Expt. No. / Name :

Date ____ / ____ / 201

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Subject: Object Oriented Programming

Subject Code: 102000212

Class : 2-CE-1

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Assignment = II

1. C++ program to create Student class, read & print 3 student's details: (Name, NO, Total Marks).

```
#include <iostream>
using namespace std;
class Student
{
    char name [30];
    int roll;
    float marks;
};
int main ()
{
    Student S;
    Cout << "Enter Information." << endl;
    cout << "Enter Name: ";
    cin >> S.Name;
    cout << "Enter Roll Number : ";
    cin >> S.Roll;
    Cout >> "Enter Marks:";
    cin >> S.Marks;
    cout << "In Displaying Information." << endl;
    cout << "Name : " << S.Name << endl;
    cout << "Roll : " << S.Roll << endl;
    cout << "Marks:" << S.Marks << endl;
}
```

Output:-

```
Enter Information.
Enter Name : Hunaid
Enter Roll Number : 67
Enter Marks : 201

Displaying Information.
Name : Hunaid
Roll : 67
Marks : 201
```

2. C++ Program to read time in seconds & convert in time format (HH:MM:SS) using class.

```
#include <iostream>
using name space std;
class time
{
    int sec, hour, min;
    public:
    void read (int s) { sec = s; }
    void convert ()
    {
        hour = sec / 3600;
        min = (sec - (hour * 3600)) / 60;
        sec = sec - ((hour * 3600) + (min * 60));
    }
};
int main()
{
    time t;
    int s;
    cout << "Input sec: ";
    cin >> s;
    t.read(s);
    t.convert();
    t.print();
    return 0;
}
```

Output:

Input sec: 5300

1 : 28 : 20

3. C++ program to demonstrate example of friend func. with class.

```
#include <iostream>
using namespace std;

class Box
{
    double width;

    public:
      friend void print width (Box box);
      void set width (double wid);
};
void Box :: Set width (double wid)
{
      width = wid;
}
void print width (Box box)
{
    cout << " Width of box: " << box. width << endl;
}
int main ()
{
    Box box;
     box.set width (10.0);
     print width (box);
}
```

:

Output:-

Width of box : 40

4. WAP to Find Greatest Between 3 Numbers by defining function inside the class.

```
#include <iostream>
using namespace std;
class maximum
{
    int a,b,c;
    Public
    int max;
    maximum (int a1, b1, int c1)
    {
        a=a1; b=b1; c=c1;
    }
     void maxfind ()
     {
        (a>b && a>c)? max=a: ((b>c)?max=b:max=c);
        cout << max << endl;
     }
};
int main()
{
    int n1,n2,n3;
    cout << "Input three numbers :";
    cin >> n1 >> n2 >> n3;
    maximum m (n1, n2, n3);
    m. maxfind ();
    return 0;
}
```

Output:-

Input three numbers : 52 96 82
96

5. WAP to show access to Public, Private & Protected using inheritance.

```
#include <iostream>
using namespace std;
class Base
{
    private:
        int pvt=2;
    protected:
        int prot=4;
    public:
        int pub=6;
    int get pvt()
    {
        return pvt;
    }
};
class public Derived : Public Base
{
    public:
    int get prot()
      {
        return prot;
      }
};
int main()
{
    public Derived Obj1;
    Cout << "Private: " << Obj1.get pvt() << endl;
    cout << "Protected:" << Obj1.get prot() << endl;
```

```
cout << "Public:" << obj1.pub << endl;
return 0;
}
```

Output :-

Private : 2
Protected : 4
Public : 6