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**Introduction to Actuators**

**Final Assessment**

**Instructor Guide**

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|  | Notes to the Instructor |
|  | This is the post-assessment for the *Introduction to Actuators Learning Module.*  *Introduction to Actuators* is a Learning Module consisting of the following:   * Knowledge Probe (Pre-assessment) * Introduction to Actuators * Activity: What are Actuators? * **Final Assessment**   This companion Instructor Guide (IG) contains both the questions and answers for the assessment questions. Answers to each question are indicated in red. |
|  | Introduction |
|  | The purpose of this assessment is to determine your understanding of actuators after having completed the *Introduction to Actuators Learning Module.* |

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|  | 1. The output of an actuator is    1. heat    2. current    3. motion    4. variable |
|  | 1. Which of the following BEST describes an actuator? A device that    1. converts one form of energy to another form of energy.    2. converts a change on the input into a proportional movement.    3. quantifies a value on its input and produces a readable output.    4. produces a readable output representative of a change. |
|  | 1. Which of the following is a thermal actuator?    1. Motor    2. Generator    3. Bi-metallic strip    4. Comb drive |
|  | 1. Which of the following is an electrostatic actuator?    1. Motor    2. Generator    3. Bi-metallic strip    4. Comb drive |
|  | 1. Which of the following is NOT a transducer and an actuator?    1. Generator    2. Bi-metallic strip    3. Comb drive    4. Motor |
|  | 1. In microtechnology piezoelectric thin films are combined with metallic thin films to make thermal switches because of their different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.    1. Resistive properties    2. Molecular make-up    3. Absorption properties    4. Temperature coefficients |
|  | 1. Comb drives are micro-actuators that oscillate at a natural frequency. This frequency is called its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ frequency.    1. actuating    2. resonant    3. electromechanical    4. electrostatic |
|  | 1. Voltage is to an electrostatic actuator as    1. heat is to a bi-metallic switch    2. voltage is to a generator    3. movement is to gears    4. resistance is to a RTD |

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