Structured Programming (BBIT 222) (CISY111) 1st trimester 2016

**KENYA METHODIST UNIVERSITY**

**END OF 1'***ST '***TRIMESTER 2016 (EVENING) EXAMINATION**

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| **SCHOOL** |  | : | SCIENCE AND TECHNOLOGY | |
| **DEPARTMENT** | | | : | COMPUTING & INFORMATION SCIENCE |
| **UNIT CODE** |  | : | BBIT 222/CISY 111 | |
| **UNIT TITLE** | | | : | STRUCTURED PROGRAMMING |
| **TIME** |  |  | : | 2 HOURS |

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**Instructions: Answer Question ONE and any other TWO.**

**Question One**

* State **FOUR** advantages of structured programming. (4 Marks)
* With illustrations describe the following terms as used in structured programming.

(8 Marks)

* Function
* Array
* Pointer
* structure

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * Explain **THREE** ways of implementing the looping structure in C++ programming language. | | | (6 Marks) |  |  |  |  |  |  |
| * Differentiate between the following terms as used in structured programming. |  |  |  |  |  |  |  |  | (6 Marks) |

* Library and user defined functions
* Pass by value and pass by reference

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * Local and global variable | | | | | | | | |  |
| * Describe any THREE program control structures as used in structured programming. |  |  |  |  |  |  |  |  | (6 Marks) |

**Question Two**

* Outline **four** selections structures in structured programming (4 marks)
* You have been asked to develop a program for printing out a simple telephone bill. The program will input the following details: (11 marks)
* Name of customer
* Address
* Telephone Number
* Previous meter reading
* Current meter reading

The program will calculate the number of units used, and compute the bill charged using the following rates:

|  |  |
| --- | --- |
| No. OF UNITS | COST PER UNIT (Kshs) |
| > 0 and <= 100 | 2.50 |
| >100 and <=200 | 2.25 |
| >200 and <=350 | 1.90 |
| >350 | 1.65 |

The program will then print out the bill details as shown below:

* Name of customer
* Address
* Telephone Number
* Previous meter reading
* Current meter reading
* Amount consumed
* Bill to pay

**Question Three**

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| --- | --- | --- | --- | --- | --- | --- |
| * Describe the syntax of structures in C++ programming language. (6 marks) |  |  |  |  |  |  |

* Write a C++ program that defines a structure called Student with data members StdName, TEST1, TEST2, Average, and Grade. You should also define five instances of type Student (Use arrays). For each student your program should input the name, Test1 and Test 2 scores, compute Average and finally determine grade as follows: (9 Marks)

|  |  |
| --- | --- |
| Average | Grade |
| 0 – 49 | Fail |
| 50- 100 | Pass |

**Question Four**

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| --- | --- | --- | --- | --- | --- | --- |
| * Describe the syntax of declaring a function in C++ programming with atleast two parameters. |  |  |  |  |  | (6 Marks) |

* Write a C++ program to add two integers by defining a function add() to add 2 integers and display sum in main() function. (9 marks)

[Categories](http://online.kemu.ac.ke/kemuwiki/index.php?title=Special:Categories): [Structured Programming](http://online.kemu.ac.ke/kemuwiki/index.php?title=Category:Structured_Programming&action=edit&redlink=1) | [(BBIT 222)](http://online.kemu.ac.ke/kemuwiki/index.php?title=Category:(BBIT_222)&action=edit&redlink=1) | [(CISY111)](http://online.kemu.ac.ke/kemuwiki/index.php?title=Category:(CISY111)&action=edit&redlink=1) | [1st trimester 201](http://online.kemu.ac.ke/kemuwiki/index.php?title=Category:1st_trimester_2016&action=edit&redlink=1)