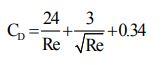
**CE 213-A**

**ASSIGNMENT- 6 (Water Pollution – Treatment processes)**

**Q1.** If a ground water contains H2S at concentration of 2 mg/L, determine the concentration of H2S in head space of a closed tank containing the ground water at 20oC. Given that for H2S, Henry’s constant (H) is equal to 5.15×102 atm at 20oC.

**Q2.** Determine the settling velocity of a spherical particle with diameter of 200 micron and a specific gravity of 2.3 in water at 25degC? Comment on settling behaviour of this type of particles.

**Q3.**  A sand particle has an average diameter of 1 mm and a shape factor of 0.90 and a specific gravity of 2.1, determine the terminal velocity of the particle settling in water at 20oC (kinematic viscosity of water=1.003×10-6 m2 /s and specific gravity=1). Drag coefficient can be computed using the following equation:



**Q4.** The chlorine consumption in the treatment of 10000 m3/d of a river water is 6kg/d. the residual chlorine after 30 minutes contact is 0.40 mg/L. Calculate the chlorine dosage in mg/l and the chlorine demand of river water.

**Q5**. A surface water flow 25000 m3/d is coagulated by adding 50 mg/l of ferrous

sulphate and an equivalent dose of lime. How much lime is required at a purity of 85 % CaO.

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