**JEREMIAH NYAGAH NATIONAL POLYTECHNIC**

**STRUCTURED PROGRAMMING**

**CAT 2**

**QUESTION ONE (30 Marks)**

1. Looping assists a programmer to implement a programming logic at ease. Using suitable examples explain any three looping statements in C programming.**(6 Marks)**
2. Distinguish between a variable and a constant **(4Marks)**
3. Explain four common data types used in C language. **(4Marks)**
4. Declare and initialize an array called AVERAGES to contain the following averages; **(4 Marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| 36.20 | 30.00 | 67.20 | 100.00 |
| 53.65 | 93.50 | 45.60 | 21.90 |
| 20.70 | 45.30 | 67.30 | 78.36 |
| 92.45 | 35.90 | 67.45 | 90.45 |

1. State reasons why one would use an unsized array in C **(2 Marks)**
2. Explain the difference between Call by value and call by reference **(2 Marks)**
3. Write the general format of the IF……..THEN …….ELSE control structure **(3 Marks)**
4. A program is required to calculate the volume of a cylinder. It is required that base area be calculated using a function **basearea()** and its return value be used in the **main()** to calculate the volume. Implement this in C language. **(5 Marks)**