TCFA Feed yard Technician Machinery Operation Repair and Maintenance Sample Questions

1. Which of the following statements about arc length when welding is false?
   a. an arc that is the correct length sounds like bacon frying
   b. an arc that is too long sounds like bacon frying
   c. an arc that is too short sounds like bacon frying
   d. an arc that is too short makes like a booing sound

2. You must know the kind of metal to be welded before you can select an electrode.
   Which of the following is an example of a ferrous metal?
   a. copper
   b. aluminum
   c. steel
   d. porcelain

3. Valve protection caps are designed to protect valves from
   a. damage
   b. water
   c. spiders

4. To keep cylinders from being knocked over while in use, secure them with a
   a. chain
   b. baling wire
   c. clamp

5. Never allow cylinders to come in contact with live wires or
   a. water
   b. snow
   c. flames

6. One direct flash from the arc on the naked eye can cause
   a. eye damage
   b. a burning feeling in eyes
   c. red spots in vision
   d. all of the above

7. When lighting an oxy-fuel torch, which is the best sequence?
   a. purge, turn on oxygen, turn on fuel, ignite
   b. ignite purge, turn on fuel, turn on oxygen
   c. purge, turn on fuel, ignite, turn on oxygen
   d. turn on fuel, ignite, turn on oxygen
8. When setting up oxy-fuel equipment, the green hose attaches to what?
   a. oxygen fitting
   b. fuel gas fitting

9. All of these are characteristics of acetylene except?
   a. shock sensitive
   b. unstable
   c. flammable
   d. all of the above

10. What is the recommended lens shade for most oxy-fuel cutting applications?
    a. 3
    b. 7
    c. 5
    d. 9

11. What type of thread and color is oxygen associated with?
    a. right hand thread - red
    b. right hand thread – green
    c. left hand thread – red
    d. left hand thread – green

12. As of July 5, 1994, all safety glasses must meet the minimum standards set forth by the American National Standards Institute. Which of the following specifications meets the ANSI requirement?
    a. Z-rock
    b. Z-safe
    c. Z-78
    d. Z-87

13. Which of following is the leading cause of eye injury in the workplace?
    a. chemical
    b. misuse of tools
    c. flying debris
    d. poor tool maintenance

14. Which of the following electrical terms describes the flow of electrons?
    a. volts
    b. amps
    c. ohms
    d. watts
15. Which of the following electrical terms describes the resistance to the flow of electrons?
   a. volts
   b. amps
   c. ohms
   d. watts

16. Which of the following electrical terms describes the pressure applied to the flow of electrons?
   a. volts
   b. amps
   c. ohms
   d. watts

17. The purpose of the pressure rated radiator cap in the cooling system of the diesel engine is to:
   a. increase the coolant boiling point
   b. decrease the coolant boiling point
   c. has no effect on coolant boiling point
   d. keep coolant from the combustion system

18. Engine oil must:
   a. reduce friction and wear
   b. cool moving parts
   c. seal piston rings to the cylinder
   d. all the above

19. On a negative ground system, connect the jumper cables to boost a battery, make sure the last connection with the negative cable is at the:
   a. battery negative terminal
   b. battery positive terminal
   c. frame of the tractor
   d. starter

20. Two 12 volt batteries hooked in parallel the tractor will have __________ volts?
   a. 12 volts
   b. 24 volts
   c. 36 volts
   d. 48 volts

21. Ground rods cannot be less than __________ feet in length.
   a. 10
   b. 8
   c. 6
   d. 12
22. The smallest size copper conductor that should be used for a 30 amp circuit is
   a. 14 AWG
   b. 12 AWG
   c. 10 AWG
   d. 8 AWG

23. The line from the power supplier’s transformer to your electric meter is known as the:
   a. service drop
   b. distribution panel
   c. metering circuit
   d. feeder circuit

24. The pressure at which electricity is transmitted through a conductor is called:
   a. flow
   b. amperage
   c. voltage
   d. wattage

25. A _______ functions by comparing the current in the “hot” wire with that of the “neutral” and opening the circuit if these currents differ by 5/1000 amp or more, thus shutting off the power and eliminating the shock hazard to personnel.
   a. fuse
   b. GFCI
   c. breaker
   d. switch

26. The wire through which electric current travels is called a:
   a. transmitter
   b. traveler
   c. conductor
   d. sheath

27. The best material for conducting electricity is_______ because it is durable, has excellent conducting properties, and has proven to be relatively free from problems over time.
   a. wood
   b. copper
   c. bronze
   d. stainless steel
28. Aluminum conductors must be ________ size(s) larger than copper conductors to carry the same electrical load.
   a. two
   b. one
   c. three
   d. none of the above

