

**\*\*\* EXAMINATION \*\*\***

**MANUAL FOR ABANDONED UNDERGROUND MINE INVENTORY AND RISK MANAGEMENT**

1. **Site constraints which may affect the selection of a remedial**
  - a) technique includes above and below ground utilities
  - b) technique includes above and below ground structures
  - c) technique includes right of way width
  - d) All of the above
  
2. **Options that eliminate voids beneath the roadway by filling**
  - a) them with aggregate materials is called pneumatic stowing
  - b) them with aggregate materials is called grout programming
  - c) them with aggregate materials is called borehole drilling
  - d) them with aggregate materials is called grout filling
  
3. **An alternative to eliminate voids related to horizontal mine**
  - a) is pneumatic stowing
  - b) is drift entry stabilization
  - c) is grout programming
  - d) is shaft stabilization
  
4. **A construction performed on the sites recommended by the**
  - a) priority site recommendation is the virtual construction
  - b) priority site recommendation is the rebuttal construction
  - c) priority site recommendation is the remedial construction
  - d) priority site recommendation is the actual construction
  
5. **Proof of past mining activities in the site vicinity include**
  - a) coal refuse piles
  - b) abandoned mining pits
  - c) railroad spurs
  - d) All of the above
  
6. **Surface deformation features in the site vicinity includes**
  - a) damage or displaced drainage structures
  - b) unusual vegetation, drag patches and dips in guardrail
  - c) dips in flowline of ditches and surface topography anomaly
  - d) All of the above

7. **The M notation on the site monitoring guidelines indicates**
  - a) that a particular form of monitoring is applicable
  - b) that traffic is maintained on or adjacent to the roadway
  - c) that a form of monitoring is applicable with constraints
  - d) that traffic is stopped during the construction
8. **A tool use by civil engineers to evaluate physical properties**
  - a) of a pavement is the heavy weight deflectometer
  - b) of a pavement is the falling weight deflectometer
  - c) of a pavement is the surface ground penetrating radar
  - d) of a pavement is the borehole ground penetrating radar
9. **The geophysical method that uses radar pulses to image the**
  - a) subsurface is called the heavy weight deflectometer
  - b) subsurface is called the falling weight deflectometer
  - c) subsurface is called the ground penetrating radar
  - d) subsurface is called the time domain reflectometer
10. **An electronic instrument used to characterize and locate**
  - a) faults in metallic cables is the borehole video camera
  - b) faults in metallic cables is the slope inclinometer
  - c) faults in metallic cables is the ground penetrating radar
  - d) faults in metallic cables is the time-domain reflectometer
11. **Small diameter observation well use to measure the hydraulic**
  - a) head of groundwater is called piezometer
  - b) head of groundwater is called tensiometer
  - c) head of groundwater is called sensitometer
  - d) head of groundwater is called pyrometer
12. **A naturally occurring electric potential difference in the**
  - a) earth is the scalar potential
  - b) earth is the spontaneous potential
  - c) earth is the electrochemical potential
  - d) earth is the electrokinetic potential
13. **The roughness of a surface profile can be checked by a**
  - a) piezometer
  - b) tensiometer
  - c) profilometer
  - d) reflectometer
14. **An instrument for measuring tilt, elevation or inclination of**
  - a) an object is a time-domain reflectometer
  - b) an object is a piezometer
  - c) an object is a ground-penetrating radar
  - d) an object is a slope inclinometer

15. **Factors affecting the choice of remedial technique includes**
- a) hydrogeologic setting
  - b) type and condition of overburden
  - c) type of roadway
  - d) All of the above
16. **A method used for determining the depth and thickness of**
- a) geologic data is called the seismic reflection
  - b) geologic data is called the seismic refraction
  - c) geologic data is called the seismic relocation
  - d) geologic data is called the seismic rotation
17. **A method that utilizes geophones to measure the travel of a**
- a) wave is the seismic reflection
  - b) wave is the seismic refraction
  - c) wave is the seismic relocation
  - d) wave is the seismic rotation
18. **A form of monitoring that involves the use of oscillating**
- a) 500 pound weight is the hydroflect
  - b) 500 pound weight is the magnaflect
  - c) 500 pound weight is the electroflect
  - d) 500 pound weight is the dynaflect
19. **In electrical prospecting, the important physical properties**
- a) includes the electrical conductivity
  - b) includes the electrical resistivity
  - c) includes the electrical permittivity
  - d) All of the above
20. **The polarizability of a material is measured by the**
- a) electrical permittivity
  - b) electrical resistivity
  - c) electrical conductivity
  - d) electrical velocity

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