

OSHA INTERVIEW QUESTIONS - ELECTRICAL HAZARD

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1. What is a common but perhaps overlooked conductor of electricity?

- A. Dry wood
- B. Plastic
- C. The surface or subsurface of the earth
- D. Pure water

Correct Answer: C

2. What generally happens to wood when it is saturated with water in terms of electrical flow?

- A. It remains an insulator
- B. It becomes a conductor
- C. It completely stops the flow of electricity
- D. Its resistance remains unchanged

Correct Answer: B

3. Which material is generally classified as an insulator?

- A. Metal
- B. Salt water
- C. Glass
- D. Human skin (when wet)

Correct Answer: C

4. What happens to dry human skin's resistance to electric current when it becomes moist or wet?

- A. It increases
- B. It remains the same
- C. It becomes a conductor
- D. It stops the flow completely

Correct Answer: C

5. A shock occurs when a person's body completes the current path with one wire of an energized circuit and what other item?

- A. Another insulator
- B. A non-conducting material
- C. The ground
- D. The circuit's insulation

Correct Answer: C

6. Which of the following is NOT listed as a factor that determines the severity of an electric shock?

- A. The amount of current flowing through the body
- B. The current's path through the body
- C. The voltage of the current source
- D. The length of time the body remains in the circuit

Correct Answer: C

7. What is the general reaction for an electric current *below 1 milliampere* flowing from hand to foot for 1 second?

- A. Faint tingle
- B. Slight shock felt
- C. Generally not perceptible
- D. Painful shock

Correct Answer: C

8. For men, what is the current range (in milliamperes) known as the "let-go" range, where an individual cannot let go?

- A. 1 milliampere
- B. 5 milliamperes
- C. 9-30 milliamperes
- D. 50-150 milliamperes

Correct Answer: C

9. What is the most common shock-related injury?

- A. Arc burns
- B. Thermal contact burns
- C. Internal hemorrhages
- D. Burns

Correct Answer: D

10. What causes **electrical burns****?**

- A. High temperatures from an electric arc
- B. The skin touching hot surfaces of energized equipment
- C. Electric current flowing through tissues or bone
- D. Clothing catching on fire

Correct Answer: C

11. What is a consequence of the electrical "freezing" effect when a person is shocked?

- A. Decreased exposure time to electricity
- B. Blisters that increase the body's resistance
- C. Increased risk of serious injury due to longer exposure
- D. Extensor muscles stimulating the person to be thrown away

Correct Answer: C

12. If a person is "frozen" to a live electrical contact and the current cannot be shut off immediately, what nonconducting material should be used to push or pull the person away?

- A. Boards, poles, or sticks made of wood
- B. Metal rods or pipes
- C. The person's clothing
- D. A nearby insulated electrical wire

Correct Answer: A

13. What must you do immediately if you or a coworker receives an electric shock, regardless of how minor it seems?

- A. Apply a cold compress to the burn area
- B. Seek emergency medical help immediately
- C. Check for a pulse and begin CPR
- D. Wait an hour to see if symptoms develop

Correct Answer: B

14. Static electricity can cause a shock, and in what type of atmosphere can a high-level discharge cause an explosion?

- A. An atmosphere containing inert gases
- B. An atmosphere containing water vapor only
- C. An atmosphere containing flammable gases, vapors, or combustible dusts

D. Any cold, relatively dry atmosphere

Correct Answer: C

15. Most electrical accidents result from one of three factors. Which of the following is NOT listed as one of these factors?

- A. Unsafe equipment or installation
- B. Unsafe work practices
- C. Unsafe environment
- D. Improper medical attention after a shock

Correct Answer: D

16. What is one method to prevent electrical accidents?

- A. Using conductors without insulation
- B. Eliminating all sources of current
- C. Using guarding and grounding
- D. Increasing the resistance of conductors

Correct Answer: C

17. For insulation to be effective, it must be suitable for the voltage used and what other condition?

- A. The conductor's metal composition
- B. Environmental factors like moisture, oil, or corrosive fumes
- C. The proximity to ground
- D. The color-coding used

