

**DELHI PUBLIC SCHOOL, JAMMU**  
**ASSIGNMENT FOR PRE-BOARD-I**

**Class-XII**

**Subject: Computer**

**Very Short Answer Questions (1 Marks)**

1. Differentiate between 10L and 10.
2. What do you mean by variables?
3. Differentiate between '/' and '%' operator. Give example.
4. Which conditional operator is used to replace if else statement?
5. What is Polymorphism?
6. What is the significance of making a function inline?
7. What is abstract class?
8. What do you mean by data independence?
9. Define Primary Key and Foreign Key.
10. What is a Free pool ?

**Short Answer Questions (2 Marks)**

1. Why is main function is special in a program? Give two reasons.
2. What are data type modifiers? Name the various data type modifiers.
3. Differentiate between a run-time error and a syntax error. Give one example of each.
4. Difference between the formal parameters and actual parameters. Also give a suitable C++ code to illustrate both.
5. How does a compiler decide as to which function should be invoked when there are many functions with the same name?
6. Are the "default constructor" and "Constructor with default parameter" same?
7. What are the two levels of data independence? How are they different?
8. What do you understand by the terms Cardinality and Degree of a relation in relational database?

**Long Answer Questions (3/4 Marks)**

1. What do you understand by Polymorphism? Give the suitable example of the same.
2. Differentiate between private and protected visibility modes in the context of Object Oriented Programming using a suitable example illustrating each.
3. Define a class train with following members.

Private:

Trainno        - int  
Destination   - String  
Distance       - float  
Fuel            - float

A member function calfuel( ) as per the following criteria:

Distance	Fuel
<=1500	250
>1500 & <=3000	1000
>3000	2500

Public member:

1. feedinfo( ): to accept train no, destination, distance and invoke calfuel( ).
2. showinfo( ): to display all the details for a train.
4. Consider the following C++ code and answer the questions from (i) to (iv):

```
class Personal
{
    int Class, Rno;
    char Setion;
```

```

        protected:
        char Name[20];
public:
        personal ( );
        void pentry( );
        void Pdisplay( );
};
class Marks : private Personal
{
        float M[5];
        protected:
        char Grade[5];
        public:
        Marks( );
        void Mentry( );
        void Mdisplay( );
};
class Result : public Marks
{
float Total, Agg;
public:
        char FinalGrade, comments[20];
        result( );
        void Rcalculate( );
        void Rdisplay( );
};

```

- i) Which type of inheritance is shown in the above example?
  - ii) Write the names of those data members which can be directly accessed from the objects of class Result.
  - iii) Write the names of those member functions which can be directly accessed from the objects of class Result.
  - iv) Write names of those data members which can be directly accessed from the Mentry( ) function of class Marks.
5. Simplify the Boolean expression  $F(x,y,z,w) = \Sigma(0,2,7,8,10,15)$  by using Karnaugh map.
  6. Draw a logic gate circuit diagram for the following Boolean expression with the help of a NOR gate only:  $F(X,Y,Z) = X'Y + Y'Z$
  7. Rovenza Communication International (RCI) is an online corporate training provider company for IT-related courses. The company is setting up their new campus in Kolkata. You as a network expert have to study the physical locations of various blocks and the number of computers to be installed. In the planning phase, provide the best possible answer for the queries (a) to (d) raised by them.

**Block-to-Block distance (in Mtrs.):**

From	To	Distance
Administrative Block	Finance Block	70
Administrative Block	Faculty Recording Block	150
Finance Block	Faculty Recording Block	40

**Expected Computers to be installed in each block:**

Block	Computers
Administrative Block	60
Finance Block	80
Faculty Recording Block	100

- a) Suggest the most appropriate block where RCI should plan to install the server.

