

***** EXAMINATION *****

INFLUENCE OF ELECTRODE MATERIAL ON SPARK IGNITION PROBABILITY

1. **The most common large-value capacitor used in electronic**
 - a) construction is the aluminum electrolytic capacitor
 - b) construction is the tiny tantalum capacitor
 - c) construction is the silver mica capacitor
 - d) construction is the polystyrene film capacitor

2. **In breakflash testing, as the electrodes separate,**
 - a) an arc forms at the power supply
 - b) an arc forms at the contact point
 - c) an arc forms at the capacitor
 - d) an arc form at the elemental disk materials

3. **At several capacitances, aluminum exhibited lower**
 - a) ignition voltages than titanium
 - b) ignition voltages than silver
 - c) ignition voltages than copper
 - d) ignition voltages than cadmium

4. **In poorly ventilated areas, methane released during the**
 - a) mining process may accumulate in power generators
 - b) mining process may accumulate in power transmitters
 - c) mining process may accumulate in explosive concentrations
 - d) mining process may accumulate in explosive enclosures

5. **A wire material selected for its toughness is**
 - a) copper
 - b) tungsten
 - c) aluminum
 - d) cadmium

6. **A metal chosen as the disk material for its ability to**
 - a) produce ignitions at the lowest current is the copper
 - b) produce ignitions at the lowest current is the tungsten
 - c) produce ignitions at the lowest current is the aluminum
 - d) produce ignitions at the lowest current is the cadmium

7. **A technique concerned with the ignition of explosive**
- a) gases by thermal means is intrinsic safety
 - b) gases by thermal means is electric safety
 - c) gases by thermal means is forensic safety
 - d) gases by thermal means is numeric safety
8. **Ignitable fuel-air mixture create potentially hazardous**
- a) conditions with the aid of the safety source
 - b) conditions with the aid of the ignition source
 - c) conditions with the aid of the explosive source
 - d) conditions with the aid of the signal source
9. **A technique that requires a physical barrier is**
- a) intrinsic safety
 - b) explosion-proof enclosure
 - c) electric safety
 - d) ignition safety
10. **Connected in series or parallel with the breakflash**
- a) apparatus is the intrinsic safety
 - b) apparatus is the non-dispersive infrared
 - c) apparatus is the circuit under test
 - d) apparatus is the ignition current
11. **When sparking occurs in actual use, the materials acting as**
- a) electrodes are commonly found in the ignition source
 - b) electrodes are commonly found in the power source
 - c) electrodes are commonly found in the mining personnel
 - d) electrodes are commonly found in the mining environment
12. **Cadmium is used in mining environments for plating of**
- a) cases
 - b) nuts
 - c) bolts
 - d) All of the above
13. **A metal used extensively for electrical conductors is**
- a) silver
 - b) copper
 - c) cadmium
 - d) steel
14. **An metal frequently used in the construction of equipment**
- a) enclosure is silver
 - b) enclosure is copper
 - c) enclosure is cadmium
 - d) enclosure is steel

15. **Voltage below 50 volts dc represents the most likely range**
- a) commonly found in low-power devices in mine
 - b) commonly found in high-power devices in mine
 - c) commonly found in tungsten wire electrodes
 - d) commonly found in hot-wire ignition
16. **The required transfer of electrical energy from an arc**
- a) to the gas mix is a spark ignitions
 - b) to the gas mix is a hot-wire ignitions
 - c) to the gas mix is a tungsten wire ignitions
 - d) to the gas mix is a copper wire ignitions
17. **Thermal energy is imparted to test by the electrically**
- a) heated wire using spark ignitions
 - b) heated wire using hot-wire ignitions
 - c) heated wire using tungsten wire ignitions
 - d) heated wire using copper wire ignitions
18. **A device used in inductor circuit testing is**
- a) a aluminum electrolytic capacitor
 - b) a tungsten wire electrode
 - c) a air-core inductor
 - d) a ignition current
19. **The charging resistor is calculated to provide a charging**
- a) time constant of approximately 10 ms for the capacitor
 - b) time constant of approximately 100 ms for the capacitor
 - c) time constant of approximately 1000 ms for the capacitor
 - d) time constant of approximately 10000 ms for the capacitor
20. **The charge-discharge cycle of the capacitor can be**
- a) monitored with an oscilloscope
 - b) monitored with a stethoscope
 - c) monitored with a microscope
 - d) monitored with an anemometer

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