

By- Rajat Sir

USE CODE Y293 FOR MAX. DISCOUNT

Adda247

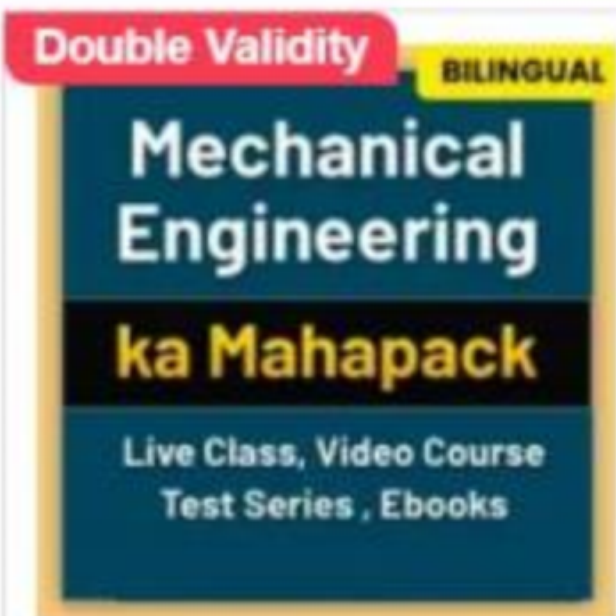
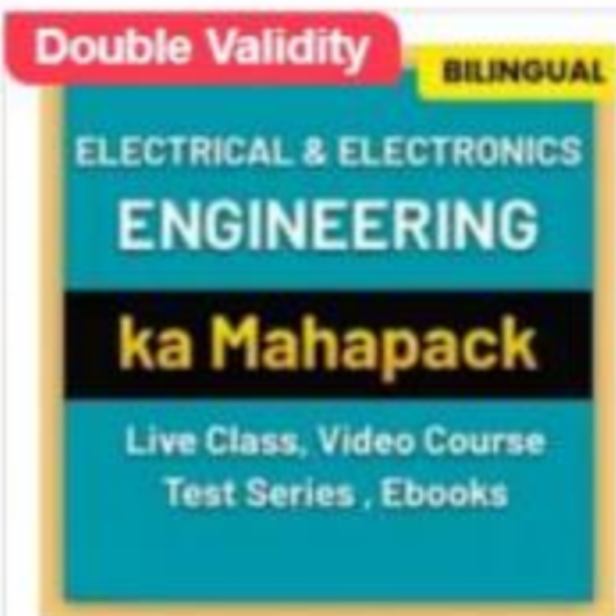
SOIL

Lec-07

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USE CODE Y293 FOR MAX. DISCOUNT

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For Max Discount, Use Y293

Gf6
2+12
3180/-

2pm

12pm

structure

2pm

ADD A247
Y293

ADDA247
AE4JE
Y293
+
Coins

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water displacement method

SOIL
LEC-08

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Submerged mass density method

