

# **University of Eswatini**

## **Department of Computer Science**

**Examination(Supplementary)**

**2018/2019**

**SECOND SEMESTER**

**Title of Paper: INTRODUCTION TO COMPUTER PROGRAMMING I**

**Course Code: CSC112**

**Time Allowed: Three (3) Hours**

**Instructions:** Answer Question any four Questions.

Don't write anything on the Examination Question paper.

You are not allowed to open this paper until you have been told to do so by the invigilator.

**CSC112 INTRODUCTION TO COMPUTER PROGRAMMING I**  
**SECOND SEMESTER SUPPLEMENTARY EXAMINATION 2018/2019**

**INSTRUCTION: ANSWER ANY FOUR QUESTIONS**

**TIME ALLOWED: THREE HOURS**

**QUESTION ONE**

- a) List and explain five output manipulators commonly used in C++ 10marks
- b) List the five step process for file I/O 5marks
- c) Write a C++ program to determine the grade of a student marks in UNESWA grading system in the table below using unNested if statement 10marks

Marks	Grade
90-100	A+
85-89	A
80-84	A-
75-79	B+
70-74	B
65-69	C+
60-64	C
55-59	D+
50-54	D
45-49	E+
40-44	E
35-39	F+
0-34	F

**QUESTION TWO**

- a) Write a C++ program to ask a user to input a number between 3 and 10 using a switch statement 9marks
- b) Differentiate between following
  - i. Insertion and extraction operators 4marks
  - ii. Single and multiple line comment 4marks
  - iii. Object and source file 4marks
  - iv. Fixed and scientific stream manipulator 4marks

### QUESTION THREE

- a) Write a C/C++ program to convert decimal number to octal and decimal number to hexadecimal 10marks
- b) Write a short notes on the following operators with the support of an illustrative example for each
- i. Increment and decrement operators 2marks
  - ii. Arithmetic Assignment operators 2marks
  - iii. Relational operators 2marks
  - iv. Logical operators 2marks
  - v. Arithmetic operators 2marks
- c) Write a C++ assignment statement that multiplies the value stored in an int variable named quantity by number 2.5, and then assigns the result to a double variable named total due. Use implicit type conversion and explicit on the C++ statement. 5marks

### QUESTION FOUR

- a) Write a C++ program to solve simultaneous equation involving two unknowns by reading the input from a file called "Fash\_input.txt" and write the output in a file called "Fash\_output.txt" . 10Marks
- b) Write a C++ program to convert decimal number to octal number using a loop and if statement 15marks

### QUESTION FIVE

- a) Write a C++ program to calculate the area of a triangle and rectangular using a function 10marks
- b) Identify and correct the errors in the C++ program below without adding new statements

```
#include<iostream>
Using namespace
int main()
{
int num1 num2;
bool found=false;
cout<<"enter two integers;;
cin<<num1>>num2;
cout<<endl;
found=(num1>num2);
```

```

if(found
    switch(num1%num2);
    {
        case 0:
            num2=num1/2;
            break;
        case 1:
            num1=num2/2;
            break;
        default:
            num1=num1/num2;
            num2=num1*num2;
    };
else
    {
        num1=num1-num2;
        num2=(num1+num2)/10;
    }
cout<<num1<<" "<<num2<<endl;
return;
}

```

9Marks

- c) Write a short note on the following
- i. Function prototype            2marks
  - ii. Function call                2marks
  - iii. Function declaration        2marks

#### QUESTION SIX

- a) Write a C++ program to create a program that converts the number of American dollars entered by the user into one of the following foreign currencies: Euro, British Pound or Emalangeni. Allow the user to select the foreign currency from a menu. Store the exchange rates in a three-element double array named rates. The array below includes the exchange rates the program should use.

Rates1=0.58

Rates2=1.98

Rates3=0.29

10marks

b) Write a short note on the following string manipulations in C++ with the support of an example for each

- |      |  |        |
|------|--|--------|
| i.   | Access characters in a string variable     | 3marks |
| ii.  | Searching the content of a string variable | 3marks |
| ii.  | Removing characters from a string variable | 3marks |
| iii. | Replace characters in a string variable    | 3marks |
| iv.  | Insert characters within a string variable | 3marks |