BINGHAM UNIVERSITY
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE
FIRST SEMESTER EXAMINATION

CLASS: 200 LEVEL

COURSE CODE: CMP 201

COURSE TITLE: COMPUTER PROGRAMMING I

TIME: 2 ½HRS

INSTRUCTION: Answer Any FOUR Questions

Q1 a. What is an algorithm?

b. List and describe the three basic control structures used by algorithm.

c. (i) List the tools used in development of an algorithm.

(ii) Illustrate each.

Q2. a. (i) What is a character set?

(ii) List Pascal character set and illustrate each with examples.

b. Draw and label a design pyramid.

c. Draw a flowchart for the computation of the sum of numbers from 1 to 50.

Q3. a. Write the general syntax for the following Pascal statements:

(i) If …..then

(ii) If….then……Else……

(iii) While …..Do

(iv) Repeat ……Until….

(v) For …. Do

(vi) Read

(vii) Write

(viii) VAR

(ix) CONST

(x) TYPE

(xi) LABEL

Q4. Develop executable algorithm modules in Pascal for the following projects:

(i) Computation of the sum of all the prime numbers from 1 to 100.

(ii) Computation of the sum of all the even numbers from 1 to 1000.

Q5. a. What is a problem?

b. Describe the four steps involved in solving a problem.

c. Describe the two options available in problem definition.

Department of Computer Science
Faculty of Science and Technology
Bingham University, Karu-Nassarawa State.
First Semester Examination, 2016/2017 SESSION

Course Title: Introduction to Programming I (C++) **Credit Unit**: 3
Code: CMP 201 **Time**: 2 hours **Level**: 200
Instruction: Answer **FIVE** Questions in All. **THREE** questions form Section A and **TWO** from section B

SECTION A

Answer any **Three** questions in this section

Question One

(a) Write a short note on the overall structure of C++ (4marks)
(b) State **four** difference between C and C++ (4 marks)
(c) An array is define as int arr[4]; write a snippet of code that will initialized or load data in the array arr. (4 marks)

Question Two

(a) What will be the output of the program below

```
include <iostream>
using namespace std;

int main()
{
  int a[] = {10, 20, 30};
        cout<<a[0]+1;
  return 0;
}
```

(4 marks)
(b) With at least two examples, define a statement in C++ (4 marks)
(c) Write a code snippet that can ad two numbers in C++ (4 marks)

Question Three

(a) List out five errors in the program code , lines number are only used for identification and not part of the program (5 marks)

```
1   #include <iostream>
2
3   using namespace std;
4
5   int main()
6   {
7       float arr[4];
8       cout>>"Please enter four number into the array:\n";
9       for(int i=0;i<4 i++ ){
10          Cin>>arr[i];
11      }
12      cout<<"Values in the array are now:";
13      FOR(int i=0; i<4; i++){
14          COUT<<" , "<<arr[i];
15      }
16      return 20;
17  }
18
```

(b) Correct the program in (3a) to make it error free (5 marks)
(c) What is a pointer in C++ (2 marks)

Bingham University

Faculty of Science

Department of Computer Science

First Semester Examination 2015/2016 Academic Session

Course Code: CMP 201 **Credit Unit:** 3 Units

Course Title: Computer Programming I (C++) **Time Allowed:**3 Hrs

Instructions: Answer Question ONE and any other THREE questions.

Question One

Based on the new NUC benchmark, the student grading system is as follows:

Percentage Scores	Letter Grade	Points	Rating/Remarks
70 -100	A	5	Excellent
60-69	B	4	Very Good
50-59	C	3	Good
45-49	D	2	Pass
o-44	F	0	Fail

Joshua registers and sat for first examination with matriculation number BHU/15/04/05/0001 with scores as recorded in the table below.

Course Code	Credit Unit	Score
CMP 201	3	78
CMP 205	2	69
CMP 209	2	55
CMP 211	2	71
CMP 213	2	44
CMP 215	2	71
CMP 217	2	59
MTH 205	3	48
BST 201	0	91

Using the information above, write a program in C++ language that will compute the grade point average (GPA) of Joshua with output as: **student name, matric number, course code and letter grade, and GPA.**

Question Two.

Write a program that calculates "**Interest**" when a user enters "**i**", calculate the"**principle**"when a user enters "**p**", calculate "**rate**" when a user enters "**r**" and calculate "**time**" when the users enters "**t**".

Question Three

Write a program that generates the first **27** numbers of the **Fibonacci** sequence and stores them in an array. Print the content of the array.

Question Four

(a) What is a statement in C++?

(b) With examples, define the following

(i) Selective statement
(ii) Iterative or repetitive statement
(iii) Unconditional statement

Question Five

(a) Identify five (5) errors in the sample program below ignoring header files. The numbering is done for convenience and not part of the program.

```
1.  int main()
2.  {char ch, name[len], longestName[len];
3.  int i,n;
4.  cout<<"Enter the number of names to type\n";
5.  CiN>>n;
6.  if(n<=0)
7.  {COUT<<"You can not have negative or Zero names\n";
8.  cout<<"Enter new number\n";
9.  cin>>n;
10. }
11. Else {
12.   cout<<"Enter name\n";
13. cin>>longestName;
14.  For(i =1; i<n; i++)
15.    {cout<<"Enter name\n";
16.      cin>>name;
17.    if(strlen(longestName)< strlen(name))
18.     strcpy(longestName, name);
19.   }
20.
21.   cout<<"\nLongest name is: "<<longestName;
22.   }
23.  return 10;
24. }
```

(b) what will be the output of this sample program?

```
#include <iostream>
using namespace std;
int square(int x, int)
{
   return (x*x);
}
int main()
{ cout<<square(2,7);
   return 0;
}
```

Question Six

(a) List five (5) differences between C and C++ programming.
(b) List five (5) reserve words in C++ programming.