Assignment 2

Q.A. Answer the following questions in one or two lines :

1. A function can be declared as private. State True/False.
2. What is the difference between inline function and macros?
3. Write any two restrictions for inline function.
4. Write syntax to invoke static member function.
5. Write syntax for creating reference variable.
6. Why can't static member function access non-static members of a class ?
7. State the advantages of inline function.
8. Give the syntax to return reference to an object from a function.
9. Write a syntax of constructor.
10. Constructors do not have return type. State true/false.
11. Whenever an object is destroyed which function is called ?
12. "Constructors can't have all arguments as default arguments". State true / false.
13. Write a syntax for copy constructors.
14. Differentiate between copy Constructor and default Constructor.
15. A destructor can be overloaded in a class. State true or false.
16. The destructor can have different name as the class . State true/false.
17. Default Constructor is always called without any arguments. State true / false.
18. At least how many constructors contain class in CPP.

Q.B. Answer the following questions in one or two lines :

1. Write a C++ program to accept the eno, ename , salary and ebonus for five employees. Calculate total salary and display the output.
2. Explain the purpose of default argument. State the rules to define default arguments with example.
3. Explain the terms with example: i) Pass by reference   ii) Return by reference
4. Write a function in C++ to calculate simple interest for a given amount and period. If the user does not provide rate and no. of years , use a default value of 10% and 2 years.
5. Write a C++ program to overload a function area to calculate area of circle and rectangle.
6. What is friend function. Explain rules for friend function. Give a proper example.
7. Explain new and delete operators with suitable example.
8. What is constructor? List types of constructors. Explain overloading of constructor with example.
9. What is copy constructor ? What is its purpose? Explain with example.
10. What is parameterized Constructor? Explain with example.
11. Consider a class "Game" which has data members - no_of_Players and names of players. The numbers of players can vary from each Game Object. Define a class with appropriate dynamic constructor to initialize the object and accept player names. Also write a member function to display details.
12. What are rules for defining a Constructor.

Q.C. Trace the Output :

1. What is the output of the following program: (Assume there are no syntax errors)

```cpp
#include<iostream.h>
void stat()
{
        int m=0;
        static int n=0;
        m++;
        n++;
        cout<<m<<" "<<n <<"\n";
}
int  main()
{
        stat();
        stat();
        return 0;
}
```

2. Identify errors in the following :

```cpp
class set
{
        int m,n;
public:
        void set()
        {
                m=0;
                n=0;
        }
        void fun1();
        friend void fun2();
}
void fun1()
{
        cout<<m<<n;
}
void fun2()
{
        cout<<m<<n;
}
int main()
{
        set s;
        s.fun1();
        s.fun2();
        return 0;
}
```

3. Trace the output of the following C++ code segment. Assume there are no syntax errors. Justify.

```cpp
int&  min(int &x,int &y)
{
```

```cpp
            if(x<y)
                        return x;
                else
                        return y;
        }
        int main()
        {
                int a=10,b=20;
                min(a,b)=-1;
                cout<<a<<endl;
                cout<<b;
                return 0;

        }
```
4. What is the output of the following program: (Assume there are no syntax errors)
```cpp
        #include<iostream.h>
        class A
        { public :
                A()
                {
                        cout<<"\n Object Created";
                }
                ~A()
                {
                                cout<<"\n Object Destroyed";
                }
        };
        A a1;
        int  main()
        {
                A a2;
                {
                        A a3;
                }
                exit(0);
        }
```

5. Identify errors in the following :
```cpp
        class A
        {
                int m,n;
        public:
                A()
                {
                        m=0;
                        n=0;
                }
                A(int m)
                {
                        this->m=m;
                        n=m;
```

```cpp
            }
            A(int m,int n)
            {
                    this->m=m;
                    this->n=n;
            }
            A(const A & ob)
            {
                    m=ob.m;
                    n=ob.n;
            }
            void show();
    }
    void show()
    {
            cout<<m<<n;
    }
    int main()
    {
            A o1(3),o2,o3(6,9);
            A o4(o1);
            o1.show();
            o2.show();
            o3.show();
            o4.show();
            return 0;
}
```

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