



Strathmore
UNIVERSITY

SCHOOL OF COMPUTING AND ENGINEERING SCIENCES (SCES)
BACHELOR OF ELECTRICAL AND ELECTRONICS ENGINEERING
END OF SEMESTER EXAMINATION
CSE 2113: COMPUTER PROGRAMMING FUNDAMENTALS

DATE: 29th July 2022

Time: 2 Hours

Instructions

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

Question One [30 Marks]

- a) Explain the following 5 terms as used in Computer programming: **(10 Marks)**
 - i. Program
 - ii. Escape Sequence
 - iii. Function
 - iv. Algorithm
 - v. Comment
- b) Using examples, describe the tasks of a compiler. **(6 Marks)**
- c) Using code segments, differentiate between an if-else-if and switch-case structure. **(6 Marks)**
- d) Discuss at least 4 application areas of Computer programming. **(8 Marks)**

Question Two [15 Marks]

- a) Differentiate an algorithm and a program as used in Computer programming. **(4 Marks)**
- b) What advantage does an array have over a variable? **(1 Marks)**
- c) Write a C++ program that will use an array to store and display the marks of 30 students that a teacher inputs. Use a loop to facilitate the input and display of the marks. **(10 Marks)**

Question Three [15 Marks]

- a) Explain the significance of variables in Computer programs. **(2 Marks)**
- b) Identify the errors in each line of code below. Give your reasons for each error. **(10 Marks)**

```
int main ( )
{
  \\ I am a comment
  x = 3 + 6;
  cout>>x
  x = = 4
}
```

- c) Write the correct lines of code for Part 3(b) above. **(3 Marks)**

Question Four [15 Marks]

- a) Using code segments, differentiate between an *if-else* statement and *if-else-if* statement. **(6 Marks)**
- b) Write a C++ program that will prompt a user to input any category of vehicle and, the program should display the recommended speed of that category (use the table below). **(9 Marks)**

Speed (km/h)	Category
< 60	Trailer
60 – 80	Lorry
80 - 100	Car

Question Five [15 Marks]

- a) Using an example, explain the significance of using functions in Computer programs. **(5 Marks)**
- b) Write a C++ program that will use functions to calculate and display the area and perimeter of a circle. The program should prompt the user for the radius. **(10 Marks)**