SESSIONAL (UEN002)

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Q.2. Given: V_s = settled sludge vol. (ml/L) = 176 ml

X_t = suspended solids conc. (mg/L) = 2000 mg/l

SVI = ? , SDI = ? , SS = ?

$$SVI = \frac{V_s \left(\frac{ml}{l}\right)}{X_t \left(\frac{mg}{l}\right)} \times 1000 \text{ mg/g}$$

$$= \frac{176}{2000} \times 1000$$

$$= 88 \text{ ml/g.}$$

$$SDI = \frac{100}{SVI} = \frac{100}{88} = 1.136 \text{ g/ml.}$$

$$\text{SS in recirculated sludge} = \frac{10^6}{SVI} = \frac{10^6}{88} = 11,363.6 \text{ g/ml}$$