FOUNTAIN UNIVERSITY, OSOGBO
COLLEGE OF NATURAL AND APLLIED SCIENCES
DEPARTMENT OF MATHEMATICAL & COMPUTER SCIENCES
COURSE CODE: CPS201PROGRAMMING LANGUAGE 1 TEST
TIME: 45 minutes

INSTRUCTIONS: ANSWER ALL QUESTIONS

SECTION A

1. Write arithmetic assignment statements which performs the calculation indicated by the following formulae

(a) $t = (m.(1+ 0.3326x))^{1/2}$

(b) $E = C.V^2/2$

(c) $mx = e^x.(kx)^{1/2}$

(d) $r = 2\pi .p.\log10(-0.5x^2)$

(e) $\Phi(t) = 0.5 - r.(a.t + b.t^2 + c.t^3)$

2. Write declarative statement to represent the following data items
   a) number of students that registered for cps401
   b) a letter grade on an exam
   c) average volume of rainfall in each year
   d) address of a house in a street
   e) acceleration due to gravity

SECTIONB

3. Write a program to compute the volume of a sphere using the formula

$$V = 4/3\ \Pi r^3$$

4. What is the output of the following code fragment? .Show clearly how you arrived at the answer

```
int x = 205
int y = 301
int z = 0.5*x +3 *y
if ((x < 200 .and. y > =350)Then
print *, 2*x.y , 2*(x + y )
else
print *, x,y , (x*2 – 5*y),z
```

[5marks]

5. Prepare an algorithm and write a FORTRAN program to test for all even numbers from 1 to 20 and print out all the even numbers. **[5 marks]**

6. Explain the importance of including Implicit None in a FORTRAN program