Title: **Hexadecimal Conversion** Worksheet: 7

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

Name ANSWER KEY Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Student shall calculate a decimal number given its equivalent value in hexadecimal form.
2. Student shall calculate a hexadecimal number given its equivalent value in decimal form.
3. Student shall calculate a binary number given its equivalent value in hexadecimal form.
4. Student shall calculate a hexadecimal number given its equivalent value in binary form.

**Assessment**

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

**Instructions**

Convert the following hexadecimal numbers to their decimal equivalents.

1. 3716 5510
2. 1216 1810
3. 5C16 9210
4. 1F316 49910
5. D016 20810
6. 10016 25610
7. 716 710
8. 1A16 2610
9. 2116 3310
10. 2B16 4310

Convert the following decimal numbers to their hexadecimal equivalents.

1. 3710 2516
2. 1210 C16
3. 5410 3616
4. 310 316
5. 12610 7E16
6. 1610 1016
7. 7710 4D16
8. 1010 A16
9. 10110 6516
10. 21110 D316

Convert the following binary numbers to their hexadecimal equivalents.

1. 100110012 9916
2. 000110112 1B16
3. 100011012 8D16
4. 111110012 F916
5. 111111112 FF16
6. 100000012 8116
7. 010101012 5516
8. 101010102 AA16
9. 101111012 BD16
10. 110100002 D016

Convert the following hexadecimal numbers to their binary equivalents.

1. 2F3716 0010 1111 0011 01112
2. 1DC216 0001 1101 1100 00102
3. 501C16 0101 0000 0001 11002
4. 1AF316 0001 1010 1111 00112
5. D00016 1101 0000 0000 00002
6. 100016 0001 0000 0000 00002
7. FFFF16 1111 1111 1111 11112
8. 1A1A16 0001 1010 0001 10102
9. 123416 0001 0010 0011 01002
10. ABCD16 1010 1011 1100 11012