

NPTEL » Foundation Engineering

Announcements

About the Course

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Progress

Mentor

1 point

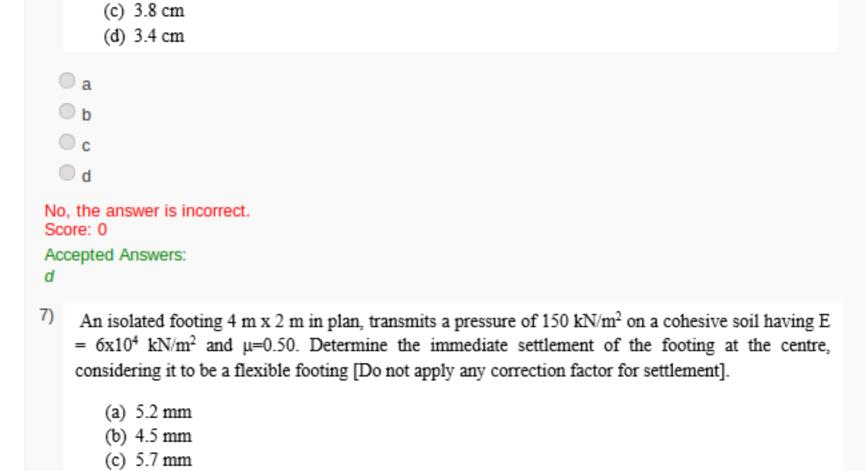
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Unit 6 - Week 4: Course outline Assignment 4 How to access the Due on 2019-08-28, 23:59 IST. The due date for submitting this assignment has passed. portal As per our records you have not submitted this assignment. Week 0 : Assignment 1) A strip footing of width 3 m is founded at a depth of 2 m below the ground surface having a cohesion 1 point c= 30 kN/m² and the angle of shearing resistance ϕ = 38°. The water table is at a depth of 5 m below the ground level. The unit weight of soil above the water table is 17.25 kN/m3. Determine the net safe Week 1 bearing pressure for a factor of safety of 3. [Use Terzaghi's Theory] Week 2 (a) 2456kN/m² (b) 3447kN/m² Week 3 (c) 2877 kN/m² (d) 2211 kN/m² Week 4: \bigcirc a Lecture 16 : Shallow b Foundation -Settlement I c d Lecture 17 : Shallow Foundation -No, the answer is incorrect. Settlement II Score: 0 Accepted Answers: Lecture 18 : Shallow Foundation -Settlement III 2) The immediate settlement can be computed from the expression, based on 1 point Lecture 19 : Shallow (a) Theory of plasticity Foundation -(b) Theory of elasticity Settlement IV (c) Terzaghi's analysis Lecture 20 : Shallow (d) Pressure distribution Foundation -Settlement V (a (b Lecture Material c Quiz : Assignment 4 \bigcirc d Feedback for Week 4 No, the answer is incorrect. Week 5 Score: 0 Accepted Answers: Week 6 As per IS code, the allowable settlement for sand is limited to 1 point Week 7 (a) 50 mm for isolated footing and 75 mm for raft Week 8 (b) 50 mm for isolated footing and 50 mm for raft (c) 75 mm for isolated footing and 50 mm for raft Week 9 (d) 50 mm for isolated footing and 25 mm for raft \bigcirc a Week 10 b Week 11 c d Week 12 No, the answer is incorrect. Score: 0 **Download Videos** Accepted Answers: а Assignment Solution 4) If the angular distortion of 1/300 is allowed between columns 7.5 m apart, what is the corresponding 1 point value of differential settlement? (a) 34 mm (b) 21 mm (c) 25 mm (d) 15 mm a b 0 c No. the answer is incorrect. Score: 0 Accepted Answers: 1 point A 4 m thick layer of a fill material ($\gamma_{bulk} = 20 \text{ kN/m}^3$) is to be laid instantaneously on the top surface of a 10 m thick clay layer. If the coefficient of volume compressibility (mv) and ysat for clay are 3.2 x 10⁻⁴ m²/kN and 18 kN/m³, the consolidation settlement of the clay layer due to placing of fill material will be [Do not apply any correction factor for settlement]. (a) 256 mm (b) 320 mm (c) 276 mm (d) 226 mm \bigcirc a b c



What is the immediate settlement of a concrete isolated footing 1.5 x1.5 m in size founded at a depth of 1 m in silty soil whose modulus of elasticity is 90 kg/cm²? The footing is expected to transmit a unit pressure of 200 kN/m². Take μ =0.3 [Do not apply any correction factor for settlement]. Assume g

No, the answer is incorrect.

Accepted Answers:

 $= 10 \text{ m/sec}^2$

(a) 2.3 cm (b) 2.1 cm

(d) 11.4 mm

No, the answer is incorrect.

Accepted Answers:

 \bigcirc a

b

c

d

Score: 0

b

○ c

(d

Score: 0

(b

Score: 0

b

(c

(d

Score: 0

Accepted Answers:

Score: 0

A 300 mm square bearing plate settles by 21 mm in a plate load test on a cohesive soil when the intensity of loading is 0.2 N/ mm². The settlement of a prototype shallow footing 1m square (1m x 1m) under the same intensity of loading (considering both plate and footing are placed at same depth) is (a) 15 mm (b) 70 mm (c) 50 mm (d) 167 mm \bigcirc a

No, the answer is incorrect. Accepted Answers:

(d) All of the mentioned \circ a

9) For cohesive soil, _____ settlement is the major settlement

- (c (d
- No, the answer is incorrect.
- 10) Permissible settlement is relatively higher for

(a) Isolated footing on clays

(b) Isolated footing on sands

(a) Immediate settlement

(c) Secondary settlement

(b) Primary consolidation settlement

(d) Rafts on sands \circ a

(c) Rafts on clays

Accepted Answers:

No, the answer is incorrect.