



MURANGA UNIVERSITY COLLEGE

(A constituent College of Jomo Kenyatta University of Agriculture & Technology)

MAIN CAMPUS

ORDINARY UNIVERSITY EXAMINATIONS

2015/2016 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE

OF

BACHELOR OF BUSINESS INFORMATION TECHNOLOGY (BBIT)

COURSE CODE: ICS2102

**COURSE TITLE: INTRODUCTION TO COMPUTER PROGRAMMING
SUPPLEMENTARY QUESTION PAPER**

DATE: 30TH JUNE, 2016

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

Question ONE (1) is compulsory
Answer Other Two (2) questions

MRUC observes ZERO tolerance to examination irregularities

This Paper Consists of 4 Printed Pages. Please Turn Over. ►

QUESTION ONE

a) (i) Define a storage class in c programming. [2 marks]

ii) State the four storage classes in c programming. [4 marks]

b) Write the expected output of the following program statement. [6 marks]

```
char astring[10];
int i = 0;
/* Using scanf isn't really the best way to do this; we'll talk about that
in the next tutorial, on strings */
scanf( "%s", astring );
for ( i = 0; i < 10; ++i )
{
    if ( astring[i] == 'a' )
    {
        printf( "You entered an a!\n" );
    }
}
}
```

ci) Describe the two different ways how a programmer can define constants in c language. [4 marks]

ii) Use one of the constant definitions and write a c program which works out the area of a rectangle whose Length is 10 while the Width is 5 and output area starting with the line with the words “value of area is” . [8 marks]

d) Consider the code below. State the mistake and rectify the mistake by re-writing the program. [6 marks]

```
#include <stdio.h>
int main()
{

    printf( "Declare x next" );
    int x;

    return 0;
}
```

QUESTION TWO

a) Describe all the part of a c function. [6marks]

b) Write the output of the following program. [6marks]

```
#include <stdio.h>
/* function declaration */
void func(void);
static int count = 5; /* global variable */
main()
{
```

```

while(count--)
{
func();
}
return 0;
}
/* function definition */
void func( void )
{
static int i = 5; /* local static variable */
i++;
printf("i is %d and count is %d\n", i, count);
}

```

ci) Define a function prototype in c programming and write **2** reasons why it is used. [4 marks]

ii) Write the general format of the c function prototype. [4 marks]

QUESTION THREE

a) Write the output of the following program after compiling and executing. [10 marks]

```

#include <stdio.h>
main()
{
int a = 21;
int b = 10;
int c ;
if( a == b )
{
printf("Line 1 - a is equal to b\n" );
}
else
{
printf("Line 1 - a is not equal to b\n" );
}
if ( a < b )
{
printf("Line 2 - a is less than b\n" );
}
else
{
printf("Line 2 - a is not less than b\n" );
}
if ( a > b )
{
printf("Line 3 - a is greater than b\n" );
}
}

```

```

else
{
printf("Line 3 - a is not greater than b\n" );
}
/* Lets change value of a and b */
a = 5;
b = 20;
if ( a <= b )
{
printf("Line 4 - a is either less than or equal to b\n" );
}
if ( b >= a )
{
printf("Line 5 - b is either greater than or equal to b\n" );
}
}

```

b) By use of 3 integers which are stored in an array of pointers, write a c program which can be used to give the output below. [10marks]

Value of var[0] = 10
Value of var[1] = 100
Value of var[2] = 200

QUESTION FOUR

- ai) Write the syntax of the **for** loop. [4 marks]
- ii) Describe the flow of control in the for loop. [8 marks]
- b) Describe fully all the parts of a c function. [8marks]