SAFETY

Industrial

DESCRIBE Industrial and Mechanical Safety.

Example #1:
All of the following are the main causes of accidents EXCEPT:
   a. unsafe acts.
   b. alcohol or drug abuse.
   c. weather.
   d. poor work habits.

Example #2:
When lifting heavy objects, keep as much weight as possible over your:
   a. chest.
   b. legs.
   c. shoulders.
   d. back.

MECHANICAL

Hand Tools

DESCRIBE the use of Basic Hand Tools.

Example #3:
A screwdriver is identified by:
   a. the length of its handle.
   b. its torque.
   c. the type of screw it fits.
   d. the width of its tip.

Example #4:
The main differences between types of hand saws relate to their:
   a. handles.
   b. blades.
   c. frames.
   d. teeth.
Portable Power Tools

DESCRIBE the use of Portable Power Tools.

Example #5:
If the drill bit binds in the material being drilled, what’s the FIRST action you should take:

a. unplug the drill.
b. release the trigger switch.
c. back the drill out of the material.
d. use the reversing switch to change directions.

Example #6:
When using an electrical saw, to avoid excessive vibrations:

a. hold the work piece with your free hand.
b. set a heavy object on the work piece.
c. use a low-speed setting.
d. clamp or vise the material to hold in place.

Seals

DESCRIBE the use of Seals and O-Rings.

Example #7:
The principle of the mechanical seal is to use two replaceable antifriction mating rings with, _____________ to provide sealing surfaces at the point of relative movement.

a. one is rotating and the other stationary
b. both seals are rotating
c. both seals are stationary
d. both maintaining a precise gap between each other

Example #8:
The principal applications for __________ are for static sealing and installations involving reciprocating motion.

a. gaskets
b. O-rings
c. packing
d. seals
Lubrication

**DESCRIBE** the function and types of lubrication.

**Example #9:**
Viscosity is described as the rate a lubricant will flow at a known:
- a. pressure.
- b. factor.
- c. temperature.
- d. time.

**Example #10:**
An advantage of liquid lubricants is their ability to absorb and dissipate point sources of:
- a. wear.
- b. heat.
- c. viscosity.
- d. friction.

Bearings

**DESCRIBE** the function of Bearings.

**Example #11:**
Which one of the following is the most important requirement of a bearing?
- a. reduce noise.
- b. increase friction.
- c. support loads.
- d. resist fatigue.

**Example #12:**
An anti-friction bearing uses _____________ friction.
- a. rolling
- b. dynamic
- c. static
- d. sliding

Power Transmission

**DESCRIBE** the purpose of Power Transmission:

**Example #13:**
The part of the coupling that actually transmits power and rotation from one shaft to the other shaft is:
- a. gap.
- b. hub.
- c. key.
- d. driver.
Example #14:
Which tool is used to measure gap size in a rough alignment:

a. inside caliper.
b. dial indicator.
c. feeler gage.
d. measuring tape.

Valves

**DESCRIBE** the function of the different type of Valves.

Example #15:
Ball valves are commonly used to:

a. throttle flow.
b. check flow.
c. change flow direction.
d. start/stop flow.

Example #16:
What is the most common valve used in piping systems to throttle or regulate flow:

a. Globe valve.
b. Gate valve.
c. Butterfly valve.
d. Plug valve.
ANSWERS TO TEST EXAMPLES

#1. C. weather
#2. B. legs.
#3. C. the type of screw it fits
#4. D. teeth.
#5. B. release the trigger switch
#6. D. using a clamp or vise to hold the work.
#7. A. one is rotating and the other stationary
#8. B. O-rings
#9. C. temperature
#10. B. heat.
#11. C. support loads
#12. A. rolling
#13. B. hub
#14. A. inside caliper
#15. D. start/stop flow.
#16. A. globe valve