOK
{
long Code;
char Title[20];
```

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```
float Price;
public:
BOOK()//Member Function 1
{
cout<<"Bought"<<endl;
code=10;
strcpy(Title,"NoTitle");
Price=100;
}
BOOK(int C.char T[],float P) //Member Function 2
{
Code=C;
strcpy(Title,T);
Price=P;
}
void Update(float P) //Member Function 3
{
 Price+=P;
}
void Display() //Member Function 4
{
cout<<Code<<":"<<Title<<":"<<Price<<endl;
}
~BOOK() //Member Function 5
{
cout<<"Book Discarded!"<<endl;
}
};
void main() //Line 1
{     //Line 2
BOOK B.C(101,"Truth",350); //Line 3
for(int I=0;I<4;I++) //Line 4
{  //Line 5
B.Update(50);C.Update(20); //Line 6
B.Display();C.Display(); //Line 7
} //Line 8
} //Line 9
```

1. Which specific concept of object oriented programming out of the following is illustrated by Member Function 1 and Member Function 2 combined together?

- Data Encapsulation
- Polymorphism
- Inheritance
- Data Hiding

How many times the message "Book Discarded!" will be displayed after executing the above C++ code? Out of Line 1 to Line 9, which line is responsible to display the message "Book Discarded!"

Question 44:

Differentiate between Constructor and Destructor functions giving suitable example using a class in C++. When does each of them execute? or
Write any two differences between constructor and destructor. Write the function header for constructor and destructor of a class Memberor
Differentiate between constructor and destructor functions in a class. Give a suitable example in C+ + to illustrate the difference
or
Differentiate between constructor and destructor function with respect to object oriented programming.

Question 45:
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

Question 46:
Write the output of the following C++ program code
NOTE Assume all required header files are already being included in the program.

```
class Calc
{
char Grade:
int Bonus:
public:
Calc()
{
Grade='E';
Bonus=0;
}
void Down(int G)
{
Grade-=G;
}
void Up(int G)
{
Grade+=G;
Bonus++;
}
void Show()
{
cout<<Grade<<"#"<<Bonus<<endl;
}
};
void main()
{
Calc C;
C.Down(2);
C.Show();
```

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```
C.Up(7);
C.Show();
C.Down(2);
C.Show();
}
```

Question 47:

Observe the following C++ code and answer the questions (i) and (ii):

```
class Traveller
{
long PNR;
char TName[20];
public:
Traveller()  //Function 1
{
cout<<"Ready"<<endl;
}
void Book(long P, char N[]) //Function 2
{
PNR = P;
strcpy(TName,N);
}
void Print() //Function 3
{
cout<<PNR<<TName«endl;
}
~Traveller() //Function 4
{
cout<<"Booking cancelled!"<<endl;
}
};
```

Fill in the blank statements in Line 1 and Line 2 to execute Function 2 and Function 3 respectively in the following code :

```
void main()
{
Traveller T;
_______  //Line 1
_______  //Line 2
} //Stops here
```

Which function will be executed at }//Stops here? What is this function referred as?

Question 48:

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

```
class First
{
int X1;
protected:
float X2;
```

```
public:
First();
void Enter1(); void Display1();
};
class Second : private First
{
int Y1;
protected:
float Y2;
public:
Second();
void Enter2();
void Display();
};
class Third : public Second
{
int Z1;
public:
Third();
void Enter3();
void Display();
}:
void main()
{
Third T; //Statement 1
: _______ //Statement 2
}
```

(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 member functions, which are directly accessible by the object T of class Third as declared in main() function.
(iii) Write Statement 2 to call function Display!) of class Second from the object T of class Third.
(iv) What will be the order of execution of the constructors, when the object T of class Third is declared inside main()?

Question 49:

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( ):
};
```

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```
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?

Question 50:

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

(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 SALEPOINT.

