Unit 12 - Week 10

Assignment 10

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

Due on 2020-04-08, 23:59 IST.

1) Choose the factors that decide the choice of a geotextile for drainage applications. *1 point*

- [ ] Thickness
- [ ] Cross-plane permeability property
- [ ] In-plane permeability property
- [ ] In-plane tensile strength

No, the answer is incorrect.
Score: 0
Accepted Answers:
Thickness
In-plane permeability property

2) Most suitable geosynthetics for drainage application are, *1 point*

- [ ] Geogrid
- [ ] Woven geotextile
- [ ] Nonwoven geotextile
- [ ] Geonet

No, the answer is incorrect.
Score: 0
Accepted Answers:
Nonwoven geotextile
Geonet

3) What are the typical applications of geosynthetic drains? *1 point*

- [ ] Edge drains of pavements
- [ ] Drainage behind retaining wall
- [ ] Leachate collection in landfills
- [ ] Reinforcement to improve the strength.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Edge drains of pavements
Drainage behind retaining wall
Leachate collection in landfills

4) In terms of piping, which of the following soils is an unstable soil? *1 point*

- ( ) Well graded soils
- ( ) Uniformly graded soils
- ( ) Gap graded soils
- ( ) Soil with high plasticity index

No, the answer is incorrect.
Score: 0
Accepted Answers:
Gap graded soils

5) Choose the factors that govern the choice of a geotextile for filter applications. *1 point*

- [ ] Thickness
- [ ] Apparent opening size
- [ ] Grain size distribution of the soil to be protected
- [ ] In-plane permeability rate

No, the answer is incorrect.
Score: 0
Accepted Answers:
Apparent opening size
Grain size distribution of the soil to be protected

6) What are the functions of a filter layer? *1 point*

- ( ) Allow free flow of water
- ( ) Prevent clogging
- ( ) Avoid piping
- ( ) All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
All of the above

The data for questions 7-9 is given below. Answer these questions using the same data. The thickness of a nonwoven geotextile is 5 mm. 3.0 litres of water was collected in 60 seconds during an in-plane permeability test. The width and length of sample are 300 mm. The head difference in water levels was 150 mm.

7) What is the hydraulic gradient? *1 point*

- ( ) 1.0
- ( ) 0.5
- ( ) 0.75
- ( ) 2.5

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.5

8) What is the in plane permeability coefficient of the geotextile? *1 point*

- ( ) 0.066 m/s
- ( ) 0.055 m/s
- ( ) 0.037 m/s
- ( ) 0.66 m/s

No, the answer is incorrect.
Score: 0
Accepted Answers:
0.066 m/s

9) What is the transmissivity coefficient of the geotextile? *1 point*

- ( ) $1.38 \times 10^{-4} m^2/s$
- ( ) $3.30 \times 10^{-4} m^2/s$
- ( ) $3.30 \times 10^{-3} m^2/s$
- ( ) $2.75 \times 10^{-3} m^2/s$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$3.30 \times 10^{-4} m^2/s$

10) The grain size distribution of a granular soil has shown that $D_{85} = 2.6mm$ and $D_{15} = 0.1mm$. Suggest the apparent opening size (O_{90}) of a geotextile for use as a filter layer. *1 point*

- ( ) $O_{90} = 0.04mm$
- ( ) $O_{90} = 1.2mm$
- ( ) $O_{90} = 2.7mm$
- ( ) $O_{90} = 0.1mm$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$O_{90} = 1.2mm$