Week 4, Assignment 4

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

1. Consider the following statements.
   a. Go obtained from a lab test can be used to analyze the short-term behaviour of soils.
   b. Use test simulates the long-term condition in the field.
   c. Both statements are correct and b is correct explanation of a.

   Both statements are correct but b is not correct explanation of a.
   Only a is true.
   Only b is true.

   Accepted Answer:
   Both statements are correct and b is correct explanation of a.

2. The relative compression index for a undrained sample whose liquid limit is 50% is:

   a. 0.05
   b. 0.28
   c. 0.18
   d. 0.10

   Accepted Answer:
   0.18

3. Degree of consolidation is:

   a. directly proportional to time and inversely proportional to drainage path
   b. directly proportional to time and inversely proportional to square of drainage path
   c. directly proportional to drainage path and inversely proportional to time
   d. directly proportional to square of drainage path and inversely proportional to time

   Accepted Answer:
   directly proportional to time and inversely proportional to square of drainage path

4. Time factor for a clay layer is:

   a. dependent on permeability of soil
   b. inversely proportional to drainage path
   c. independent of thickness of clay layer
   d. All of the above

   Accepted Answer:
   inversely proportional to drainage path

5. Compressibility of sandy soils is:

   a. almost equal to that of clayey soils
   b. much greater than that of clayey soils
   c. much less than that of clayey soils
   d. none of the above

   Accepted Answer:
   much less than that of clayey soils

6. The ultimate consolidation settlement of a structure resting on a soil:

   a. decreases with the increase in the initial voids ratio
   b. decreases with the decrease in the initial voids ratio
   c. decreases with the increase in the initial voids ratio
   d. increases with the decrease in the initial voids ratio
   e. increases with the increase in the initial voids ratio

   Accepted Answer:
   decreases with the decrease in the initial voids ratio

7. The ultimate consolidation settlement of a ground is:

   a. directly proportional to the voids ratio
   b. directly proportional to the compression index
   c. inversely proportional to the compression index
   d. none of the above

   Accepted Answer:
   directly proportional to the voids ratio

8. If the effective stress is uniform and effective stress was increased from 150 kPa to 200 kPa, the settlement of the same clay is:

   a. 10 mm
   b. 20 mm
   c. 40 mm
   d. none of the above

   Accepted Answer:
   10 mm

9. The purpose of consolidation is to:

   a. reduce the void ratio to change into effective stress
   b. change in thickness to change in effective stress
   c. volumetric strain to change in effective stress
   d. none of these

   Accepted Answer:
   change in thickness to change in effective stress

10. Under load, the void ratio of a saturated clay decreases from 1.0 to 0.8. The ultimate settlement of a layer 2 m thick will be:

   a. 0.2 cm
   b. 4.0 cm
   c. 12.0 cm
   d. none of these

   Accepted Answer:
   4.0 cm