



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

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AUGUST – DECEMBER 2018 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

DIT 004: INTRODUCTION TO PROGRAMMING TECHNOLOGIES

Date: DECEMBER 2018

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Using C++ Programming language, write a program that does summation of two integers prompting for input from the keyboard and representing the results on the screen as an output. **(4 Marks)**
- b) Give four reasons why programming is important. **(4 Marks)**
- c) Write a C++ Programs that evaluates between two numbers and displays the largest number. The first number is $i=22$ and second number is $j=34$. **(3 Marks)**
- d) Explain the meaning of the following terms as used in computer Programming **(3 Marks)**
- i) Writing Program
 - ii) Compiling Program
 - iii) Executing Program
- e) What would be the output of the following C++ program? **(3 Marks)**
- ```
#include <iostream>
using namespace std;
int main ()
{
int n;
cout << "Enter number > ";
cin >> n;
while (n>0) {
```

```

cout << n << ", ";
--n;
}
cout << "Deal Done!\n";
return 0;
}

```

- f) Explain how a for loop differ from a while loop. **(3 Marks)**
- g) What is an Array? Give an example of array in C++ Programming **(4 Marks)**
- h) Giving two examples explain what is initialization of variables? **(6 Marks)**
- Q2. a) What is logical error? Give an example for each in C++programming **(3 Marks)**
- b) Explain how repetition can be achieved in Programming. **(2 Marks)**
- c) Distinguish between local variables and global variables as used in Computer programming **(4 Marks)**
- i) Write a C++ program to initialize a 10 element integer array n to zeros and print the array in a tabular format. **(4 Marks)**
- ii) Explain what are comments and how they are done in C++ giving atleast one example of a comment **(4 marks)**
- iii) What are conditional Statements? **(3 Marks)**
- Q3. a) How do Semantic Errors occur in the written code? Give an example of a semantic error. **(4 Marks)**
- b) Explain your understanding of syntax error. Give at least two examples of syntax errors. **(4 Marks)**
- c) Explain these two commands as used in C++ Programming. **(4 Marks)**
- i) Std::cout<<
- ii) Std::cin>>
- d) Giving examples explain two data types used in C++ Programming? **(4 Marks)**
- e) What is displayed when this code is executed? **(4 Marks)**
- ```

for (int i = 1; i <= 10; i++)
    std::cout<<(i * i);

```

- Q4. a) Explain the meaning of the following terms as used in Computer Programming **(8 Marks)**
- i) Variables
 - ii) Source code
 - iii) String
 - iv) Execution
- b) State and Explain the Different Languages Used in Computer Programming. Give an example in each category. **(8Marks)**
- c) What will be the output of this code? **(4 Marks)**
- ```
include <iostream>
include <string>
using namespace std;
int main()
{
 string DIT 004 = "this is a programming class";
 std::cout <<DIT 004;
 return 0;
}
```
- Q5. a) Programs regardless of the languages they are written in contain two fundamental parts. Clearly state and explain these Fundamental parts. **(4Marks)**
- b) Explain the two major categories of programming levels **(4 Marks)**
- c) Write a program that outputs the square root of 900 and the square root of 9 when run **(4 Marks)**
- d) Explain and give two examples of how computer programming can be used to solve day to day problems in organizations **(4 Marks)**
- e) Write simple C++ code to output the following. **(4 Marks)**
- i. **Welcome to C++ Programming. Programming solves many day to day problems**

**\*END\***