TE-CIVIL- SEM-VI / GTE-II

11/12/2014

RT–Exam.–2nd Half–14–1–13

QP Code : 15180

(3 Hours) **[Total Marks : 100**

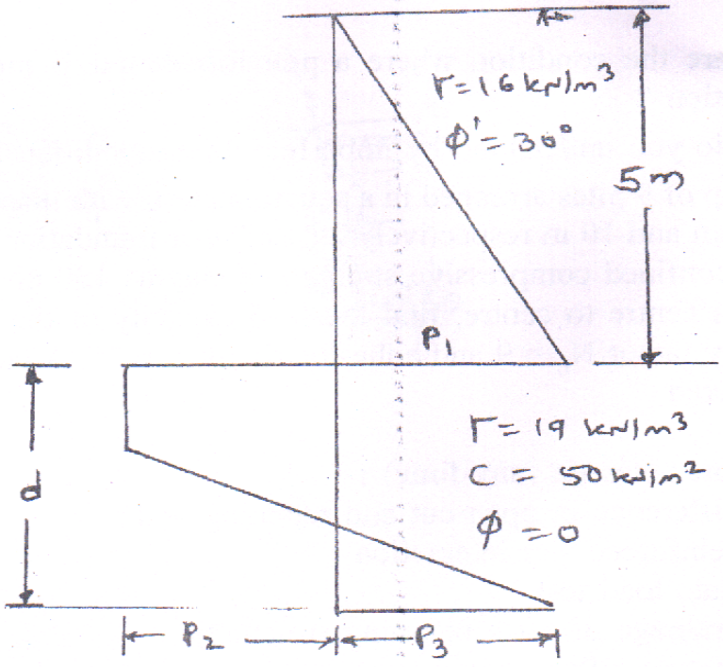
correction → Q.6 b (5M)

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** out of remaining **six** questions.
(3) Assume **suitable** data wherever **necessary**.
(4) Diagrams to the **right** indicate **full** marks.

1. Attempt any **four** :– **20**
   (a) Differentiate between Rankine's and Coulomb's earth pressure theories.
   (b) Discuss the procedure for checking the stability of a cantilever sheet pile wall.
   (c) Discuss the effect of water table on the bearing capacity of the soil.
   (d) What is negative skin friction ? What is its effect on the pile ?
   (e) Define planes of equal settlement and settlement ratio. How is it determined ?

2. (a) Discuss the friction circle method for the stability analysis of slopes. Can this method be used for purely cohesive soil ? **5**
   (b) What is a Stability No. ? What is its utility in the analysis of stability of slopes ? **5**
   (c) A retaining wall 6m high retains δ and with $\phi = 30°$ and unit weight 24 kN/m^3 upto a depth of 3 m from top. From 3 m to 6 m, the material is a cohesive soil with C = 20 kN/m^2 and $\phi = 20°$. Unit weight of cohesive soil is 18 kN/m^2. A uniform surcharge of 100 kN/m^2 acts on the top of soil. Determine the total lateral pressure acting on the wall and its point of application. **10**

3. (a) Discuss Culmann's method for the determination of active earth pressure. **10**
   (b) Determine the depth of embedment for the cantilever sheet pile shown in **figure** – **10**



LM Con. 11088–14.

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