- b) Suggest the most appropriate block-to-block cable layout to connect all three blocks for efficient communication.
- c) Which type of network out of the following is formed by connecting the computers of these three blocks?  
 i) LAN    ii) MAN    iii) WAN
- d) Which wireless channel out of the following should be opted by RCI to connect to students from all over the world?  
 i) Infrared    ii) Microwave    iii) Satellite
8. WAP to perform Binary Search.
9. WAP to perform Bubble Sort.
10. WAP to push an element in a given stack.
11. WAP to pop an element in a given stack.
12. Reduce the given expression by K – Map.  
 $F = \Sigma(0,1,2,3,7,8,9,13,14)$
13. Write the steps to search 44 using Binary search.

10	12	14	21	23	28	31	37	42	44	49	53
1	2	3	4	5	6	7	8	9	10	11	12

### Find The Output (2/3 Marks)

1. Find the output of the following program:

```
#include<iostream.h>
Void ChangetheContent(int Arr[ ],int Count)
{
    for(int C=0;C<Count;C++)
        Arr[C]= Arr[Count-C-1];
}
void main( )
{
int A[ ]={1,2,3}, B[ ]= {20, 30, 40, 50},C[ ]={100,200};
ChangetheContent(A,3);
ChangetheContent(B,4);
ChangetheContent(C,2);
for (int L=0;L<3;L++) cout<<A*L+<<'#';
cout<<endl;
for(L=0;L<4;L++) cout<<B*L+<<'#';
cout<<endl;
for(L=0;L<2;L++) cout<<C*L+<<'#';
cout<<endl;
}
```

2. Find the output of the following:

```
#include<iostream.h>
#include<ctype.h>
typedef char Str80[80];
void main( )
{
char *Notes;
Str80 Str="vR2Good";
int L=6;
Notes = Str;
while(L>=3)
{
```

```

    Str [L]=(isupper(Str[L])?tolower(Str[L]):toupper(Str[L]));
    cout<<Notes<<endl;
    L--;
    Notes++;
}
}

```

3. Write the output of the following program:

```

#include<iostream.h>
void Numvalue(int &A,int B=25)
{
    int TEMP=A-B;
    A+=Temp;
    if (B==25)
    cout<<A<<TEMP<<endl;
}
void main( )
{
    int X=100, Y=200;
    Numvalue( X);
    cout<<X<<Y<<endl;
    Numvalue(Y,X);
    cout<<X<<Y<<endl;
}

```

4. What will be the output of the following program code?

```

#include<iostream.h>
#include<conio.h> //for clrscr( )
class A
{
    int x;
    int y;
public:
    void init(void)
    {
        x=0;
        y=0;
    }
    void inputval(int i, float j)
    {
        x=i;
        y=j;
    }
    void dispval(void)
    {
        cout<<"x="<<x<<"\t";
        cout<<"y="<<y<<"\n";
    }
};
int main( )
{
    clrscr( );
    A a1,a2;
    a1.init( );
}

```

```

        a2.init( );
        a1. inputval(20, 10.52);
        a1.dispval( );
        a2.dispval ( );
        return (0);
    }

```

### Find The Errors(2/3 Marks)

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

```

#include[iostream.h]
typedef char Text(80);
void main ( )
{
Text T=" Indian";
int Count= strlen(T);
cout<<T<<"has"<<Count<<"characters"<<endl;
}

```

2. Rewrite the following program after removing the syntax error(s) if any.

```

#include(iostream.h)
void main( )
{
    int X[ ]={ 60,50,30,40},Y; Count = 4;
    cin>>Y;
    for(I= Count-1;I>=0;I--)
    switch(I)
    {
        case 0:
        case 2:cout<<Y*X[I]<endl; break;
        case 1:
        case 3:cout>>Y+X[I];
    }
}

```

3. Find out errors in the following program:

```

class number
{
    int x=10;
    float y;
    number ( ) {x=y=10;}
public:
    number(number t)
    {
        x=t.x; y=t.y;
    }
    ~()
    {
        cout<<"Object destroyed";
    }
}
void main( )
{
    number a1,a2(a1);
}

```