NATIONAL UNIVERSITY
OF COMPUTER & EMERGING SCIENCES
LAHORE

Course Name & Section _____ Date _____

Student's Name ~~Per~~ Hassaan Ahmed Roll No. 0769 Section _____

Q / Part No.   Rough Work

~~7) Output~~

a)
```cpp
~~Class Student.~~
class Student {
public:
    char * name;
    int id;
    float gpa;
    virtual double calculate tutionFee () = 0;
    Student (char * name, int id, float gpa) {
        this → name = name;
        this → id = id;
        this → gpa = gpa;
    }
    virtual ~ Student () {
        delete [] name;
    }
};

~~Class UndergraduateStudent {~~
class Undergraduate Student : public Student {
private:
    int yearOf study;
    bool isFunded;
public:
    Undergraduate Student (char * name, int id, float gpa, int year
                    bool funded) : Student (name, id, gpa) {
        this → yearOf study = year;
        this → isFunded = funded;
    }
```

```cpp
double CalculateTutionFee (){
    double result = 10000;
    if (isFunded){
    result = result - (result /100 * 5) * yearOf Study;
    }
    return result;
}
}

class GraduateStudent : public Student {
    private:
    int researchCredits;
    double thesisFee;
    public:
    GraduateStudent (char* name, int id, float gpa,
        int credits, double fee) : Student(name, id, gpa){
    reasearchCredits = credits;
    thesisFee = fee;
    }
    double calculateTutionFee (){
        return thesisFee +100 * reasearchCredits;
    }
}

class ExchangeStudent : public Student {
    private:
    string homeUnivercity;
    int exchange Duration;
    public:
    ExchangeStudent (char* name, int id, float gpa,
        string homeUnivercity, int exchange Duration) : Stude
    this -> homeUnivercity = homeUnivercity;
    this -> exchange Duration = exchange Duration;
    }
    double calculateTutionFee (){
        return exchange Duration * 1000;
    }
```

12000+2000

b) Output

Name : Alice
ID : 1001
GPA : 3.8
Tution Fee $: 9000
Name : Bob
ID : 2002
GPA : 3.5
Tution Fee $: 3200
Name : Charlie
ID : 3003
GPA : 4.0
Tution Fee $: 1000