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***** EXAMINATION *****

DESIGN OF PILE FOUNDATIONS

1. **Pile foundations are:**

   a) driven, not drilled
   b) steel or pre-stressed concrete
   c) timber
   d) All of the above.

2. **For hard strata or boulders, preference is given to:**

   a) timber piles
   b) steel bearing piles
   c) concrete piles
   d) None of the above

3. **For sand, silt, or clay, preference is given to:**

   a) timber piles
   b) steel bearing piles
   c) concrete piles
   d) None of the above

4. **The pile foundation analysis is completed by the:**

   a) structural engineer
   b) geotechnical engineer
   c) geologist
   d) All of the above.

5. **The design process involves:**

   a) minimum pile spacing
   b) the area of the project
   c) weather conditions
   d) None of the above.

6. **Excessive deflection and vibration are the result of:**

   a) Over design
   b) functional failure
   c) always poor driving techniques
   d) None of the above

7. **Loads are categorized as:**

a) Usual, unusual, and extreme
b) normal, excessive, and light
c) heavy, excessive, and normal
d) None of the above

8. **Known data regarding the foundation materials may be found:**

a) at the local building department
b) at the local highway department
c) by noting existing topography
d) All of the above

9. **The exploration and testing program are laid out by:**

a) the exploration engineer
b) the geologist
c) the designer
d) the archeologist

10. **Steel H-piles advantages include:**

a) low cost
b) larger soil displacement
c) high axial working capacity
d) fast delivery time

11. **Steel pipe piles:**

a) always are unfilled
b) displace more soil than H-piles
c) are easy to manufacture
d) are corrosion resistant

12. **Pre-cast concrete piles:**

a) better withstand driving stress
b) have lower axial load capacity
c) are less corrosion resistant
d) are salt water resistant

13. **The advantage of cast-in-place concrete piles is:**

a) higher strength than all other type piles
b) ease of driving in hard soils
c) the cost is relatively low.
d) None of the above.

14. **Mandrel-driven piles**

a) are installed by usually patented systems
b) are pre-cast concrete encased by a shell
c) cost more than other types of piles
d) are thin steel shells driven in the ground with a mandrel

15. **Loads for timber piles are usually limited to:**

a) 70 kips
b) 200 kips
c) 300 kips
d) 500 kips

16. **Evaluation of pile types include:**

a) constructibility, performance, and equipment
b) performance, equipment, and cost
c) cost, preliminary evaluation, and performance
d) equipment, cost, and performance

17. **Driving reports for individual piles include:**

a) date and time, driving equipment, and blow counts
b) date and time, blow counts, and location of splices
c) driving equipment, blow counts, and interruptions
d) driving equipment, interruptions, and blow counts.

18. **Driving data includes:**

a) project engineer, hammer changes, anvil changes
b) hammer changes, anvil changes, blow counts
c) hammer changes, blow counts, and splice location
d) cap changes, anvil changes, and hammer changes

19. **Field instruction reports should include:**

a) assumption made in the design
b) blow counts
c) anvil changes
d) All of the above.

20. **Subsurface investigation should extend at least:**

a) to the tip of the deepest pile
b) 20 feet past the tip of the deepest pile
c) 40 feet past the tip of the deepest pile
d) 50 feet past the tip of the deepest pile

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*** ANSWER SHEET *** U23 DESIGN OF PILE FOUNDATIONS	STATE BOARD COURSE NO. VALUE 8 PDH Office Use Only

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