Underground Electrical Safety Test for Video: NIOSH -NI03

1. Typical high-voltage lines supplying electricity into underground mines range from ______ volts to ___________ volts.

2. Check which type electrical power is normally used for the following UG mine equipment.

   DC    AC    Both
   _____   _____   _____ Continuous Miners
   _____   _____   _____ Trolley Systems
   _____   _____   _____ Conveyors
   _____   _____   _____ Dewatering Pumps
   _____   _____   _____ Long-Wall Miners.

3. Faulty electrical circuits present shock and burn hazards to workers, but what other hazardous situation can they create that could involve the entire mine? ___________________.

4. Which two of the following common hazardous mine conditions contributes directly to the creation of electrical hazards.
   ___  a. Lack of Light.
   ___  b. Fall of Roof or Rib.
   ___  c. Poor Ventilation
   ___  d. Wet Conditions

5. MSHA defines low voltage as anything below:
   ___  a. 110 volts.
   ___  b. 440 volts.
   ___  c. 660 volts
   ___  d. 1000 volts

6. MSHA defines high voltage as anything above:
   ___  a. 660 volts.
   ___  b. 1000 volts.
   ___  c. 4160 volts
   ___  d. 10,000 volts

7. A 'Bonder' (DC arc-welder) is a common piece of electrical mine equipment. If a bare, frayed, and energized wire comes in contact with the bonder's frame, what should happen if the frame has a good ground?
   ___  a. Fuse will blow in the Nip supplying power to the equipment.
   ___  b. The ground wire will shunt off excess electricity and allow continued operation.
   ___  c. Nothing should happen.
8. If a bare, frayed, and energized wire came in contact with the bonder's frame, what hazardous situation might occur if the frame is poorly grounded?
   ___ a. Fuse will blow in the Nip supplying power to the equipment.
   ___ b. A worker could become the better path to ground for the electricity on the frame.
   ___ c. Nothing will happen.

9. Brass Equipment I.D. tags must be on which of the following electrical components?
   ___ a. The Nip supplying power to the equipment (if DC current).
   ___ b. The ground wire from the equipment to ground.
   ___ c. The fuse/circuit-breaker supplying power to equipment (If AC current.).
   ___ d. The cable-plug on the cable supplying current to the electrical equipment.

10. UG circuit breakers can be adjustable, and the settings should be re-adjusted every time the equipment using that circuit breaker is plugged in. True or False?

MSHA Regulations.

11. "No electrical work is to be performed except by __________________________.

12. "If a dangerous electrical condition is found, equipment shall be __________________________ until it is repaired."

13. Trolley wires must be __________________________ in situations where workers could come in contact with them.

Pre Shift.

14. Electricity related items to look for when doing an initial pre-shift workplace inspection include:
   ___ a. Nicked, cut, chafed or frayed wires.
   ___ b. Loose or missing bushings.
   ___ c. Conductors lying across your route of travel.
   ___ d. Danger or 'Do Not Operate' tags attached to electrical equipment.
   ___ e. All of the above..

15. Which of the following indicates a dangerous electrical condition:
   ___ a. You receive a small but noticeable shock for some equipment.
   ___ b. Insulated conductors are uncomfortably hot to the touch.
   ___ c. A circuit breaker refuses to stay reset.
   ___ d. All of the above.
1. 4160 to 13200 volts
2. AC, DC, AC, Both, AC
3. Ignition source for fires
4. b, d
5. c
6. b
7. a
8. b
9. a, c, d
10. False
11. qualified person
12. removed from service
13. guarded
14. e
15. d