Assignment 8

The test on the pile is (A) to verify vertical load (B) To ascertain uplift load (C) To resist horizontal or inclined load (D) All of the above

The pile which transfers the majority of load to the pile tip is called (A) Friction pile (B) End bearing pile (C) Balanced end bearing and friction pile (D) None of the above

The value of bearing capacity factor below the limit, $N_c$, for the angle pile is generally taken (A) 4.2 (B) 0.8 (C) 5.14 (D) 5.17

A 48.00 mm diameter friction pile is subjected to 15.00 kN into a homogeneous, consolidated deposit of clay bearing capacity of 2.0 kN/m². The load is taken as a fraction of initial bearing capacity of 0.3. Calculate the vertical load (A) 4.5 kN (B) 6.3 kN (C) 7.1 kN (D) 8.4 kN

A 12.00 m long, 150 mm diameter friction pile is driven to a stratum of sand at 75 kN/m². The water table is at a depth of 75 m. The initial bearing capacity is 0.4. Calculate the vertical load (A) 90 kN (B) 180 kN (C) 270 kN (D) 360 kN

In the problem 1, if the water table persists at 10 m below the ground surface, determine the ultimate load capacity of the pile (A) 75 kN (B) 150 kN (C) 225 kN (D) 300 kN

The ultimate load carrying capacity of a 100.00 mm long concrete pile of square cross section of 9.00 sq cm is 150 kN. If there are 4 layers of concrete (less than 6% of the pile) and 2 layers of rebars, calculate the vertical load (A) 120 kN (B) 180 kN (C) 240 kN (D) 300 kN

A concrete pile of 60.00 mm diameter is driven through a layer of fractured clays with the length of 15.00 m. The following details are available. The water table is close to the ground surface.

Layer 1: Soft clay, thickness 6 m, $c=100$ kN/m², $\phi=0$ Layer 2: Medium stiff, thickness 4 m, $c=90$ kN/m², $\phi=65$ Layer 3: Stiff clay extends to ground surface, $c=100$ kN/m², $\phi=3.5$

The ultimate load $L_e$ (A) 622.19 kN (B) 684.54 kN (C) 560.64 kN (D) 1350.07 kN

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For the above operation 6, the ultimate load $L_e$ (A) 580.00 kN (B) 580.00 kN (C) 180.22 kN (D) 174.55 kN

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A present concrete pile of size 400 mm is driven into a clay. The residual compressive strength of the clay is 120 kN/m². The length of the pile exposed to carry a static working load of 500 kN with 4.2 m. The pile is (A) 11.40 m (B) 10.40 m (C) 13.64 m (D) 8.756 m

The ultimate load $L_e$ (A) 580.00 kN (B) 580.00 kN (C) 180.22 kN (D) 174.55 kN