**Mount Kenya. University**

 *UNIVERSITY EXAMINATION 2017/2018*

 *SCHOOL OF COMPUTING AND INFORMATICS*

*DEPARTMENT OF INFORMATION TECHNOLOGY*

 *BIT/BSS/BAS/BBIT*

 *REGULAR*

*UNIT CODE:BIT 2201. UNIT TITLE: COMPUTER PROGRAMMING METHODOLOGY*

*2:00PM, MAIN EXAM. TIME :2 HOURS*

*INSTRUCTIONS: Section A is Compulsory answer all question s in this section. In Section B Answer any two questions.*

*QUESTION ONE:[20 MARKS]*

*a)Define the following terms as used in computer programming. (4 Marks)*

*I. Variable*

*ii.Identifier*

*b)Explain any four data types used in c programming. (6 Marks)*

*c)State the rules for naming identifiers. (5 Marks)*

*d)Using a while loop, write a c program that will display the following output 1 3 5 7 9. (5 Marks)*

*e)Discuss the types of bitwise operators in c programming. (5 Marks)*

*f)Explain what the term program documentation means in c program. (5 Marks)*

*QUESTION TWO*

*a)Define the following terms as used in programming: (4 Marks)*

*I)An identifier*

*ii)Variable scope*

*b)Write a program that calculates and displays the result of the volume of a cylinder. The variables must be input on runtime. (5 Marks)*

*c)Write an interactive c program that will perform all the arithmetic operations (simple calculator). (6 Marks)*

*d)Write a c program that requests a user to key in the bonga points that they have accumulated and displays the reward they have qualified for(use the table below as a guide )Bonga points Reward. (5 Marks)*

 *0-199. null*

 *200-499 8 free Sms*

 *500-999 5 free minutes*

 *1000-4999. Nokia 1100*

*5000 and above Safaricom modem*

*QUESTION THREE*

*a)Explain the four types of modifiers used in c programming (5 Marks)*

*b)Explain the steps that are followed in program development. (6 Marks)*

*c)Differentiate between Pre and Post increment. (3 Marks)*

*d)Write the Output of the following program. (6 Marks)*

 *#include<studio.h>*

*#include<conio.h>*

*int main ()*

*{*

*int a =1,b=1;*

*while(a<=5)*

*{*

*b=1;*

*while(a<=5)*

*{*

*b=1;*

*while(b<=5)*

*{*

*Printf(“℅d”,b;*

*b++;*

*}*

*Printf(“\n”);*

*a++;*

*}*

*getch();*

*}*

*QUESTION FOUR*

1. *Describe the following types of programming errors. For each, identify one possible cause. (5 Marks)*
2. *Syntax*
3. *Semantic*

1. *Write a c program to input the marks obtained by a student in each of the seven subjects into an array, and then compute the grade of the student based on the table below.*

|  |  |
| --- | --- |
| *MARK (℅)* | *GRADE* |
| *Above 80* | *A* |
| *71-80* | *B* |
| *61-70* | *C* |
| *50-60* | *D* |
| *Below 50* | *E* |

***b)****Write the syntax of the following statements in C program: (6 Marks)*

 *I)if else*

 *ii)switch*

*ii)while*

*c)Write a C program that accepts two integers from the user and calculate the sum of two integers. (4 Marks)*

*QUESTION FIVE*

*a)Discuss the unary operators with a sample program. (6 Marks)*

*b)Identity the error and correct the program. (4 Marks)*

 *main()*

*{*

*int I;*

*Printf (“enter a number “)*

*scanf(“``,&I);*

*if(i<=50)*

*Printf (“\n entered number is <50)*

*C)Explain any two characteristics of each of the following categories of programming languages.*

*I)Low level languages. (3 Marks)*

*ii)High Level languages. (3 Marks)*