Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

- Lecture 21 : Design Steps
- Lecture 22 : Design Parameters and Procedure
- Lecture 23 : Application Problem and Quality Control
- Lecture 24 : Deep Replacement
- Lecture 25 : Deep Replacement (Contd.)
- Lecture Materials
- Quiz: Week 5 : Assignment 5
- Feedback Form of Week 5

Week 6

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Assignments Solution

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Week 5 : Assignment 5

The due date for submitting this assignment has passed.

Due on 2021-09-01, 23:59 IST.

As per our records you have not submitted this assignment.

1) The equipment used for vibro-compaction includes: *1 point*

(a) crane

(b) hydraulic vibrator

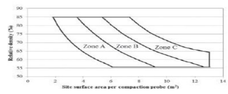
(c) air compressor

(d) All of the above

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

2) In tributary area of compaction point versus relative density of soil curve given below, the zone represents 'Well graded clean sand' is: *1 point*



(a) Zone A

(b) Zone B

(c) Zone C

(d) All of the above

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

3) For vibro-compaction, performance criteria for geometrical, $D_r \geq 60\%$ should be considered at: *1 point*

(a) Floor slabs

(b) Column footing

(c) Mat foundation

(d) bridge foundation

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

4) Referring the figure below and assuming Ae as the influence area of each compaction probe and e_0 and e_1 as initial and after compaction void ratio, respectively, the correct expression for volume changes with backfill is: *1 point*

(a) $V_S = V_0\,(1+e_0)$

(b) $V_F = V_S\,(e_0 - e_1)$

(c) $V_1 = V_S\,(e_0 - e_1)$

(d) $V_1 = V_S\,(1+e_0)$

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(b)

5) The equivalent radius of circle for a square pattern system of vibro-compaction is: *1 point*

(a) 0.564s

(b) 0.525s

(c) 0.865s

(d) 0.423s

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(a)

6) Data for question no. 6 & 7 *1 point*

A 5m-thick loose sand exists on a site that has a fine content of around 10% with nominal clay particles. The minimum and maximum void ratios of this sand are 0.485 and 0.915, respectively. This sand has an initial void ratio of 0.673. The design requires the sand to be densified to a target relative density of 75%.

The void ratio corresponds to 75% relative density is:

(a) 0.475 (b) 0.632 (c) 0.704 (d) 0.592

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

7) The average ground subsidence after vibro-compaction without backfill is: *1 point*

(a) 0.289m (b) 0.346m (c) 0.428m (d) 0.242m

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

8) Displacement method of Deep replacement is suitable for: *1 point*

(a) cohesive soil

(b) cohesion less soil

(c) Both a & b

(d) None of the above

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)

9) For displacement techniques the incorrect method from the following is: *1 point*

(a) vibro-casing

(b) dynamic replacement

(c) vibro-probe

(d) vibro-displacement

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(d)

10) Dynamic replacement technology is suitable for the improvement of_____. *1 point*

(a) saturated cohesive soil

(b) soft organic soil

(c) Both a & b

(d) None of the above

(a)
(b)
(c)
(d)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(c)