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

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

Question 51:

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[]={l,5,7,9};
Ptr=A;
cout<<*Ptr<<String<<endl;
String++;
Ptr+=3;
cout<<*Ptr<<String<<endl;
}
```

Question 52:
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 *Text = "AJANTA";
int *P,Num[] = {11,5,7,9};
P = Num;
cout<<*P<<Text<<endl;
Text++;
P++;
cout<<*P<<Text<<endl;
}
```

Question 53:
Observe the following C+ + code carefully and obtain the output, which will appear on the screen after execution of it.

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

```
void main()
{
char *String = "SHAKTI";
int *Point, Value[]={10,15,70,19};
Point = Value;
cout<<*Point<<String<<endl;
String++;
Point++;
cout<<*Point<<String<<endl;
}
```

Question 54:
Give the output of the following program segment: (Assuming, all desired header file(s) are already included).

```
void main()
{
float *Ptr,Points[] = {120,50,30,40,10};
Ptr=Points;
cout<<*Ptr<<endl;
Ptr+=2;
Points[2]+=2.5;
cout<<*Ptr<<endl:
Ptr++;
(*Ptr)+=2.5;
cout<<Points[3]<<endl;
}
```

Question 55:
Find the output of the following program:

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```
#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();
}
}
```

Question 56:

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

```
void main()
{
int a=32,*X=&a;
char ch=65, &eco=ch;
eco+=a;
*X+=ch;
cout<<a<<','<<ch<<endl;
}
```

Question 57:

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;
```

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```
cout<<value<<'\n';
}
```

Question 58:

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;
}
}
```

Question 59:

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;
}
```

Question 60:

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()
```

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```
{
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;
}
```

Question 61:

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.

Question 62:

Write the definition of a function FixPay(float Pay[ ], int N) in C++, which should modify each element of the array Pay having N elements, as per the following rules:

Existing Value of Pay	Pay to be changed to
If less than 100000	Add 25% in the existing value
If >= 100000 and < 200000	Add 20% in the existing value
If >= 200000	Add 15% in the existing value

Question 63:

Write the definition of a function FixSalary(float Salary[ ], int N) in C++, which should modify each element of the array Salary having N elements, as per the following rules:

Existing Salary Values	Required Modification in Value
If less than 100000	Add 35% in the existing value
If >= 100000 and <200000	Add 30% in the existing value
If >= 200000	Add 20% in the existing value

Question 64:

Write the definition of a function Alter (int A[ ], int N) in C++, which should change all the multiples of 5 in the array to 5 and rest of the elements as 0. e.g. if an array of 10 integers is as follows:

A[0]	A[1]	A[2]	A[3]	A[4]	A[5]	A[6]	A[7]	A[8]	A[9]
55	43	20	16	39	90	83	40	48	25

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]	A[8]	A[9]
5	0	5	0	0	5	0	5	0	5

Question 65:

Write the definition of a function Changeant P[ ], int N) in C++, which should change all the multiples of 10 in the array to 10 and rest of the elements as 1.

e.g. if an array of 10 integers is as follows:

P[0]	P[1]	P[2]	P[3]	P[4]	P[5]	P[6]	P[7]	P[8]	P[9]
100	43	20	56	32	91	80	40	45	21

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

P[0]	P[1]	P[2]	P[3]	P[4]	P[5]	P[6]	P[7]	P[8]	P[9]
10	1	10	1	1	1	10	10	1	1

Question 66:

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

Question 67:

Write code for a function void oddEven(int S[ ], int N) in C++, to add 5 in all the odd values and 10 in all the even values of the array S.

e.g. If the original content of the array S is

S[0]	S[1]	S[2]	S[3]	S[4]
50	11	19	24	28

The modified content will be:

S[0]	S[1]	S[2]	S[3]	S[4]
60	16	24	34	38

Question 68:

Write code for a function void EvenOdd (int T [ ], int C) in C++, to add 1 in all the odd values and 2 in all the even values of the array T.

e.g. If the original content of the array T is

T [0]	T [1]	T [2]	T [3]	T [4]
35	12	16	69	26

The modified content will be

T [0]	T [1]	T [2]	T [3]	T [4]
36	14	18	70	28

Question 69:
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.

Question 70:
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.

File Handling

71. Observe the program segment given below carefully and fill the blanks marked as Statement 1 and Statement 2 using seekg() and tellg() functions for performing the required task.

