Assignment 10

The due date for submitting this assignment is pasted. For any work displayed, you have not submitted the assignment.

1. Choose the factors that decide the choice of a geotechnical drainage application.
   - [ ] Thickness
   - [ ] Grain size, permeability, and velocity
   - [x] Gravel beds and drainage basins
   - [ ] Permeability and erodibility
   - [x] Thickness
   Yes, the answer is incorrect.
   - [x] Permeability, and velocity
   Yes, the answer is incorrect.
   - [ ] Thickness
   Yes, the answer is incorrect.
   - [x] Grain size, permeability, and velocity
   Yes, the answer is incorrect.
   - [ ] Permeability and erodibility
   Yes, the answer is incorrect.

2. What outside geohydraulics for drainage application are.
   - [ ] Distance
   - [x] Weight and velocity
   - [ ] Temperature
   - [x] Groundwater
   - [ ] Permeability
   Yes, the answer is incorrect.
   - [x] Distance
   Yes, the answer is incorrect.
   - [x] Weight and velocity
   Yes, the answer is incorrect.
   - [x] Temperature
   Yes, the answer is incorrect.
   - [x] Groundwater
   Yes, the answer is incorrect.
   - [ ] Permeability
   Yes, the answer is incorrect.

3. What are the typical applications of geotechnical drains?
   - [x] Edge of channels and ditches
   - [ ] Drainage from basins
   - [x] Runoff collection in hillsides
   - [x] Permeability and velocity
   Yes, the answer is incorrect.
   - [x] Edge of channels and ditches
   Yes, the answer is incorrect.
   - [x] Drainage from basins
   Yes, the answer is incorrect.
   - [x] Runoff collection in hillsides
   Yes, the answer is incorrect.
   - [x] Permeability and velocity
   Yes, the answer is incorrect.

4. In terms of grading, which of the following soils is an unstable soil?
   - [x] Well-graded soils
   - [ ] Uniformly graded soils
   - [x] Very well-graded soils
   - [x] Well-graded soils
   Yes, the answer is incorrect.
   - [x] Uniformly graded soils
   Yes, the answer is incorrect.
   - [x] Very well-graded soils
   Yes, the answer is incorrect.
   - [x] Well-graded soils
   Yes, the answer is incorrect.

5. Choose the factors that govern the choice of a geotechnical filter application.
   - [x] Thickness
   - [ ] Apparent grading size
   - [x] Grain size distribution of the soil to be protected
   - [ ] Permeability and velocity
   Yes, the answer is incorrect.
   - [x] Thickness
   Yes, the answer is incorrect.
   - [x] Apparent grading size
   Yes, the answer is incorrect.
   - [x] Grain size distribution of the soil to be protected
   Yes, the answer is incorrect.
   - [x] Permeability and velocity
   Yes, the answer is incorrect.

6. What are the functions of a filter layer?
   - [x] Allow free flow of water
   - [x] Prevent clogging
   - [x] All of the above
   Yes, the answer is incorrect.
   - [x] Allow free flow of water
   Yes, the answer is incorrect.
   - [x] Prevent clogging
   Yes, the answer is incorrect.
   - [x] All of the above
   Yes, the answer is incorrect.

The data for questions 10 is given below. Answer these questions using the same data. The thickness of a permeable layer is 6 inches. If 33 times of water was collected in 60 seconds during an in-place permeability test. The width and length of sample are 300 mm. The head difference in water levels was 180 mm.

7. What is the hydraulic gradient?
   - [ ] 2
   - [x] 1.6
   - [x] 1.8
   - [x] 2.4
   Yes, the answer is incorrect.
   - [x] 2
   Yes, the answer is incorrect.
   - [x] 1.6
   Yes, the answer is incorrect.
   - [x] 1.8
   Yes, the answer is incorrect.
   - [x] 2.4
   Yes, the answer is incorrect.

8. What is the in-place permeability coefficient of the geotechnical?
   - [x] 0.06 cm/s
   - [ ] 0.03 cm/s
   - [x] 0.04 cm/s
   - [x] 0.02 cm/s
   Yes, the answer is incorrect.
   - [x] 0.06 cm/s
   Yes, the answer is incorrect.
   - [x] 0.03 cm/s
   Yes, the answer is incorrect.
   - [x] 0.04 cm/s
   Yes, the answer is incorrect.
   - [x] 0.02 cm/s
   Yes, the answer is incorrect.

9. What is the permeability velocity of the geotechnical?
   - [x] 2.15 x 10^-6 m/s
   - [x] 3.6 x 10^-6 m/s
   - [x] 2.6 x 10^-6 m/s
   - [x] 3.3 x 10^-6 m/s
   Yes, the answer is incorrect.
   - [x] 2.15 x 10^-6 m/s
   Yes, the answer is incorrect.
   - [x] 3.6 x 10^-6 m/s
   Yes, the answer is incorrect.
   - [x] 2.6 x 10^-6 m/s
   Yes, the answer is incorrect.
   - [x] 3.3 x 10^-6 m/s
   Yes, the answer is incorrect.

10. The grain size distribution of a gravel soils has shown that D10 = 2.5 mm, D50 = 6.0 mm, and D90 = 16.0 mm, suggest the apparent opening size (D50) of a geotechnical used as a filter layer.
   - [x] D10 = 2.5 mm
   - [x] D50 = 6.0 mm
   - [x] D90 = 16.0 mm
   - [ ] D50 = 0.1 mm
   Yes, the answer is incorrect.