

## **Structures Specialist Field Operations Guide (Fog) - Familiarization Quiz**

Name \_\_\_\_\_ Agency \_\_\_\_\_

**INTRODUCTION:** This exercise is designed to help you get familiar with the information contained in the USACE Urban Search and Rescue Structures Specialist Field Operations Guide. The quiz is based on the 6<sup>th</sup> edition of the field operations guide.

### **Structures Specialist Field Operations Guide Familiarization Quiz**

1. What section includes examples of the StS Documentation forms? \_\_\_\_\_
2. What documentation is to be provided to the relieving engineer for a shift change? \_\_\_\_\_  
\_\_\_\_\_
3. What would you NOT do "At Point of Departure"? \_\_\_\_\_
  - a. Assemble for task force leader briefing.
  - b. Assist with movement and loading of equipment.
  - c. Receive appropriate gear issue.
  - d. Take time to assemble personal day pack and gear.
4. Describe the "Typical 1<sup>st</sup> Hours of Deployment". \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. While on site, during an incident, 3 short sound blasts from a horn or whistle indicates what? \_\_\_\_\_  
\_\_\_\_\_
6. During operations you noticed that you are having problems thinking of words or are misplacing things. This could be a sign of what? \_\_\_\_\_  
\_\_\_\_\_
7. Marking System: You come across a building that has an interior collapse. What type of mark you use to inform search and rescue of what you found? What page can you find the guidance on completing the mark?  
\_\_\_\_\_

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8. Work Responsibilities: At a rescue site, you have just finished describing a shoring system to a Rescue Squad Officer. Complete your possible next tasks.
- a. Contact the site Rescue Leader and Ops to let them know your status and discuss with them whether you should stay on site or return to Recon.
  - b. Interview \_\_\_\_\_ information about the building or the availability of materials and heavy equipment.
  - c. Look for \_\_\_\_\_
  - d. Fill out \_\_\_\_\_
9. Lateral Shoring: The angle of the raker for a raker shore system should be held within which angles? \_\_\_\_\_
- a. 0-30      b. 45-60      c. 30-60      d. 15-45
10. Lateral Shoring: How many nails are required for the standard 12" x 12" gusset plates for the raker system? \_\_\_\_\_
11. You have a column bay that is 25'-0 by 25'-0 and supports 200psf of debris and slab weight. Make a judgment call that each of the 4 columns can only support 10kips due to damage. The height of structure is 14'. The slab is in good condition. How many 4 x4 Laced Post shoring frames are required?
- \_\_\_\_\_
12. A load bearing wall has been knocked out. It was 12 feet tall and had a tributary width of 15 feet (30 feet to next support). The slab was an 8" thick one-way slab and 3 slabs are pancaked on the level that needs support (4 total). Assume normal residential furniture on each level. Length of wall missing is 20 feet. What is the required wood vertical shoring post size and what spacing of posts would be needed?
- \_\_\_\_\_
13. What page shows the crane signal for lowering the boom? Many of the hand signals involve the same movements for crane and excavator; although, the mechanism can be slightly different it will result in the same movement of the load. The "Load Up" signal for an excavator, raises the load by moving the boom and bucket. What moves when the signal is used on a crane?
- \_\_\_\_\_

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14. What is the equivalent Airshore and Paratech Strut recommended load for a height of 12 feet and what is the design load for a 4x4 wood post?

\_\_\_\_\_

15. A concrete column 10' tall, is out of plumb by 18" and is estimated to carry a load of 50 kips. What is the horizontal force required to stabilize the column? At what point(s) on the column should you brace the column?

\_\_\_\_\_

16. Rigging: What is the capacity of a 5/8" diameter wire rope in a basket hitch shape? \_\_\_\_\_

17. Rigging: How much can 1/2" diameter 6 strand cable 100 ft long stretch before it can carry 100% of its capacity? \_\_\_\_\_

18. Rigging: Lifting a slab using a pulley system, how many parts of rope are required to allow a single person to lift 500 #, assuming an average person can lift 90 #? \_\_\_\_\_

19. Rigging: A basket sling is formed with a sling angle of 30 deg, to lift 2 kips, what is the sling capacity as a percentage of a single vertical hitch? \_\_\_\_\_

20. What is the Recon classification of LP-XR? \_\_\_\_\_

21. What is the estimated weight of concrete masonry rubble per the FOG? \_\_\_\_\_

22. Shoring: What is the quickest type of vertical shoring over 6 feet high to install when built in place (excluding cut time)? \_\_\_\_\_

23. Communications: When making a radio call what is the protocol for contacting another party?

\_\_\_\_\_

24. Communications: Should radio batteries be removed while on board a plane? \_\_\_\_\_

25. What Section has instructions on how to use the GPS and Total Station? \_\_\_\_\_

26. Where can you find the "Shoring Numbers to Remember"? \_\_\_\_\_

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*Answers:*

1. Section 9
2. Use Hand-off form found on page 9-24
3. page 9-5, Assembly of personal gear should be completed prior to arrival.
4. Deploy to site, setup BoO, establish and deploy Rapid Assessment Team and develop a priorities plan; page 6-1 flowchart.
5. Evacuate the Area, "Get-out-now", page 1-18.
6. Acute Stress Response, page 6-21
7. Structure/Hazard Evaluation Marking, page 1-23.
8. Interview locals on site to see if they can provide any information about the building or the availability of materials and heavy equipment. Look for changes in hazards. Fill out Hazard Mitigation and Handoff forms, page 9-9.
9. b, page 3-7
10. 5 & 8 nails, page 3-20
11. Weight to be supported = 85kips, at 32kips per frame, 3 frames are needed, however each column is damaged so 4 should be considered, page 2-20.
12. Total load is 6,600lbs per foot, 4x4 post can carry 3,500 lbs each and 6x6 can carry 20,000 lbs each, therefore use 6x6 at 2'-10" on center, page 2-13 and 7-4
13. page 6-37, The hoist is raised, page 6-37 to 6-40
14. 7500 lbs for the struts and 3500 lbs for wood, page 7-35 and 2-13
15. 7.5kips, brace at top and bottom, page 6-11
16. 13,600 lbs, p7-24
17. 6", p7-27
18. 6 parts
19. 100%, p7-25
20. Low potential for victims and high hazard risk, p6-3
21. 10psf per inch thickness, p1-30
22. 2-Post Vertical Shore, p2-3
23. Hey you, this is me, p1-17
24. yes, p9-5
25. refer to Section 5.
26. page 2-2.