



UNIVERSITY EXAMINATIONS

**EXAMINATION FOR JANUARY/APRIL 2015/2016 FOR BACHELOR OF SCIENCE IN
COMPUTER SCIENCE**

RCCS 107

INTRODUCTION TO PROGRAMMING (PRACTICALS)

DATE 6TH APRIL 2016

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.**
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.**
10. **DO NOT write on the QUESTION PAPER. Use the back of your BOOKLET for any calculations or rough work.**
(Total Marks=30)

Question One (20marks)

- a) Define the term function prototype. **(2marks)**
- b) Using the program given below, illustrate the function prototype. **(2marks)**
- c) 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;

int addition (int a, int b)
{
    int r;
    r=a+b;
    return r;
}

int main ()
{
    int z;
    z = addition (5,3)
    cout << "The result is " << z;
}
}
```

- d) Write the above program without using the user defined function used above. **(2marks)**
- e) The diagram below demonstrates the initialization of an array. Write a program that accepts input and outputs data from an array. **(4marks)**



Initialization of one-dimensional array

- f) From the above diagram, what type of array is this? **(1mark)**
- g) Study the program below and write the output. Correct the errors that are present in the program. Indicate the output of the program. **(4marks)**

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

int main ()
{
    int var1;
    char var2[10];

    cout << "The output of var1 variable: ";
    cout << &var1 << endl;

    cout << "The output of var2 variable: ";
```

```
cout << &var2 << endl;

return 0;
}
```

h) Explain the purpose of the above program in (e). **(2marks)**

Question Two (10marks)

a) State the outcome of the following program. Correct the errors that are present in the program. **(3marks)**

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

int main ()
{
    int var = 20;
    int *ip;

    ip = &var;

    cout << "Output of var variable: ";
    cout << var << endl;

    cout << "The Output stored in ip variable: ";
    cout << ip << endl;

    cout << " The Output of *ip variable: ";
    cout << *ip << endl;

    return 0;
}
```

b) From the above program you have tested, demonstrate the purpose and your understanding about it. **(5marks)**

c) What is a structure? Use an example to illustrate your understanding. **(2marks)**