```
#include <fstream.h>
class Employee
{
int Eno;char Ename[20];
public:
int Countrec();//Function to count the total number of records
};
int Item::Countrec()
{
fstream File;
File.open("EMP.DAT",ios::binary|ios::in);
_____ //Statement 1
int Bytes = _____ //Statement 2
int Count = Bytes / sizeof(Item);
File.close();
 return Count;
}
```

72) Write a function in C++ to count the number of alphabets present in a text file "NOTES.TXT".

73) Write a function in C++ to add new objects at the bottom of a binary file "STUDENT.DAT", assuming the binary file is containing the objects of the following class.

```
class STUD
{
int Rno;
char Name[20];
public:
void Enter(){cin>>Rno;gets(Name);}
void Display(){cout<<Rno<<Name<<endl;}
};
void Addnew()
{
fstream FIL;
FIL.open("STUDENT.DAT",ios::binary|ios::app);
STUD S;
char CH;
do
{
S.Enter();
FIL.write((char*)&S,sizeof(S));
cout<<"More(Y/N)?";cin>>CH;
}
while(CH!='Y');
FIL.close(); }
```

74. Write a function to count the number of words "The" in a text file "STORY.TXT".

75. Write a function in c++ to read and display the details of all the members whose membership type is 'L' or 'M' from a binary file "CLUB.DAT" . Assume the binary file "CLUB.DAT" contains objects of class CLUB, which is defined as follows :

```
class club
{
        int mno;                    // member No
        char mname[20];             //Member name
        char type;                  //Member Type L life member M
                                    monthly member G guest
        public;
        void register();            // function to enter contents
        void display();             // function to display all data members
        char whattype()
        { return type ; };
};
```

76Write a function to count the number of words starting with "T" in a text file "STORY.TXT".

77 Write a function in c++ to read and delete the details of all the members whose membership type is 'E' or 'N' from a binary file "CLUB.DAT" . Assume the binary file "CLUB.DAT" contains objects of class CLUB, which is defined as follows :

```
class club
{
        int mno;                    // member No
        char mname[20];             //Member name
        char type;                  //Member Type L life member M
                                    monthly member G guest
        public;
```

```
        void register();            // function to enter contents
        void delrec();              // function to delete record
        char whattype()
        { return type ; };
};
```

78. Write a function to count the no. of lines starting with "T" or "A" in a text file article.txt.

79. (a) Observe the program segment given below carefully, and answer the question that follows:

```
class PracFile
{
intPracno;
char PracName[20];
int TimeTaken;
int Marks;
public:
void EnterPrac( ); // function to enter PracFile details
void ShowPrac( ); // function to display PracFile details
int RTime()      // function to return TimeTaken
 {return TimeTaken;}
void Assignmarks (int M) // function to assign Marks
{ Marks = M;}
};
void AllocateMarks( )
{ fstream File;
File.open("MARKS.DAT",ios::binary|ios::in|ios::out);
PracFile P;
int Record = 0;
while (File.read(( char*) &P, sizeof(P)))
{
if(P.RTime()>50)
P.Assignmarks(0)
else
P.Assignmarks(10)
_____ //statement 1
_____ //statement 2
Record + + ;
}
File.close();
}
```

If the function AllocateMarks () is supposed to Allocate Marks for the records in the file MARKS.DAT based on their value of the member TimeTaken. Write C++ statements for the statement 1 and statement 2, where, statement 1 is required to position the file write pointer to an appropriate place in the file and statement 2 is to perform the write operation with the modified record.

(b) Write a function in C++ to print the count of the word is as an independent word in at text file DIALOGUE.TXT.

For example, if the content of the file DIALOGUE. TXT is
This is his book. Is this book good?
Then the output of the program should be 2.

(c) Given a binary file GAME.DAT, containing records of the following structure type

struct Game

{
char GameName [20];
char Participant [10] [30];
};
Write a function in C++ that would read contents from the file GAME.DAT and creates a file named BASKET.DAT copying only those records from GAME.DAT where the game name is "Basket Ball"