

ACH 2101 : SOIL PHYSICAL PROPERTIES (3:30/30) - Repeat

Answer all questions

Time : 2 Hours

---

1. (a) Write the Stoke's law and its assumptions.  
(b) A particle having the diameter of  $6\mu\text{m}$  falling in a liquid having the density of  $1\text{g/cm}^3$  and viscosity of 0.01 poise. Assume the particle density is  $2.65\text{g/cm}^3$  and the gravitational acceleration is  $980\text{ cm/s}^2$ . Calculate the followings:
  - (i) Settling velocity of the particle.
  - (ii) Time taken to travel a distance of 10cm in the liquid.
  
2. (a) Discuss the factors affecting the porosity of a soil.  
(b) Briefly explain the significance of soil colour in relation to the productivity of soil.
  
3. (a) Explain the "Atterburg's limits" and their significance in soil physical fertility.  
(b) Discuss the soil consistencies in wet and dry conditions.
  
4. Discuss the role of soil physical properties in maintaining the fertility of soils.

\*\*\*\*\*