Chapter 14: Precision Alignment Surveys
Sample Quiz

Multiple Choice Questions
Circle the most appropriate answers to the following questions.

1. Which of the following is not an optical tooling instrument?
   a. Scale bar
   b. Horizontal alignment telescope
   c. Precision horizontal spirit level
   d. Precision tilting level

2. If a reference geodetic micro-network is to be used in an alignment survey, which of the following will not be critical in the accuracy of the survey?
   a. precision of instrument
   b. geometry of network
   c. environmental condition.
   d. centering of instrument in the work area

3. Which of the following is false during the “fine alignment” surveys?
   a. resected theodolite positions are obtained
   b. intersected positions of targets on the components being aligned are obtained
   c. wall target positions are obtained
   d. corrections to be applied to aligned components are obtained

4. Which of the following alignment techniques is not likely to use direct optical line of sight?
   a. Diffraction alignment technique
   b. Direct laser alignment technique
   c. Conventional surveying techniques
   d. Optical tooling techniques

5. Which of the following is the main source of error in alignment surveys?
   a. horizontal atmospheric refraction
   b. pointing error
   c. reading error
   d. centering error

6. Which of the following alignment techniques will most likely be based on the use of networks of coordinated points?
   a. Diffraction alignment technique
   b. Direct laser alignment technique
   c. Conventional surveying techniques
   d. Optical tooling techniques
7. Which of the following is false about a conventional alignment telescope?
   a. it has optical micrometers for adjusting the lines of sight
   b. it has horizontal circle device for measuring horizontal angles
   c. it has built-in auto-reflection target
   d. it has ability to vary its magnification automatically

8. Which of the following alignment techniques is commonly used when short distances are involved?
   a. Diffraction alignment technique
   b. Direct laser alignment technique
   c. Conventional surveying techniques
   d. Optical tooling techniques

9. Which of the following is false with regard to optical tooling alignment techniques?
   a. the line of sight of any telescopc instrument used must be especially straight
   b. every optical tooling instrument must be used in detached mode
   c. horizontal and vertical planes must be established with great accuracy
   d. high-precision total stations can be used as optical tooling instruments

10. Which of the following is not a typical optical tooling instrument?
    a. optical micrometer
    b. steel tape
    c. jig transit
    d. alignment telescope