Correct Answer: B

18. What color-coding is typically used for the insulation of ungrounded conductors, or "hot wires"?

- A. Solid green or green with yellow stripes
- B. White or gray
- C. Black or red (but may be any color other than green, white, or gray)
- D. Solid blue or yellow

Correct Answer: C

19. What part of a flexible cord is described as being particularly vulnerable to damage?

- A. The plug's prongs
- B. The internal wires

- C. The cord's insulation
- D. The cord's length

Correct Answer: C

20. What is the purpose of **guarding**** electrical equipment?**

- A. To create a low-resistance path to the earth
- B. To make sure people don't accidentally come into contact with its live parts
- C. To automatically limit or stop the flow of current
- D. To prevent the buildup of static electricity

Correct Answer: B

21. Equipment with exposed live parts operating at **50 volts or more**** must be placed where it is accessible only to whom?**

- A. Any employee with proper PPE
- B. Only authorized people qualified to work with it
- C. General industry workers
- D. Only employees who have received basic electrical training

Correct Answer: B

22. In guarding, conspicuous signs must be posted at the entrances to electrical rooms to alert people to the electrical hazard and to forbid entry to whom?

- A. All personnel
- B. All non-supervisory personnel
- C. The equipment owner
- D. Unauthorized people

Correct Answer: D

23. What is the definition of **grounding**** an electrical system or tool?**

- A. Creating a high-resistance path to a power source
- B. Intentionally creating a low-resistance path that connects to the earth
- C. Removing the neutral conductor from the circuit
- D. Connecting the equipment to a circuit breaker

Correct Answer: B

24. Which type of ground is designed primarily to protect machines, tools, and insulation against damage?

- A. Equipment ground

- B. Service or system ground
- C. Protective ground
- D. Neutral ground

Correct Answer: B

25. What color is typically used for the grounded conductor, also known as the "neutral" wire, in an ordinary low-voltage circuit?

- A. Black or red
- B. Solid green or green with yellow stripes
- C. White or gray
- D. Blue or brown

Correct Answer: C

26. What is the main function of an **equipment ground****?**

- A. To protect machines, tools, and insulation
- B. To protect the equipment operator
- C. To increase the circuit's resistance
- D. To provide a path for excess voltage

Correct Answer: B

27. What is the purpose of **circuit protection devices****?**

- A. To increase the power supply to the circuit
- B. To automatically limit or stop the flow of current in the event of a fault
- C. To store electrical energy during a power outage
- D. To manually interrupt the circuit during maintenance

Correct Answer: B

28. Which two devices protect conductors and equipment by opening or breaking the circuit when too much current flows through them?

- A. GFCIs and AFCIs
- B. Fuses and circuit breakers
- C. Switches and outlets
- D. Resistors and capacitors

Correct Answer: B

29. What is the primary function of a **Ground-Fault Circuit Interrupter (GFCI)****?**

- A. To interrupt the flow of electricity to prevent electrocution

- B. To prevent fires by detecting arcing faults
- C. To protect equipment from overheating
- D. To provide surge protection for appliances

Correct Answer: A

30. A GFCI automatically shuts off electric power if the difference between the current going in and the current returning exceeds what threshold?

- A. 1 milliampere
- B. 5 milliamperes
- C. 10 milliamperes
- D. 30 milliamperes

Correct Answer: B

31. Arc-fault devices provide protection by recognizing what unique characteristic?

- A. Excessive voltage
- B. High temperatures
- C. Characteristics unique to arcing
- D. A ground fault in the system

Correct Answer: C

32. Which work practice helps protect against electrical hazards?

- A. Deenergizing electric equipment before inspection or repair
- B. Only using metal ladders near power lines
- C. Performing work on energized equipment only
- D. Removing insulation from conductors before installation

Correct Answer: A

33. A break in an electric tool's insulation can cause its metal parts to become "hot" or energized. What is the best way to protect yourself when using such a tool?

- A. Wear insulated gloves
- B. Use an equipment grounding conductor
- C. Use a wooden platform
- D. Wrap the tool in rubber tape

Correct Answer: B

34. Cord and plug equipment with a three-prong plug is a common example of equipment incorporating what?

- A. An arc-fault circuit interrupter
- B. An equipment grounding conductor
- C. A neutral wire only
- D. Double insulation

Correct Answer: B

35. What is another form of protection for portable tools, besides grounding, which requires the tool to be distinctly marked?