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Sand replacement method

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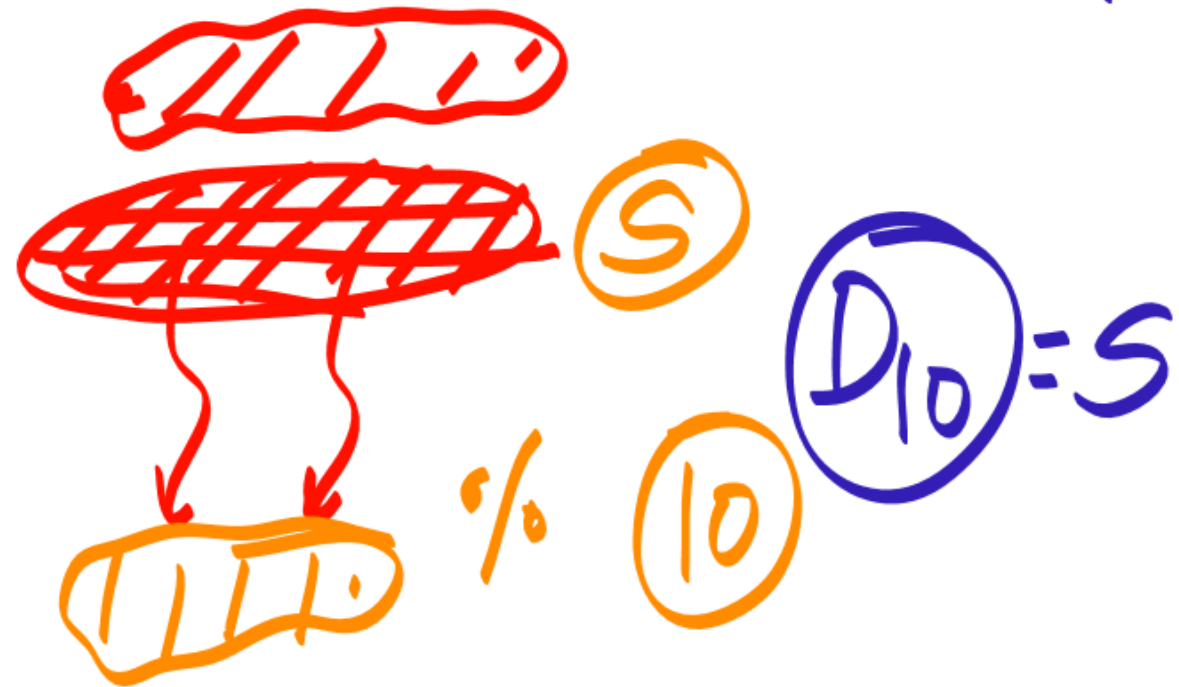
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C_u uniformity coeff.

$$C_u = \frac{D_{60}}{D_{10}} \checkmark$$

C_c Curvature coeff.



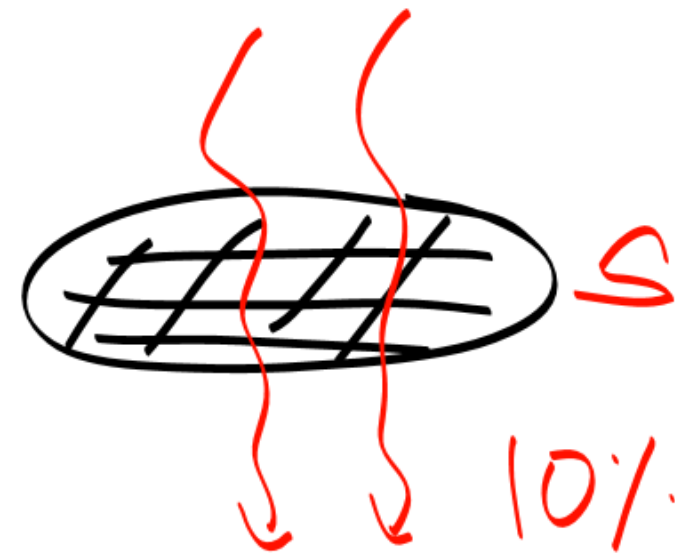
$$C_c = \frac{D_{30}^2}{D_{60} \times D_{10}} \checkmark$$

D_{10} = Effective Size

$$C_u = \frac{D_{60}}{D_{10}}$$

$C_u \approx 1$

uniformly graded soil.



$$D_{60} = D_{10}$$

$$D_{10} = S$$

$$S = D_{60}$$

$$C_u > 6$$

Well grad. (Sand)

