Week 1: Assignment 1

Due on 2021-08-26, 23:59:59 IST.

1. What is bearing failure in soil?
   a. Applied pressure is less than ultimate bearing capacity of soil
   b. Applied pressure is greater than ultimate bearing capacity of soil
   c. Applied pressure is equal to ultimate bearing capacity of soil
   d. All of the above
   e. None of the above

2. The internal or excess water from saturated soil mass called
   a. Compression
   b. Foundation
   c. Oedometer and Dewatering
   d. All of the above
   e. None of the above

3. Excavation and replacement should only be used if:
   a. The depth of excavation is less than 3m.
   b. All of the above is readily available.
   c. Is or can be practised by experienced operators
   d. All of the above
   e. None of the above

4. Cohesionless soils are:
   a. Effective stress increases with depth
   b. Effective stress decreases with depth
   c. Effective stress decreases with depth
   d. All of the above
   e. None of the above

5. General failure occurs in soil because of
   a. Water
   b. Gravitation
   c. Snow load
   d. All of the above
   e. None of the above

6. Which are the possible causes of failure for mass movement and excavation methods?
   a. General failure within the replaced zone
   b. Slope failure within the replaced zone
   c. Slope failure within the underlying weak soil
   d. All of the above
   e. None of the above

7. A project site is 10 m thick layer of peat over a strong foundation soil that needs to be augmented for foundation support. Which method could be used for general excavation (not needed for excavating)?
   a. Excavation and replacement method
   b. Dynamic compaction
   c. Embankment compaction method
   d. Chemical consolidation of soft ground and base
   e. None of the above

8. What conclusion can be validly used to:
   a. Increase bearing capacity and stability
   b. Reduce settlement and impoundments potential
   c. Accurate calculations
   d. All of the above
   e. None of the above

9. Shape factor for sand with d = 1 mm
   a. la/b = 1:2
   b. la/b = 1:5
   c. la/b = 1
   d. All of the above
   e. None of the above

10. Match the following and choose the correct answer:

A. Oedometer and Dewatering
    1. High energy impact method
    2. Low energy impact method
    3. Dewatering
    4. Uplift
    5. Extract
    6. All of the above

B. Dewatering
    1. Compaction
    2. Shallow foundation
    3. All of the above

C. Shallow foundation
    1. Dewatering
    2. Oedometer
    3. All of the above

D. Extract
    1. Uplift
    2. Dewatering
    3. Oedometer
    4. All of the above

E. Oedometer
    1. Dewatering
    2. Extract
    3. Uplift
    4. All of the above