- A. A surge protector
- B. A circuit breaker
- C. Double insulation
- D. A thermal cutoff switch

Correct Answer: C

36. What do proper **lockout/tagout**** procedures protect you from?**

- A. Overheating of conductors
- B. Damage to insulation
- C. Accidental or unexpected startup of electrical equipment
- D. Static electricity buildup

Correct Answer: C

37. What is the **first step**** before beginning any inspection or repair job using lockout/tagout procedures?**

- A. Test the circuit with a multimeter
- B. Place a tag on the controls
- C. Turn the current off at the switch box and padlock the switch in the OFF position
- D. Notify a supervisor of the work

Correct Answer: C

38. Who should be permitted to remove a lock from a piece of equipment that has been locked out?

- A. Any employee who needs to use the equipment
- B. Only the authorized worker who placed the lock on the switch
- C. Only the supervisor on duty
- D. A qualified electrician, regardless of who placed the lock

Correct Answer: B

39. For unqualified employees and mechanical equipment, what is the minimum safe distance that must be maintained from overhead power lines?

- A. 5 feet (1.52 meters)
- B. 10 feet (3.05 meters)
- C. 15 feet (4.57 meters)
- D. 20 feet (6.10 meters)

Correct Answer: B

40. If the voltage of an overhead power line is more than 50,000 volts, by how much does the clearance distance increase for each additional 10,000 volts?

- A. 2 inches (5 centimeters)
- B. 4 inches (10 centimeters)
- C. 6 inches (15 centimeters)
- D. 1 foot (0.30 meters)

Correct Answer: B

41. Which material, normally an insulator, can become a conductor during an arc or lightning stroke?

- A. Plastic
- B. Dry wood
- C. Air
- D. Porcelain

Correct Answer: C

42. What kind of impurities in water can turn it and other substances into conductors or better conductors?

- A. Oxygen and Hydrogen
- B. Salt, acid, solvents, or other materials
- C. Detergents and soaps
- D. Minerals only

Correct Answer: B

43. In addition to shock and burn hazards, arcs from short circuits can cause what other danger?

- A. Increased system resistance
- B. Start a fire
- C. Static electricity buildup

D. Lockout/Tagout failure

Correct Answer: B

44. What can extremely high-energy arcs cause, besides damaging equipment?

- A. Activation of a GFCI
- B. Fragmented metal to fly in all directions
- C. Low resistance to ground
- D. The extensor muscles to be stimulated

Correct Answer: B

45. Why is the "freezing" effect extremely dangerous?

- A. It immediately causes cardiac arrest
- B. It reduces the length of exposure
- C. It increases the length of exposure, and the current causes blisters that reduce the body's resistance
- D. It causes the person to be thrown away from the power source

Correct Answer: C

46. Why is low voltage considered not to imply low hazard?

- A. Because low voltage causes immediate cardiac arrest
- B. Because the current path is less predictable
- C. Because longer exposures at relatively low voltages can be as dangerous as short exposures at higher voltages
- D. Because low voltage can only cause arc burns

Correct Answer: C

47. What type of burn is caused when the skin touches hot surfaces of overheated electric conductors, conduits, or other energized equipment?

- A. Electrical burn
- B. Arc burn
- C. Thermal contact burn
- D. Chemical burn

Correct Answer: C

48. A severe shock may cause internal hemorrhages, destruction of tissues, nerves, and muscles, and what kind of internal organ damage?

- A. Lung damage
- B. Kidney (Renal) damage

- C. Spleen damage
- D. Liver damage

Correct Answer: B

49. In the context of electrical protection, what is the role of an equipment grounding conductor?

- A. To carry the neutral current back to the source
- B. To increase the insulation's resistance
- C. To provide a low-resistance wire that directs unwanted current directly to the ground
- D. To detect arc faults in the circuit

Correct Answer: C

50. Who is authorized to maintain electrical equipment using lockout procedures, according to the document?

- A. Any trained employee with a lock
- B. Only qualified electricians who have been trained in safe lockout procedures
- C. The employee who last used the equipment
- D. Any supervisor in the area

Correct Answer: B
