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Question Paper Code: 49110

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Civil Engineering

14UCE910 – GROUND IMPROVEMENT TECHNIQUE

(Regulation 2014)

Duration: 1:15hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The minimum bearing capacity of a soil under a given footing occurs when the groundwater table is located at
 - (a) the base of the footing
 - (b) the ground level
 - (c) a depth equal to one one-half the width of footing
 - (d) a depth equal to the width of the footing
2. _____ are soils that expand when water is added, and shrink when they dry out.
 - (a) Liquefiable soils
 - (b) Marshy and soft soils
 - (c) Collapsible soils
 - (d) Karst deposits
3. Removal of large quantities of water for dam abutments, cutoffs, landslides etc are called as
 - (a) Sump pumping
 - (b) Electro-osmosis
 - (c) Drainage galleries
 - (d) Gravity drainage
4. Permeability values of pervious stratum for very fine sand.....
 - (a) 1-50
 - (b) 50-100
 - (c) 1501-3000
 - (d) 1001-1500

5. _____ increases both the moist and submerged unit weights of the soil and improves the angle of internal friction
- (a) Vibro-flotation (b) Vibro-compaction
(c) Dynamic consolidation (d) Densification
6. Coarse grained soils are best compacted by a
- (a) Sand Drain (b) rubber tyred roller (c) sheep's foot roller (d) vibratory roller
- 7..... methods of in-situ densification..
- (a) rapid impact compaction (b) hand compaction
(c) Electro – osmosis. (d) vibro-flotation
- 8._____ are more or less rigid bars driven into soil or pushed into boreholes which are filled with grout
- (a) Geotextiles (b) Geogrids (c) Soil nails (d) Geomats
9. is an types of vertical drains used in ground improvement..
- (a) Sand Wicks (b) Soil compaction
(c) Soil nailing (d) None of these
10.soil stabilization method is the application of electro-osmosis to draw stabilizing chemicals through soil.
- (a) Blanket drains (b) Electro-kinetic
(c) both a&b (d) None of these

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. How will you select the suitable ground improvement technique based on soil conditions. (8)
12. Explain the properties and application of flownet. (8)
13. Explain in detail the method of dynamic compaction of cohesionless and dynamic consolidation of cohesive soil. (8)
14. Explain in detail about the application of geotextiles as seponation with the help of neat sketches. (8)
15. Write the case study of stabilization of expansive soil. (8)