



TECHNICAL UNIVERISTRY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR DEGREE IN:
BACHELOR OF TECHNOLOGY IN APPLIED PHYSICS
BACHELOR OF TECHNOLOGY IN RENEWABLE ENERGY

EIT 4253: COMPUTER PROGRAMMING

END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2014
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

Question One (Compulsory)

- a) Explain the following terms by giving examples: **(4 marks)**
- (i) Encapsulation
 - (ii) Operands
 - (iii) Object
 - (iv) Class
- b) List any TWO data types in C++ programming language **(1 mark)**
- c) Describe any THREE program control structures used in C++ program with a suitable diagram. **(6 marks)**
- d) Explain any TWO ways of initializing variables in C++ programming languages **(4 marks)**
- e) Differentiate between the following terms as used in unstructured programming:

- (i) Defined and declared constants
- (ii) Cin and cost
- (iii) Local and global variable

(6 marks)

f) Consider the following code fragment:

```

1. #include <iostream>
2. Using namespace std;
3. Void duplicate (inta, int & b, int & C)
4. {
5. a = 2
6. }
7. Int main ( )
8. {
9. int x = 1, y = 3, z = 7;
10. Duplicate (x, y, z);
11. Count << "x =" << = "<< y <<, "z="
12. << 2;
13. Return O;
14. }

```

Answer the following questions

- (i) Explain statements 1 to 10 **(5 marks)**
- (ii) What would be the output of the above program **(4 marks)**

Question Two

- a) Describe the syntax of declaring data structure in C++ programming **(6 marks)**
- b) Write a C++ program to read a student name and the score for a particular subject. The program should output grade as follows:

```

Above 90= "A"
80 – 89 "B"
70 – 79 "C"
60 – 69 "D"
Below 60 "Fail"

```

- c) Explain any TWO logical operators **(4 marks)**

Question Three

- a) Explain any THREE errors that can occur in a C+ program **(6 marks)**
- b) Distinguish between interpreter and compiler **(4 marks)**
- c) State FOUR advantages of machine programming language **(4 marks)**
- d) Draw a flowchart to read twenty integer values and then display them **(6 marks)**

Question Four

- a) Explain in detail with suitable examples the characteristics of C++ programming language. **(8 marks)**
- b) Write not about the following terms:

- (i) Tokens (4 marks)
- (ii) Expressions (4 marks)
- (iii) Control structures (4 marks)

Question Five

- a) Identify errors in the following: (10 marks)

```
# include < iostream.h>
int gvalue = 10;
void extra ( )
{
cost << gvalue < ‘ ‘ ;
}
}
voidmain ( )
{
extra ( );
{ ,
int gvalve = 20;
cost << gvalue < “ “>;
cost <<: gvalue << “>;
}
}
}
```

- b) Explain any TWO advantages and TWO disadvantages of a flow chart (8 marks)
- c) Write any TWO rules of naming identifiers (2 marks)