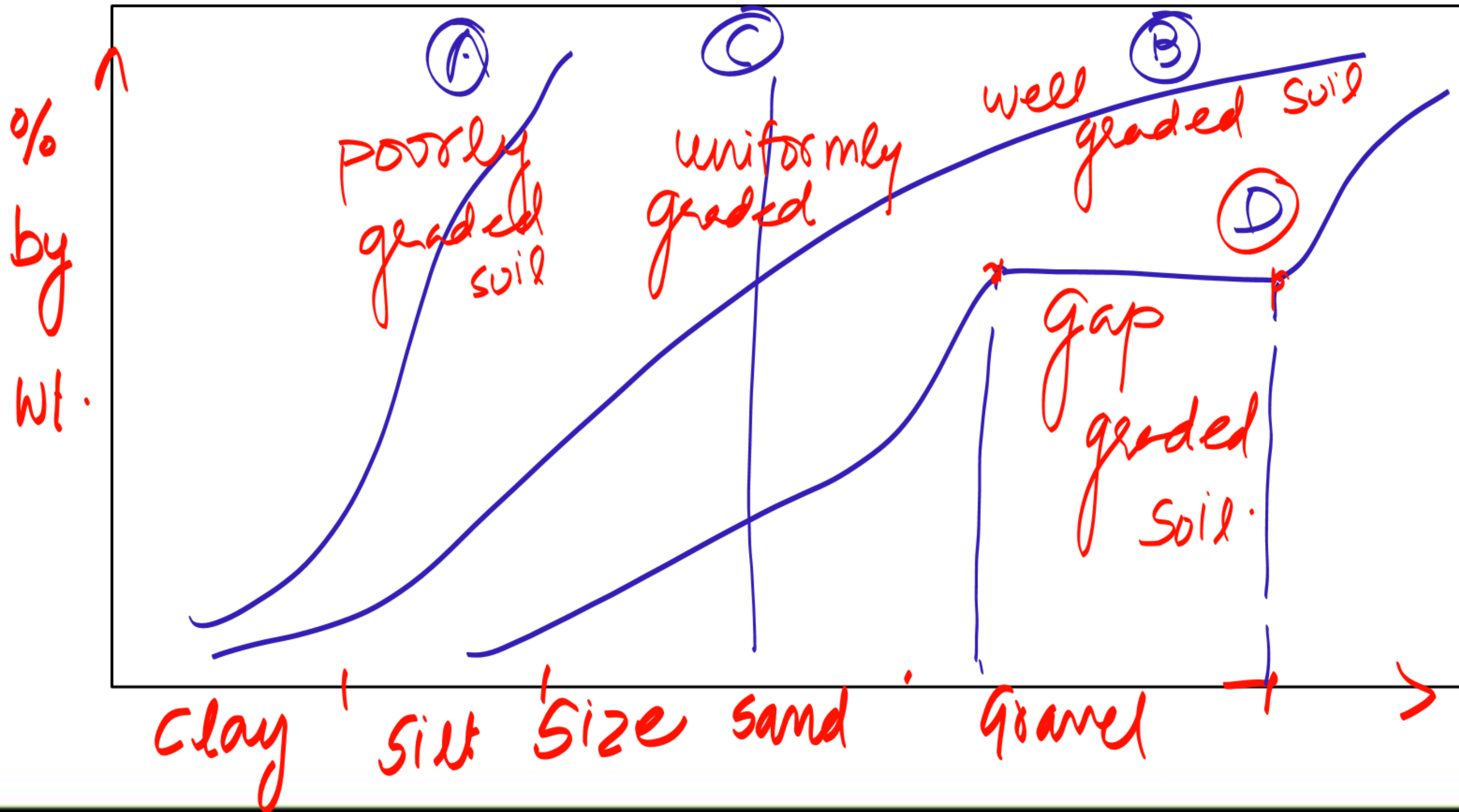
$$C_u > 4$$

Well graded gravel

$C_u > 4$
 $C_u > 6$ } C_c
Well graded soil

$$1 \leq C_c \leq 3$$

