Soil Dynamics

Mid-Term Exam

1. A 10cm-diameter pole with a 10m length is guided so that it floats vertically in water.   The specific gravity of the pole is 0.9. Find the pole's natural frequency.

2. Re-do the Example 7.3(Prakash) with the vertical load and n_h replaced by 90.0t and 1.521 kg/cm^3, respectively(Pile head 100% restrained)

3. Calculated the factor of safety of the retaining wall for overturning under the seismic loading described below. (Utilize Culmann's method)

4m

8m

γ_t = 1.8 t/m^3 (soil)
Φ_{soil}=30°
δ=20°
α_h = 0.1
α_v = 0
$\gamma_{concrete}$ =2.73 t/m^3