

OSHA INTERVIEW QUESTIONS - ELECTRICAL HAZARD

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1. What is the current range (in milliamperes) for men that causes ventricular fibrillation (V-fib)?

- A. 1-5 mA
- B. 9-30 mA
- C. 100-200 mA
- D. 500-1000 mA

Correct Answer: C

2. What is the resistance of dry human skin to electric current?

- A. Very low
- B. Highly variable, but generally high
- C. Always zero
- D. Extremely low, similar to metal

Correct Answer: B

3. How does impure water (containing salt, acid, or solvents) affect materials that are normally insulators?

- A. It removes static electricity
- B. It turns them into conductors or better conductors
- C. It increases their resistance
- D. It causes them to become fire retardant

Correct Answer: B

4. Electricity normally travels through a conductor in what formation?

- A. An open circuit
- B. A closed loop
- C. A high-resistance pathway
- D. A parallel circuit

Correct Answer: B

5. What is the most likely medical consequence of an electric shock that causes the heart muscle to be clamped?

- A. Temporary dizziness
- B. Complete and permanent respiratory failure
- C. Severe burns, unconsciousness, and no breathing
- D. Minor tissue damage

Correct Answer: C

6. What is one consequence of a high-energy arc that is NOT directly a burn injury?

- A. An increase in the electrical current's frequency
- B. Fragmented metal flying in all directions
- C. Reduced oxygen levels in the area
- D. A sharp decrease in voltage

Correct Answer: B

7. What type of protective measure involves locating or enclosing electric equipment to prevent accidental contact with live parts?

- A. Insulation
- B. Grounding
- C. Guarding
- D. Lockout/Tagout

Correct Answer: C

8. What is the purpose of the **white or gray**** insulation color on a conductor in a typical low-voltage circuit?**

- A. It is the ungrounded (hot) conductor
- B. It is the equipment grounding conductor
- C. It is the grounded conductor (neutral)
- D. It indicates a high-voltage wire

Correct Answer: C

9. Which device is designed to protect people by quickly interrupting the circuit when it detects a small imbalance in current flow?

- A. Circuit Breaker
- B. Fuse
- C. Arc-Fault Circuit Interrupter (AFCI)
- D. Ground-Fault Circuit Interrupter (GFCI)

Correct Answer: D

10. A fuse protects a circuit by using a metal strip that does what when excessive current flows?

- A. Automatically resets the circuit
- B. Fails and must be replaced
- C. Sends a signal to a warning light
- D. Increases its resistance

Correct Answer: B

11. Besides being rated for the correct voltage, what is required for insulated tools used on live equipment?

- A. They must be made of plastic
- B. They must be clearly labeled as double-insulated
- C. They must have a clear handle
- D. They must be designed for the specific type of electrical work being performed

Correct Answer: D

12. What is a critical work practice to follow when using flexible cords to prevent hazards?

- A. Running them under heavy machinery
- B. Fastening them to building surfaces with staples
- C. Inspecting them before each use for fraying or damage
- D. Using them as a substitute for fixed wiring

Correct Answer: C

13. Why must flexible cords not be run through holes in walls, ceilings, floors, doors, or windows?

- A. It violates fire codes
- B. It prevents proper voltage regulation
- C. It exposes them to damage and makes them a tripping hazard
- D. It makes them permanent wiring, which is prohibited

Correct Answer: D

14. When must an equipment grounding conductor be used for portable electric tools?

- A. Only if the tool is rated for over 120 volts
- B. When the tool is not protected by an approved system of double insulation
- C. Always, regardless of other protection

D. When the tool is used outdoors only

Correct Answer: B

15. What is the main danger if a qualified employee does not test a deenergized circuit before beginning work?

- A. The tool's insulation could fail
- B. The GFCI might not be working
- C. The circuit could be energized (live) due to a mistake
- D. The lockout tag could fall off

Correct Answer: C

16. What must be done to the equipment's controls **before**** applying a lockout device to the switch box?**

- A. They should be tagged only
- B. They should be checked for proper function
- C. They must be turned off
- D. They should be manually bypassed

Correct Answer: C

17. For unqualified employees, what is the minimum required clearance distance from an overhead power line rated at 40,000 volts?

