

- 1 Locate a sample of a soil from the field. Perform the sieve analysis of soil distribution. Fill out the form below and determine:

- $d_{90}, d_{65}, d_{50}, d_g, \sigma_g$.
- The fall velocity.

Class No.	Class Range (mm)	d_i (mm)	i_b

- 2 Use an alternative method (not explained in the class), the data in problem #1, and the following data for a rectangular channel, determine the velocity of the flow at incipient motion (V_c). Compare the result with the one obtained by Yang method.

$$Q = 10 \text{ m}^3/\text{s} ; B = 12 \text{ m} ; S = 0.0001$$

- 3 Given the following data for a trapezoidal channel with a rigid boundary,

$$Q = 40 \text{ m}^3/\text{s} ; S_0 = 0.0002 ; B = 50 \text{ m}$$
$$v = 10^{-6} \text{ m}^2/\text{s} ; m_s = 2$$

and the result of the sieve analysis in problem #1, obtain the stage-discharge relationship, using any desired method.