Title: **BCD Conversion** Worksheet: 8

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

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

**Objectives**

1. Student shall calculate a binary coded decimal (BCD) number given its equivalent value in binary form.
2. Student shall calculate the decimal equivalent of a BCD number.

**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 decimal numbers to their BCD equivalents.

1. 213710 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
2. 123410 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
3. 739010 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
4. 100010 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
5. 71210 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
6. 210 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
7. 400110 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
8. 7710 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
9. 218710 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD
10. 442210 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_BCD

Convert the following BCD numbers to their decimal equivalents.

1. 0100 0011 0001 0010BCD \_\_\_\_\_\_10
2. 0110 0101 0111 0001BCD \_\_\_\_\_\_10
3. 0001 0000 0001 0010BCD \_\_\_\_\_\_10
4. 0001 0010 0011 0100BCD \_\_\_\_\_\_10
5. 0010 1001 0010 0100BCD \_\_\_\_\_\_10
6. 0100 0000 0000 0000BCD \_\_\_\_\_\_10
7. 0101 0011 0001 0011BCD \_\_\_\_\_\_10
8. 0000 0011 0001 0100BCD \_\_\_\_\_\_10
9. 1100 0001 0001 0011BCD \_\_\_\_\_\_10
10. 0010 0111 0011 0011BCD \_\_\_\_\_\_10