- A. 5 feet (1.52 meters)
- B. 10 feet (3.05 meters)
- C. 14 feet (4.27 meters)
- D. 18 feet (5.49 meters)

Correct Answer: B

18. For an overhead power line rated at 69,000 volts, what is the minimum safe clearance distance required for mechanical equipment?

- A. 10 feet (3.05 meters)
- B. 10 feet and 4 inches (3.15 meters)
- C. 10 feet and 8 inches (3.25 meters)
- D. 11 feet (3.35 meters)

Correct Answer: C

19. Besides deenergizing and grounding the lines, what other protective measures help prevent accidental contact with overhead power lines?

- A. Removing all nearby trees
- B. Guarding or insulating the lines
- C. Increasing the current's voltage
- D. Using metallic scaffolds

Correct Answer: B

20. What is the general effect of an AC current in the range of 1 to 3 milliamperes on the human body?

- A. Severe muscular contraction
- B. Faint tingling sensation
- C. Respiratory arrest
- D. Unconsciousness

Correct Answer: B

21. What is the primary characteristic of a substance classified as an electrical **conductor****?**

- A. It slows the flow of electric current
- B. It offers very little resistance to the flow of electric current
- C. It prevents the buildup of static electricity
- D. It must be a metal

Correct Answer: B

22. What is the name for the severe muscular contractions caused by high current, which can stop the heart and breathing?

- A. Thermal clamping
- B. Tetanus or heart clamp
- C. Ventricular fibrillation
- D. Arc blast

Correct Answer: B

23. When electrical current flows through tissues or bone, the heat generated causes what type of injury?

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

Correct Answer: C

24. What is a consequence of electric shock that can result from involuntary muscle contraction?

- A. A fall-related injury
- B. A chemical burn
- C. Increased skin resistance
- D. Static electricity generation

Correct Answer: A

25. What is a key requirement for the lock used in a Lockout/Tagout procedure?

- A. It must be stored in a communal cabinet
- B. It must be easily breakable in an emergency
- C. It must be labeled with the equipment's name
- D. No two of the locks used should match, and each key should fit just one lock

Correct Answer: D

26. What is the purpose of the **green**** insulation color on an electrical conductor?**

- A. Grounded conductor (neutral)
- B. Ungrounded conductor (hot)
- C. Equipment grounding conductor
- D. Control wire

Correct Answer: C

27. If a flexible cord's insulation is damaged, which part of an electric tool can potentially become energized (hot)?

- A. The wooden handle
- B. The internal wires only
- C. The metal casing or parts
- D. The power outlet

Correct Answer: C

28. What is the effect of an electric arc or lightning stroke on air, which is normally an insulator?

- A. It causes air to become a conductor
- B. It completely stops the flow of electricity
- C. It cools the air immediately
- D. It increases the air's resistance

Correct Answer: A

29. Which device is primarily designed to prevent fires by recognizing and interrupting current patterns unique to arcing faults?

- A. GFCI
- B. AFCI
- C. Circuit Breaker
- D. Fuse

Correct Answer: B

30. What must be done immediately after a coworker receives an electric shock?

- A. Apply a dry dressing to any burns
- B. Seek emergency medical help immediately
- C. Begin a root cause analysis
- D. Contact the environmental safety officer

Correct Answer: B

31. What is the minimum voltage level that requires exposed live parts of electrical equipment to be guarded?

- A. 12 volts
- B. 50 volts
- C. 120 volts
- D. 240 volts

Correct Answer: B

32. Which type of shock is caused by the body completing the circuit with one wire of an energized circuit and a common conductor?

- A. Arc shock
- B. Static shock
- C. Phase-to-ground shock
- D. Phase-to-phase shock

Correct Answer: C

33. What is the role of an equipment grounding conductor in relation to the operator?

- A. It prevents the circuit breaker from tripping
- B. It protects the equipment operator
- C. It increases the life span of the tool
- D. It acts as a surge protector

Correct Answer: B

34. When using flexible cords, what is a prohibited practice related to accessibility?

- A. Running them across a doorway
- B. Running them along a wall
- C. Running them through a ceiling
- D. Running them across a pathway

Correct Answer: A

35. What is the second most common shock-related injury after burns?

- A. Internal hemorrhages
- B. Fractures
- C. Hearing loss
- D. Temporary paralysis

Correct Answer: A

36. If you are unable to turn off the current to a person who is 'frozen' to a live contact, what action should you take?

