



Curriculum Pre/Post Test Unit 10

1. A _____ refers to a robot's ability to move in a single independent direction of motion.
 - A. Range of Motion
 - B. Degree of Freedom
 - C. Linear Path
 - D. Axis of Rotation

2. A _____ load is the name for an instantaneous spike of loading on a mechanical system.
 - A. Impact
 - B. Acceleration
 - C. Compression
 - D. Shock

3. The ratio of output force to the input force applied to a mechanism is _____.
 - A. Mechanical advantage
 - B. Torque
 - C. Moment
 - D. Power

4. What is the factor of safety of a 100 lb robot lifting a 15 lb force and it was designed to handle 20 lbs.?
 - A. 0.75
 - B. 1.33
 - C. 5.0
 - D. 6.67

5. What type of gearing is typically used on a linear slide?
 - A. Helical
 - B. Worm
 - C. Bevel
 - D. Rack and Pinion

6. Which of the following is not a type of degree of freedom?
 - A. Twisting
 - B. Linear movement
 - C. Rotation
 - D. Bending



7. If an input force is applied to a link on a linkage, it is called the _____ link.
- A. Fixed
 - B. Input
 - C. Driven
 - D. Control
8. What is the most important consideration when designing a lifting mechanism?
- A. Object orientation
 - B. Size Limitations
 - C. Elevation required
 - D. Complexity
9. What is it called when a designer adds elastic tubing to a lifting mechanism to lift the load?
- A. Load balancing
 - B. Passive assistance
 - C. Motor balancing
 - D. Mechanical advantage
10. Which of the following would not be used to counterbalance a lifting mechanism?
- A. Motors
 - B. Extra metal
 - C. Elastic Tubing
 - D. Springs