Assignment 10

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2018-10-10, 23:59 IST.

State whether the following statements are true or false. Please write either 'true' or 'false' in the response box. Do not put white space or any other extra characters.

1) The slope on the curve $\tan f$ vs $(u_a-u_w)f$ over a wide suction range for clayey soil is constant, under a given net normal stress $(s-u_a)$ and having value of $\tan f_b$.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) False

1 point

2) As $c_f$ decreases, the strength parameter $f_b$ consistently increases with suction.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) False

1 point

3) $f_b$ is an additional friction angle to capture the contribution of matric suction to shear strength.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) False
4) Suction stress is internal stress state variable and it is independent of applied mechanical loading.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) False

5) Physicochemical forces are responsible for the change in structure for fine grained soils such as clay.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) True

6) As a dried soil mass is wetted with water in unrestrained condition, the Van der Waals forces decreases.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) True

7) Cementitious forces (covalent bonds/ionic bonds) and Van der Waals forces do not depend on the size of the clay particles.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) False

8) Shear strength parameters of a given soil are to be estimated under three different states, oven dried state and saturated with water and ethanol. Direct shear tests is performed on three identical specimen of the soil which are designated as A, B and C. Shearing on specimen A is performed in oven dried condition, whereas specimen B and C are saturated with water and ethanol respectively. Under such a condition the cohesion intercept obtained from the τ vs σ plot, for specimen B is less than both specimen A and C.

No, the answer is incorrect.
Score: 0
Accepted Answers:
9) In unsaturated soils, the pore water pressure acts isotropically in all directions in a uniform manner.

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: String) False

Choose the correct options.

10) In a suction controlled triaxial test under the same applied net normal stress condition

- Shear strength of unsaturated soil is more than the shear strength of saturated soil.
- Shear strength is maximum at lowest matric suction.
- Dry soil has maximum shear strength.
- All of the above.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Shear strength of unsaturated soil is more than the shear strength of saturated soil.