$$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}}$$



Consistency of soil

Atterburg
H stage

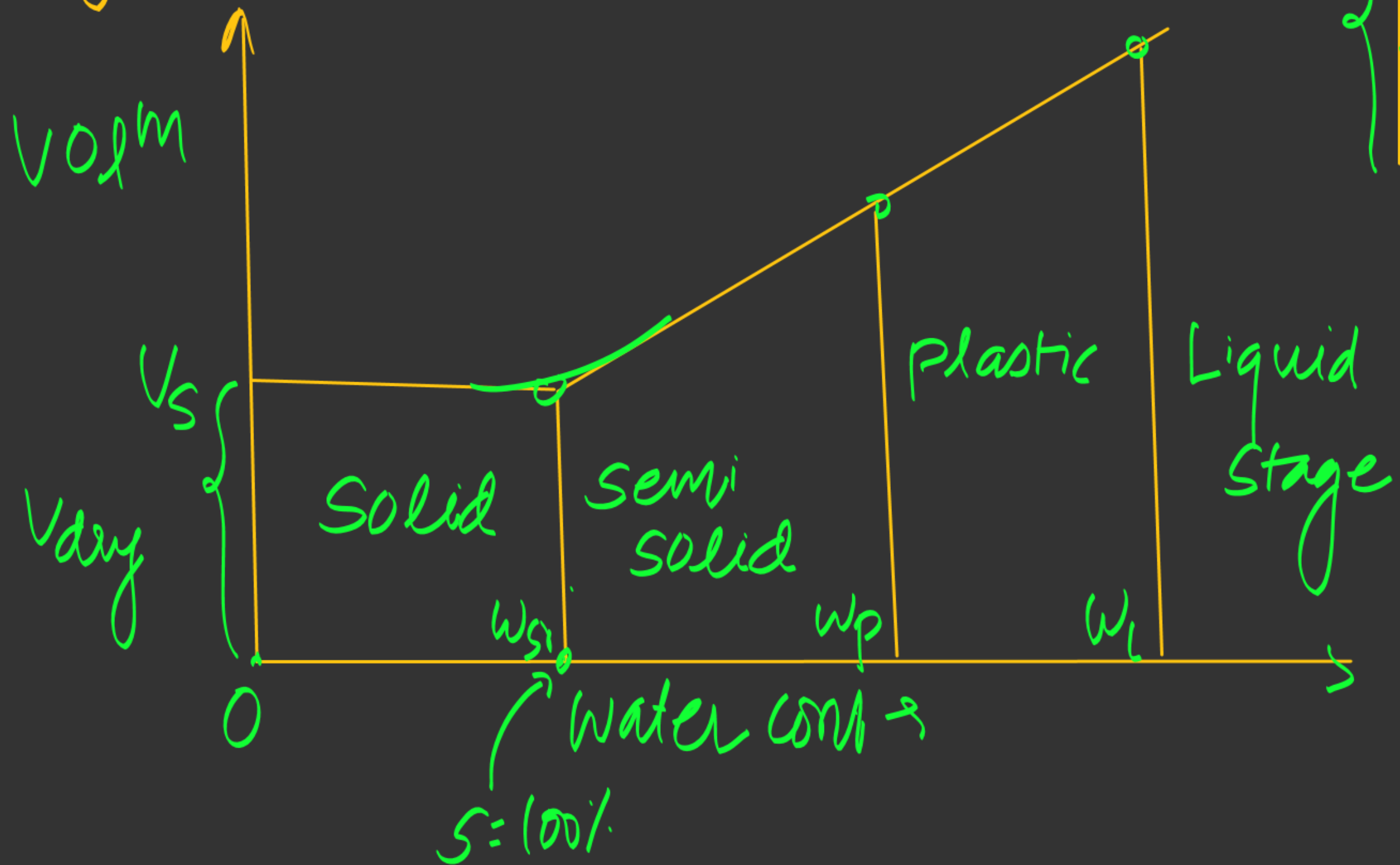


water

w'