- A. Pour water on the person to break the circuit
- B. Use a nonconducting material to push or pull the person away
- C. Attempt to pull the person away with your bare hands
- D. Cut the power cord with a metal knife

Correct Answer: B

37. What can small amounts of salt or acid in water turn substances like dry wood into?

- A. A static generator
- B. A non-conductive barrier
- C. A conductor or better conductor
- D. A better insulator

Correct Answer: C

38. What type of protective measure is required for portable electric equipment used with temporary wiring in wet or damp locations?

- A. Double insulation only
- B. GFCI protection
- C. Arc-Fault protection

D. Full voltage surge suppressor

Correct Answer: B

39. What is the primary function of circuit protection devices like fuses and circuit breakers?

- A. To prevent the flow of static electricity
- B. To limit or stop the flow of current in the event of a fault
- C. To regulate the voltage to the load
- D. To manually open and close the circuit

Correct Answer: B

40. What happens to a fuse that opens a circuit due to overcurrent?

- A. It is manually reset
- B. It must be replaced
- C. It automatically reseals itself
- D. It reduces the current flow to safe levels

Correct Answer: B

41. What must an employer provide to employees who work on or near live parts of electrical equipment?

- A. Only plastic tools
- B. Safety glasses and earplugs
- C. Special insulated or nonconductive tools and protective equipment
- D. A full-time safety observer

Correct Answer: C

42. What is a specific hazard associated with extremely high-energy arcs besides equipment damage?

- A. They only occur at low voltage
- B. They cause fragmented metal to fly in all directions
- C. They decrease the severity of electrical burns
- D. They instantly activate the GFCI

Correct Answer: B

43. Which factor, along with the amount of current, path, and duration, determines the severity of an electric shock?

- A. Temperature
- B. Frequency

- C. Voltage
- D. Air humidity

Correct Answer: B

44. What is a general requirement for the insulation of flexible cords?

- A. It must be fireproof
- B. It must be made of rubber
- C. It must be suitable for the usage and not be damaged
- D. It must be thicker than fixed wiring insulation

Correct Answer: C

45. When mechanical equipment (e.g., a boom lift) is operated near overhead power lines, what must be considered when calculating the safe standoff distance?

- A. The weight of the equipment
- B. The equipment's maximum reach
- C. The speed of the equipment
- D. The atmospheric pressure

Correct Answer: B

46. What type of warning is provided by a **tag used in conjunction with a lockout device?**

- A. It verifies the circuit is deenergized
- B. It is a maintenance request form
- C. It is a visual warning not to restore current or operate the equipment
- D. It is a log of the time the equipment was shut off

Correct Answer: C

47. Why is it dangerous to use damaged or defective electrical tools?

- A. They create a high-resistance path to ground
- B. A break in the insulation can cause the metal parts to become energized
- C. They drain battery power quickly
- D. They are noisy to operate

Correct Answer: B

48. In the context of grounding, what is the 'earth' considered?

- A. A poor insulator
- B. A perfect insulator

- C. A common but overlooked conductor
- D. A high-resistance load

Correct Answer: C

49. Which is a general material that is classified as an insulator?

- A. Metal
- B. Porcelain
- C. Salt water
- D. The human body (when wet)

Correct Answer: B

50. What happens to a person who is 'frozen' to a live electrical contact?

- A. They are thrown away from the contact due to extensor muscle stimulation
- B. They cannot let go due to severe muscular contractions
- C. They experience immediate respiratory arrest
- D. Their skin resistance instantly triples

Correct Answer: B

51. What is the typical color of an ungrounded conductor or 'hot wire'?

- A. Green
- B. White or gray
- C. Black or red
- D. Solid blue

Correct Answer: C