29. The overload protection of a branch circuit is determined by the amount of _____ that the conductor will safely carry.
   a. amperage
   b. voltage
   c. hertz
   d. cycles

30. In what units are electric motor speeds measured?
   a. revolutions per minute
   b. gallons per minute
   c. kilowatts per hour
   d. miles per hour

31. Which terminal of an electrical device is designated for the grounded conductor?
   a. brass terminal screw
   b. silver terminal screw
   c. green terminal screw
   d. black terminal screw

32. A live wire without insulation or guarding is called or considered to be:
   a. exposed
   b. de-energized
   c. opened
   d. closed

33. A worker who knows how to avoid the hazards of working on or near an exposed electrical part is:
   a. authorized worker
   b. unqualified worker
   c. affected worker
   d. qualified worker

34. Workers who are not qualified should have a clearance distance of _____ feet between energized 50 kv overhead power lines and themselves:
   a. 14
   b. 25
   c. 10
35. A flexible cord should be inspected for the following defects:
   a. pinched outer jacket
   b. missing or damaged outer jacket
   c. damaged insulation
   d. all of the above

36. When using portable electric equipment, you should do all of the following except:
   a. remove the ground pin on the plug so the plug matches the two prong receptacle
   b. use adaptors which do not affect the equipment grounding connections
   c. remove from service equipment which deformed plugs
   d. use dry hands to plug and unplug equipment

37. Fuses can be used to open or close a lighting circuit.
   a. never
   b. always
   c. only in emergencies
   d. none of the above

38. One safe work practice while working around electrical equipment is:
   a. wear jewelry
   b. use conductive ladders
   c. use insulated tools
   d. wear keys or keychains on your clothing

39. Exposed de-energized parts are parts which have:
   a. their energy state at zero
   b. no electrical power source attached
   c. their conductors and parts of the electrical equipment de-energized and locked out and/or tagged out
   d. none of the above

40. To alert you of exposed energized parts, you might see the following:
   a. a sign warning of shock hazard
   b. a barricade surrounding the electrical hazard area
   c. an attendant to warn you of the hazard
   d. all of the above
41. Flammable materials should be:
   a. always be stored near electrical equipment that may cause a spark
   b. not be stored near electrical equipment that may cause a spark
   c. only stored near electrical equipment when precautions are taken to prevent the development of a hazardous condition
   d. either b or c

42. Exposed energized parts:
   a. can be dangerous
   b. are capable of accidentally harming people or other machinery
   c. should be insulated
   d. should be guarded by protective devices
   e. All of the above

43. Exposed parts are considered to be energized:
   a. if they are not locked/tagged out
   b. if they are insulated
   c. if they are locked/tagged out
   d. if you can’t see that they are disconnected

44. Lockout/tagout:
   a. must be done by a qualified person
   b. can be done by an unqualified person
   c. must be done by a supervisor
   d. can be done by anyone

45. If you are working under unguarded, energized overhead lines:
   a. the clearance distance is 10 feet for voltages of 50 kv or less to ground
   b. the clearance distance is 10 feet plus 4 inches for every 10 kv greater than 50 kv to ground
   c. the clearance distance is always 10 feet
   d. both a and b

46. When a vehicle is intentionally grounded because its elevated parts could possibly come into contact with energized overhead lines:
   a. an employee must stand near the grounding location to warn other people to stay away
   b. a qualified employee must stand near the grounding location to warn other people to stay away
   c. no one is allowed to stand near the grounding location
   d. the grounding location must be locked/tagged out
47. Portable cord- and plug-connected equipment:
   a. must be inspected before use on every shift
   b. should be inspected each morning
   c. must be inspected annually by a licensed electrician
   d. only needs an inspection if you notice a problem

48. When electrical hazard warning signs are posted and a barricade limits entry into an area:
   a. you must use the buddy system to enter the area
   b. a written entry permit must be posted near the space
   c. non-qualified persons need special permission before they work in the area
   d. the area contains exposed energized parts

49. If a circuit breaker trips and de-energizes the machine you are using, you should:
   a. manually re-set the circuit breaker and continue to use the machine
   b. determined that it would be safe to reenergize the circuit before the circuit breaker can be re-set
   c. immediately lock out the machine
   d. install a new circuit breaker

50. In the welding shop, the recommended acetylene pressure should set at ______ to ______ psi.

51. The oxygen hose is colored ____________ and has _____________ handed threads.

52. The fuel hose is colored ________________ and has ______________ handed threads.

53. Fuel gas & oxygen regulators can be used interchangeably?
   a. true
   b. false

54. What are the two purposes of the regulator on an oxy/acetylene rig?

55. What do the numbers on the electrode mean? (E10018 for example)
56. What shade of lens should be worn when arc welding?

57. What shade of lens should be worn when welding with acetylene?

58. Why should you warn people around you before you strike an arc?