- 1) Solid stage
- 2) Semi solid
- 3) plastic stage
- 4) liquid stage

Consistency curve

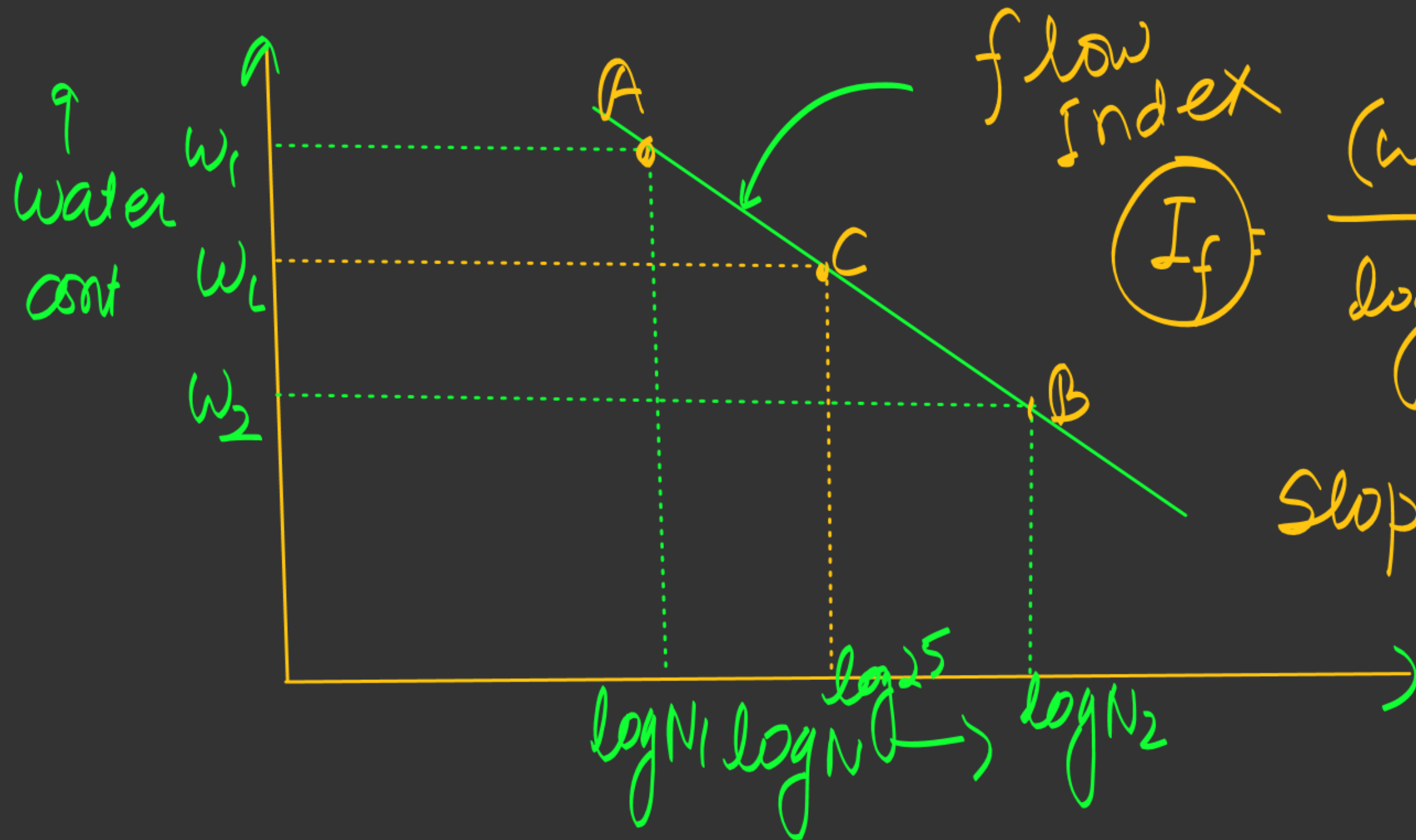


Determination of liquid limit

- 1) A. Casagrande method. ✓ obj
- 2) One point method.
- 3) Static cone penetration method.

	Casagrande	ASTM
Base width	2mm	2mm
Top width	11mm	13.5mm
height	8mm	10mm

Flow curve



$$\frac{(w_1 - w_2)}{\log N_2 - \log N_1} = \frac{(w_1 - w_2)}{\log\left(\frac{N_2}{N_1}\right)}$$

Slope of AB = slope of AC

$$\frac{\omega_1 - \omega_2}{\log\left(\frac{N_2}{N_1}\right)} = \frac{\omega_1 - \omega_L}{\log\left(\frac{25}{N_1}\right)}$$

$$N_1 = ?$$

$$\omega_L = ?$$

$$N_2 = ?$$

$$\omega_1 = ?$$

$$\omega_2 = ?$$