

BAL BHARATI PUBLIC SCHOOL

Ganga Ram Hospital Marg, New Delhi-60

**CLASS –XII
ASSIGNMENT- 1**

**SUBJECT – COMPUTER SCIENCE
TOPIC – Object Oriented Programming**

- 1. In the following program, find the correct possible outputs(s) from the options:**

```
#include <stdlib.h>
#include <iostream.h>
void main() {
    randomize();
    char City[][10]={"DEL","CHN","KOL","BOM",BNG"};
    int Fly;
    for(int I=0; I<3; I++) {
        Fly=random(2)+1;
        cout<<City[Fly]<<" ";
    }
}
i. DEL CHN KOL
ii. CHN KOL CHN
iii. KOL BOM BNG
iv. KOL CHN KOL
```

- 2. Find the output of the following program:**

```
#include <iostream.h>
#include <ctype.h>
void Changelt(char Text[], char C) {
    for(int K=0;Text[K]!='\0';K++){
        if(Text[K] >= 'F' && Text[K] <='L')
            Text[K]=tolower(Text[K]);
        else
            if(Text[K] == 'E' && Text[K] =='e')
                Text[K]=C;
            else
                if(K%2==0)
                    Text[K]=toupper(Text[K]);
                else
                    Text[K]=Text[K-1];
    }
}
void main() {
    char OldText[]="pOwERALone";
    Changelt(OldText, '%');
    cout<<"New Text:"<<OldText<<endl;
}
```

3. Differentiate between:

- a. Actual and Formal Parameter
- b. Call by Value and Call by reference
- c. Run-time and Syntax error
- d. Global and Local variables

4. Rewrite the following program by removing the syntactical errors, if any. Underline each correction.

```
#include <iostream.h>
const int Multiple = 3;
void main() {
    Value = 15;
    for(int Counter = 1; Counter <= 5; Counter++, Value -=2)
        if(Value % Multiple == 0)
            cout<<Value * Multiple;
            cout<<endl;
        else
            cout<<Value+Multiple<<endl;
}
```

5. Write a program to:

- a. Print the sum of prime numbers from 1 to N (N is user-input) with the help of a user-defined function sumprim() that takes N as a parameter.
- b.

6. Define the following

- a. Class
- b. Object
- c. Abstraction
- d. Inheritance
- e. Polymorphism
- f. Modularity

7. Give a real-life example of Class, it's Object and it's derived classes.

8. Why did we progress from Procedural Language to Object Oriented Language?

9. How are encapsulation and abstraction related? Discuss the merits of data-hiding.

10. Explain the concept of Polymorphism using an example of function overloading. What advantage does Polymorphism offer?

11. Inheritance is the key to reusability in OOP. Comment.

12. In which type of cases, the Procedural paradigm is favored over the Object-Oriented paradigm.

13. Explain the “transitive nature of inheritance”.