Title: **Number Conversion and PLC Basics** Test: 3

Course: Introduction to Automation Unit: Introduction to PLC CLO: 4

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Student shall calculate the correct number conversion base on a number from a different number base system.
2. Student shall choose the appropriate answer for given PLC basics question.

**Assessment**

Students shall demonstrate a comprehension of the objectives listed above by scoring a minimum of 75% on this Test. Grading shall be based on the answer key.

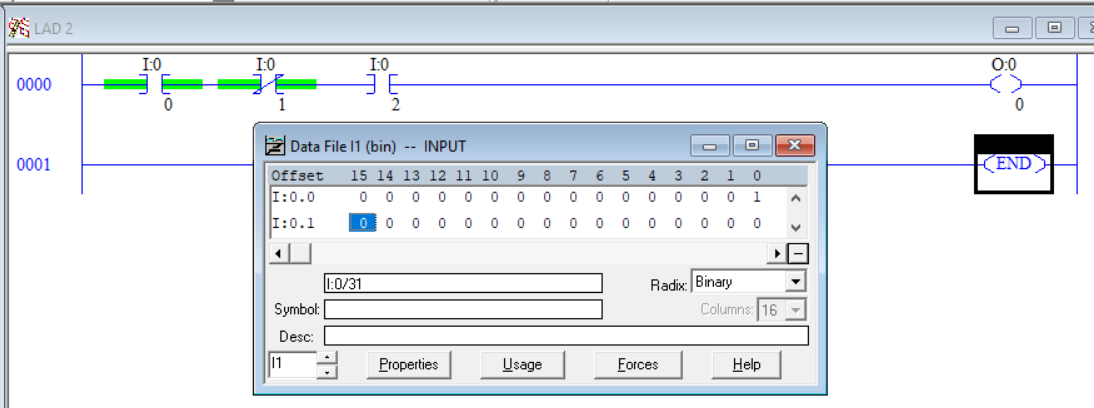
**Instructions**

Calculate the following number to the new number base system given the value from another number base system.

1. 100100012 \_\_\_\_\_10
2. 2310 \_\_\_\_\_\_\_\_\_\_\_\_2
3. 011011002 \_\_\_\_\_10
4. 378 \_\_\_\_\_\_\_\_\_\_\_\_10
5. 3710 \_\_\_\_\_\_\_\_\_\_\_\_2
6. 378 \_\_\_\_\_\_\_\_\_\_\_\_2
7. 0000010010 \_\_\_\_\_\_\_\_\_\_\_\_2
8. 2510 \_\_\_\_\_8
9. 100100112 \_\_\_\_\_8
10. 1258 \_\_\_\_\_10
11. 12510 \_\_\_\_\_8
12. 2288 \_\_\_\_\_\_\_\_\_\_\_\_2



1. Byte \_\_\_\_\_
2. Nibble \_\_\_\_\_
3. Word \_\_\_\_\_
4. Bit \_\_\_\_\_
5. Does this rung have logical continuity? Why or why not?



Select the best answer to each multiple-choice question below.

1. An XIC would be used for?
   1. Checking the status of a normally open contact
   2. Testing a set of normally closed contacts
   3. Checking to see if an address is true.
   4. Is used to test for a 0
2. An XIO would be used for?
   1. Checking the status of a normally open contact
   2. Testing a set of normally closed contacts
   3. Checking to see if an address is true.
   4. Is used to test for a 0
3. What does the instruction TON stand for?
   1. Timer over network
   2. Test for ON
   3. On-Delay Timer
   4. Table Output Numbers
4. Fill in the state of each timer bit (0 or 1).

|  |  |
| --- | --- |
|  | EN \_\_\_\_\_  TT \_\_\_\_\_  DN \_\_\_\_\_ |

1. What does the instruction TOF stand for?
   1. Timer over force
   2. Off-Delay Timer
   3. Test for OFF
   4. Table Output Floats
2. Fill in the state of each timer bit (0 or 1).

|  |  |
| --- | --- |
|  | EN \_\_\_\_\_  TT \_\_\_\_\_  DN \_\_\_\_\_ |

1. If you want to transfer an integer value to another location, what instruction would you use?
   1. CPY
   2. MOV
   3. TRNS
   4. All the above
2. The number 123.456 is an example of an Integer.
   1. True
   2. False