

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
DEPARTMENT OF ELECTRICAL/ELECTRONIC ENGINEERING
RAIN SEMESTER EXAMINATION 2014/2015 SESSION
ENG 214-COMPUTER PROGRAMMING FOR ENGINEERING
APPLICATION
TIME ALLOWED: 2HRS

INSTRUCTION: ANSWER ALL QUESTIONS IN ALL SECTIONS

SECTION A (1 mark each)(20mks)

1. "Hello, World" consists of _____ string literals?
2. _____ is necessary for a C++ program to have output
3. All string of characters must be enclosed in _____
4. Another name for insertion operators is _____ and symbolized as _____
5. _____
6. A string that contains zero character is called _____
7. _____ is used to indicate that a written program is a standard C++ library file
8. A C++ program must be saved with the file extension _____
9. _____ is used to enclose the body of the main function in C++ program
10. _____ is used as a statement terminator in C++ program
11. J2ME means _____
12. Java virtual machine converts byte codes to _____
- 13 The unary operator ++x means _____
14. A java program is written once and can run on any device
True/False _____
15. The IDE used for writing java codes in Eng 214 is _____
16. A variable is declared by _____
17. A java class can have only _____ main method
18. /* and */ are used for _____
19. boolean is an example of a data type True/False _____
20. There are _____ Primitive data types.

SECTION B

1.(a)

What is the output of this program? (2mks)

```
int main ( )  
{  
n=22;  
cout<<n<< endl;  
return 0;  
}
```

1.(b) Answer True or False (8mks)

- i. The < and> are not part of file name
- ii. Comments are not ignored by a compiler
- iii. An equivalent machine language is called an object program
- iv. Characters cannot be used in a program statement as part of a string literal
- v. Every C++ program has a function called Main

- vi. C++ program is not case sensitive
- vii. The programs written in high language are developed using Integrated development Environment
- viii. A constant once defined can be changed at any point in the program

1.(c) Correct the nine errors in the javacodes below, if debugged, write the output (5 marks)

```
//A programme that computes frictional force experienced by a body on a rough surface
public class FrictionalForce {
public static void main (String [] args) {}
int m = 85; double mui = 0.3 double g = 9.81;
System.out.println("The body with mass " + m + "Kg exers an opposing frictional force of " + m*mui*g + "N");}}
```

1.(d) Answer TRUE/FALSE (5 marks)

- i. The if/else loop is an example of a decision making structure.
- ii. A data type of a variable can be changed by casting
- iii. An identifier can be a keyword
- iv. The bitwise operator (&) and Boolean operator (||) are used for the same purpose.
- v. 0.07 can be assigned as a float or a double.

SECTION C

Question 2 (10mks)

Given the equation for the area of a trapezium as $0.5(a+b)h$, where a and b are the sides of the trapezium and h is the height of the trapezium. Let the parametric values (a,b and h) be the last three digits of your Matriculation Number. Write a C++ program to display the values of these parameters (using the variable letters only) and also compute and print the area(A) of trapezium. For the students without Matriculation Number, use the three digits of the course code.

Question 3 (10mks)

Joskie Enterprise is a manufacturer of quality plastic chairs, as the manager operations you are required to write a program using **for loop** in java that computes the profit made by the company. Assume the total quantity (Q) of chairs increases by 10,000 yearly due to increased demand. The fixed cost (F) of production each year is N15,000; variable cost (V) of producing a chair is N30; selling price (S) of Joskie chairs is N1,500 each. In the first year, the value of Q is the last five digits of your reg. no. The output of your program should display the year, quantity sold and profit made per year for ten years. (Profit = SQ - (F + VQ)) Those without reg. no should use 00214 as the last five digits.