

Experiment1:

(a)Analyze and design classes for a student management system.

Program: class Student {

private:

std::string name;

std::string id;

std::string email;

std::string branch;

public:

Student(const std::string& name, const std::string& id,
const std::string& email);

};

class Course {

private:

std::string name;

std::string code;

std::string sem;

public:

Course(const std::string& name, const std::string& code);

};

class Instructor {

private:

std::string name;

std::string id;

std::string email;

public:

Instructor(const std::string& name, const std::string& id,
const std::string& email);

};

(b) To create a student class, its constructor, destructor, and member functions.

Program: #include<iostream>

using namespace std;

class stu

{

private: char name[20],branch[20],subject[20];

int roll,sem;

public: stu();

~stu();

```
void read();
void display();
};
stu::stu()
{
    cout<<"\nThis is Student Details constructor
called....."<<endl;
}
void stu::read()
{
    cout<<"\nEnter the student name::";
    cin>>name;
    cout<<"\nEnter branch::";
    cin>>branch;
    cout<<"\nEnter subject::";
    cin>>subject;
    cout<<"\nEnter roll number::";
    cin>>roll;
    cout<<"\nEnter semester::";
    cin>>sem;
}
void stu::display()
{
```

```
    cout<<"\n\nThe entered student details are shown  
below:.....\n";
```

```
    cout<<"\nStudent name::"<<name<<endl;
```

```
    cout<<"\nBranch::"<<branch<<endl;
```

```
    cout<<"\nSubject::"<<subject<<endl;
```

```
    cout<<"\nRoll number::"<<roll<<endl;
```

```
    cout<<"\nSemester::"<<sem<<endl;
```

```
}
```

```
stu::~~stu()
```

```
{
```

```
    cout<<"\n\nStudent Detail is closed.....\n";
```

```
}
```

```
int main()
```

```
{
```

```
    stu s;
```

```
    s.read();
```

```
    s.display();
```

```
    return 0;
```

```
}
```

```
This is Student Details constructor called.....  
Enter the student name::ABC  
Enter branch::CSE  
Enter subject::C++  
Enter roll number::153  
Enter semester::4th  
The entered student details are shown below:.....  
Student name::ABC  
Branch::CSE  
Subject::C++  
Roll number::153  
Semester::4  
  
Student Detail is closed.....
```

(c)To create a course class, its constructor, destructor, and member functions.

Program: #include<iostream>
using namespace std;
class cour
{
 private: char name[20],code[20];
 int credits,fees;
 public:cour();

```
    ~cour();  
    void read();  
    void display();  
};  
cour::cour()  
{  
    cout<<"\nThis is Course Details constructor  
called....."<<endl;  
}  
void cour::read()  
{  
    cout<<"\nEnter course name::";  
    cin>>name;  
    cout<<"\nEnter course code::";  
    cin>>code;  
    cout<<"\nEnter Course credits::";  
    cin>>credits;  
    cout<<"\nEnter course fees::";  
    cin>>fees;  
}  
void cour::display()  
{
```

```
    cout<<"\n\nThe entered course details are shown  
below:.....\n";
```

```
    cout<<"\nCourse name::"<<name<<endl;
```

```
    cout<<"\nCourse code::"<<code<<endl;
```

```
    cout<<"\nCourse credits::"<<credits<<endl;
```

```
    cout<<"\nCourse fees::"<<fees<<endl;
```

```
}
```

```
cour::~~cour()
```

```
{
```

```
    cout<<"\n\nCourse detail is closed.....\n";
```

```
}
```

```
int main()
```

```
{
```

```
    cour c;
```

```
    c.read();
```

```
    c.display();
```

```
    return 0;
```

```
}
```

This is Course Details constructor called.....

Enter course name::C++

Enter course code::COM-411

Enter Course credits::19

Enter course fees::20000

The entered course details are shown below::.....

Course name::C++

Course code::COM-411

Course credits::19

Course fees::20000

Course detail is closed.....