



UNIVERSITY EXAMINATIONS

**EXAMINATION FOR FIRST SEMESTER/DECEMBER 2015/2016 FOR BACHELOR
OF SCIENCE IN COMPUTER SCIENCE**

RCCS 107

INTRODUCTION TO PROGRAMMING (PRACTICALS)

DATE 1st DECEMBER 2015

TIME: 2 HOURS

GENERAL INSTRUCTIONS:

Students are NOT permitted to write on the examination paper during reading time.

This is a closed book examination. Text book/Reference books/notes are not permitted.

SPECIAL INSTRUCTIONS:

This examination paper consists of two Questions. Answer **ALL** QUESTIONS.

QUESTIONS in ALL Sections should be answered in answer booklet(s).

1. **PLEASE** start the answer to EACH question on a NEW PAGE.
2. **Keep your phone(s) switched off at the front of the examination room and NOT on your person.**
3. **Keep ALL bags and caps at the front of the examination room and DO NOT refer to ANY unauthorized material before or during the course of the examination.**
4. **ALWAYS** show your working.
5. **Marks indicated in parenthesis i.e. () will be awarded for clear and logical answers.**
6. **Write your REGISTRATION No. clearly on the answer booklet(s).**
7. **For the Questions, write the number of the question on the answer booklet(s) in the order you answered them.**
8. **DO NOT** use your **PHONE** as a **CALCULATOR**.
9. **YOU** are **ONLY ALLOWED** to leave the exam room **30minutes** to the end of the **Exam.**
(Total Marks=30)

Question One (20marks)

- a) Define the term function prototype. **(2marks)**
b) Study and write the program below. What is the output of the program? **(3marks)**
NB: correct any error that may occur during the running of the program.

```
#include <iostream>
using namespace std;
void test(int);
void test(float);
void test(int, float);
int main() {
    int a = 5;
    float b = 5.5;

    test(a)
    test(b)
    test(a, b);

    return 0;
}

void test(int var) {
    cout<<"Integer number: "<<var<<endl;
}

void test(float var){
    var=4.5;
    cout<<"Float number: "<<var<<endl;
}

void test(int var1, float var2) {
    cout<<"Integer number: "<<var1;
    cout<<" And float number:"<<var2;
}
```

- c) What is the above program demonstrating? **(3marks)**
d) The diagram below demonstrates input of data in an array. Write the syntax to initialize the array as shown : **(4marks)**



Initialization of one-dimensional array

- e) Study the program below and write the output. Correct the errors that are present in the program. Indicate the output of the program. **(8marks)**

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

int main() {
    int test[3][2] = {
```

```

    {2, -5},
    {4, 0},
    {9, 1}
};
for(int i = 0; i < 3; ++i) {
    for(int j = 0; j < 2; ++j) {
        cout<< "test["<i << "]" << j << "] = " << test[i][j]<<endl
    }
}
return 0;
}

```

f) State the purpose of the above program in (e).

Question Two (10marks)

a) State the outcome of the following program.

(3marks)

```

#include <iostream>
using namespace std;

struct person {
    char name[50];
    int age;
    float salary;
};

int main() {

    person p1;

    cout << "Enter Full name: ";
    cin.get(p1.name, 50);
    cout << "Enter age: ";
    cin >> p1.age;
    cout << "Enter salary: ";
    cin >> p1.salary;

    cout << "\nDisplaying Information." << endl;
    cout << "Name: " << p1.name << endl;
    cout << "Age: " << p1.age << endl;
    cout << "Salary: " << p1.salary;

    return 0;
}

```

b) From the above program you have tested, demonstrate the purpose and your understanding about it.

(5marks)

c) Differentiate between a pointer and an address operator

(2marks)