

Unit 13 - Week 11

Course outline

How does an NPTEL online course work?

Practice Assignment

Week 1

Week 2

Week 3

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Week 11

- Lecture 48: Cracking characteristics of fine-grained soils- I
- Lecture 49: Cracking characteristics of fine-grained soils- II

- Lecture 50: Cracking characteristics of fine-grained soils- III

- Lecture 51: Electrical characterization- I

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○ Quiz : Assignment-11

- Assignment-11 solutions

Week 12

Text Transcripts

Assignment-11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-15, 23:59 IST.

1) Which of the following states of geomaterial will show higher permeability? 1 point

- Soils compacted to a maximum dry-density
- Intact rock mass
- Soils with severe cracks
- Can't be said

No, the answer is incorrect.
Score: 0

Accepted Answers:
Soils with severe cracks

2) Which of the following mechanical stresses, leads to cracking of soils? 1 point

- Shear
- Compressive
- Tensile
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Tensile

3) Which of the following processes lead(s) to cracking of geomaterials? 1 point

- Shrinking
- Swelling
- Both of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Shrinking

4) Which of the following soils will have higher tensile strength? 1 point

- Clays with medium plasticity
- Silty sands
- Clayey sands
- Clays with high plasticity

No, the answer is incorrect.
Score: 0

Accepted Answers:
Clays with high plasticity

5) Tensile strength of the soil might depend upon_____ 1 point

- Clay content
- Liquid limit
- Suction
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above

6) Do soils with higher suction prone to more cracking? 1 point

- Yes
- No

No, the answer is incorrect.
Score: 0

Accepted Answers:
Yes

7) Measurement of the _____ of cracks makes laser more suitable to study cracking characteristics of soils 1 point

- Depth
- Width
- Geometry
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Depth

8) In the process of drying the soil mass, which of the following coupled processes are involved? 2 points

- Heat and moisture migration
- Moisture and vapour migration
- None of the above
- Both (a) and (b)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both (a) and (b)

9) Which of the following properties of the geomaterial cannot be determined by using electrical properties? 1 point

- Porosity
- Water content
- Salinity
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above

10) Dielectric constant of the fully saturated soils is approximately equal to_____

Hint

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 81

11) Which of the following instrument can be employed for measuring electrical properties of geomaterials? 1 point

- KD2 probe
- FDR probe
- Thermal probe
- FTIR spectroscopy

No, the answer is incorrect.
Score: 0

Accepted Answers:
FDR probe

12) An increase in density of the unsaturated soil results in _____ electrical resistivity 1 point

- An increased
- A decreased
- An unaltered

No, the answer is incorrect.
Score: 0

Accepted Answers:
A decreased

13) Which of the following property(ies) of the geomaterial might get altered upon applying DC? 1 point

- Moisture content
- Mineralogy
- Porosity
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Moisture content

14) Which of the following instrument should be employed to measure capacitance of the geomaterial? 1 point

- TDR probe
- LCR meter
- FDR probe
- Thermal probe

No, the answer is incorrect.
Score: 0

Accepted Answers:
LCR meter
FDR probe