**Trench Rescue Technician 2023**

**Study Guide**

1. Explain risk versus benefit analysis.
2. Identify six signs of an impending collapse.
3. Define the following:
   1. Inclined plane.
   2. Friction.
   3. Energy.
   4. Wale hangers.
   5. Mechanical advantage.
   6. Cantilever lip bridges.
   7. Wales.
   8. Surcharge loads.
   9. Cantilever wale.
   10. Thrust block shoring.
   11. Joined corner panels.
4. Identify 23 hand signs.
5. Explain the criteria for utilizing supplemental shoring.
6. Explain the difference between an L-trench and a T-trench.
   1. Panel placement..
7. Explain the difference between spot shoring and traditional sheeting and shoring.
8. Explain the procedures and criteria for shoring intersecting trenches (pressures on struts).
9. Identify the seven main components of an excavator or a backhoe.
10. Identify what type of collapse will most likely occur in an inside corner.
11. Describe the procedures for shoring a deep trench.
12. Identify when hand signals should be used.
13. Identify how tactical options are determined.
14. Identify factors that can cause shored inside corners to fail.
15. Identify how often shoring should be inspected at an intersecting trench.
16. Identify injury concerns for victims removed from a collapsed trench.
17. Identify deep trench shoring procedures, hazards, and concerns (pertaining to collapse).
    1. Number of panels.
18. Identify the depth level of a trench. That requires technician level training to enter.
19. Identify the nine main components of a pre-entry briefing.
20. Identify the skills that require technician level training at a trench rescue incident.
21. Identify the ten types of severe environmental conditions covered by your textbook.
    1. Identify types of PPE needed for the different conditions.
22. Explain the difference between 2x, 3x, and solid box crib systems.
23. Explain the criteria that is used to pick a heavy equipment operator for the incident.
24. Describe cribbing rules and cribbing details.
    1. Tier stacking maximum.
25. Identify criteria for backfilling deep trench voids.