X

NPTEL

reviewer4@nptel.iitm.ac.in ▾

Courses » **Soil Mechanics/Geotechnical Engineering I**

Announcements   **Course**   Ask a Question   Progress   FAQ

Unit 14 - Week 12

Register for Certification exam

Course outline

How to access the portal

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

● Lecture 56 : Stability of Slopes (Contd.)

● Lecture 57 : Stability of Slopes (Contd.)

Assignment 12

The due date for submitting this assignment has passed.   **Due on 2019-04-24, 23:59 IST**
As per our records you have not submitted this assignment.

1)   *1 point*

If the available shearing resistance and the mobilized shearing resistance of any slope section are denoted by τ_f and τ respectively, the factor of safety of the slope is

(a) $\dfrac{\tau_f}{\tau}$ (b) $\dfrac{\tau}{\tau_f}$ (c) $\dfrac{2\tau_f}{\tau}$ (d) $\sqrt{\dfrac{\tau_f}{\tau}}$

○ a

○ b

○ c

○ d

No, the answer is incorrect.
Score: 0

Accepted Answers:
a

2)   *1 point*

A slope of infinite extent is made up of dense sand layer. Slope is inclined to the horizontal axis at an angle of 30º. Determine the factor of safety of the slope against shear failure if the angle of internal friction of the soil is 35º.

(a) 1.15   (b) 1.21   (c) 1.25   (d) 1.35

○ a

○ b

○ c

○ d

No, the answer is incorrect.

A project of

NPTEL National Programme on Technology Enhanced Learning

In association with

NASSCOM®

Funded by

For the trial slip circle shown in the figure with W = 380.0 kN, unit weight of soil (γ) 18.8 kN/m³, $\phi = 0°$ and c = 27.0 kN/m². The value of restoring moment (in kN-m) for the slope shown in the figure is
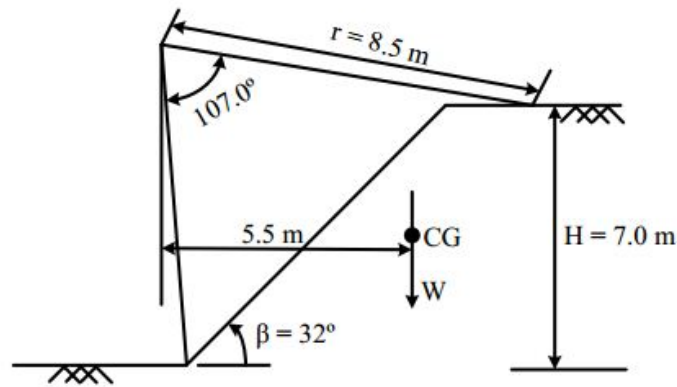
(a)   1245.1   (b)   2457.4   (c)   3643.0   (d)   4478.9

○ a

○ b

○ c

○ d

No, the answer is incorrect.
Score: 0

Accepted Answers:
c

4)   **1 point**

The value of sliding moment (in kN-m) for the slope shown in the Question No. 3 is

(a)   4157.5   (b)   3778.4   (c)   3145.1   (d)   2090.0

○ a

○ b

○ c

○ d

No, the answer is incorrect.
Score: 0

Accepted Answers:
d

5)   **1 point**

The factor of safety against sliding failure of the slope section shown in Question No. 3

(a)   1.74   (b)   1.55   (c)   1.25   (d)   1.05

○ a

○ b

○ c

○ d

No, the answer is incorrect.
Score: 0

Accepted Answers:

a

6)   *1 point*

A slope of 1V:2H is to be made in a silty clay having an angle of internal friction of 10 and a cohesion of 30.0 kN/m². The unit weight of soil is 18.0 kN/m³ and depth of cut i 7.0 m. The value of net normal and tangential force is 2741 kN and 914 kN, respectively Angle between starting point, origin and exit point of the assumed slip surface is 109 Lever arm distance between origin and exit point of the slip surface is provided as 12. m. The factor of safety of the slope by the Swedish circle method is

(a)   1.25   (b)   1.32   (c)   1.44   (d)   1.56

    ○ a

    ○ b

    ○ c

    ○ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

b

7)   *1 point*

If an infinite slope of clay at a depth of 6.0 m has mobilized cohesion of 20.0 kN/m² a unit weight of 18.0 kN/m³. The stability number is

(a)   0.05

(b)   0.10

(c)   0.15

(d)   0.19

    ○ a

    ○ b

    ○ c

    ○ d

No, the answer is incorrect.

Score: 0

Accepted Answers:

d

Previous Page   End

Tuesday 11 June 2019 05:19 PM