Practical-5.(a)

Aim: Write a C++ program to design a student class representing student roll no. and a test class (derived class of student) representing the scores of the student in various subjects and sports class representing the score in sports.The sports and test class should be inherited by a result class having the functionality to add the scores and display the final result for a student.

Algorithm:(i)Start

(ii)protected{….};public{…};void{…..};

(iii)Print the result

(iv)Stop

Theory: A class is a user-defined data type that we can use in our program, and it works as an object constructor, or a "blueprint" for creating objects.

Program:

```
#include <iostream>
class student
{
   protected:
   int roll_number;
```

```
    public:
    void get_number(int a)
    {
        roll_number=a;
    }
    void put_number(void)
    {
        std::cout<<"Roll No:"<<roll_number<<"\n";
    }
};
class test:public student
{
    protected:
    float part1,part2;
    public:
    void get_marks(float x,float y)
    {
        part1=x;
        part2=y;
```

```
    }
    void put_marks(void)
    {
        std::cout<<"Marks obtained"<<"\n"
        <<"part1= "<<part1<<"\n"
        <<"part2= "<<part2<<"\n";
    }
};
class sports
{
    protected:
    float score;
    public:
    void get_score(float s)
    {
        score=s;
    }
    void put_score()
    {
```

```
        std::cout<<"Sports wt: "<<score<<"\n\n";
    }
};
class result:public test,public sports
{
    float total;
    public:
    void display();
};
void result::display()
{
    total=part1+part2+score;
    put_number();
    put_marks();
    put_score();
    std::cout<<"Total score: "<<total<<"\n";
}
int main(){
    std::cout<<"08_Rabin Nadar"<<std::endl;
```

```
    result student_1;
    student_1.get_number(8);
    student_1.get_marks(44.5,40.0);
    student_1.get_score(45.0);
    student_1.display();
    return 0;
}
```

Output:

```
Output                                                    Clear
/tmp/Dei9gCuJPL.o
08_Rabin Nadar
Roll No:8
Marks obtained
part1= 44.5
part2= 40
Sports wt: 45

Total score: 129.5
```

Conclusion:

Successfully written the code and executed it.