GATE 2023 Civil Engineering Part 2 Question Paper PDF (Memory Based)

Question. Find Q_{ap} (allowable load)

$D = 0.6\,m$
$L = 8\,m$
$\gamma = 19\,kN/m^3$
$\phi = 0°$
$C = 25\,kPa$
$f_{OS} = 3$
$\alpha = 1$
$N_c = 9$
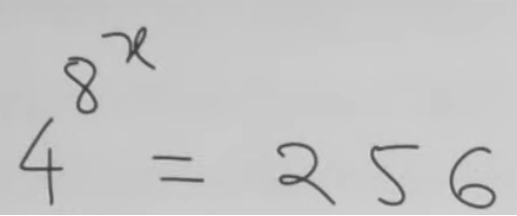
Answer. Q_{ap} = 146.87 kN

Question. Match the following

Column I	Column II
P	(I) precipitation
Q	(II) Flood frequency
R	(III) Evapo transpiration
	(IV) infiltration
	(V) Channel Routing

Answer. P - IV, Q - V, R - III

Question. Find x

$$\frac{8^x}{4} = 256$$

Answer. 0.5

Question. Which of the following is/are not active disinfectants?
 A. Cl^-
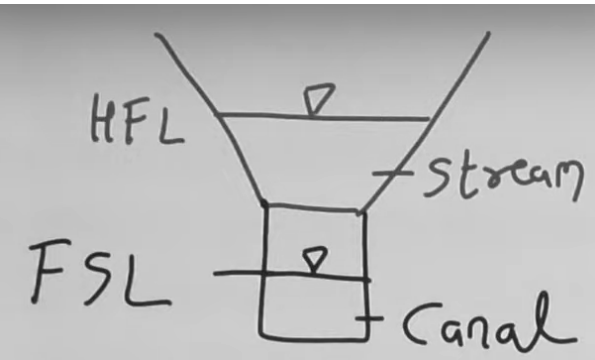 B. O_3
 C. OCl^-
 D. OH

Answer. D

Question. Kind :___:: often : seldom
 A. Cruel
 B. Kindness
 C. Variety
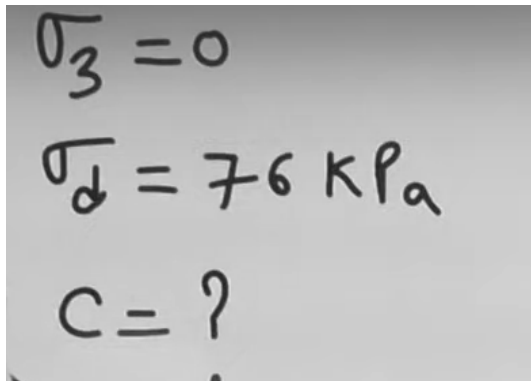 D. Type

Answer. A

Question.

 A. Level crossing
 B. Siphon Aqueduct
 C. Aqueduct
 D. Super Passage

Answer. D

Question.

$$\sigma_3 = 0$$
$$\sigma_d = 76 \text{ KPa}$$
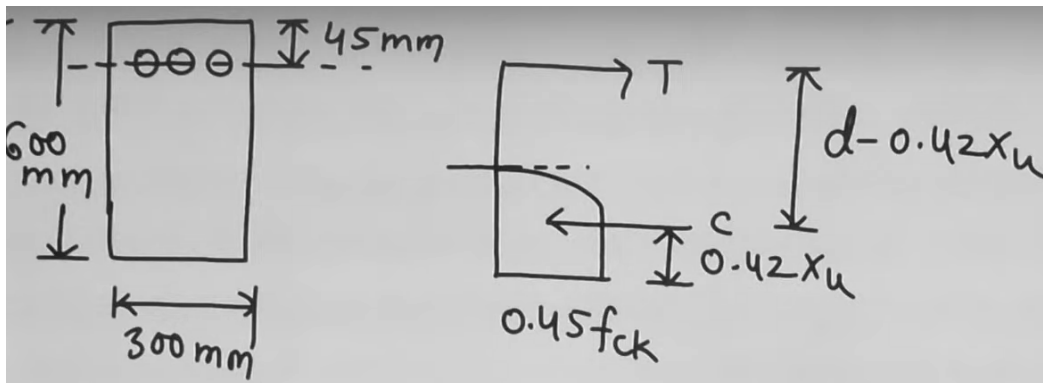$$C = ?$$

Answer. 38 kPa

Question. SSD equals to:
   A. Brake distance
   B. Brake distance + distance travelled during reaction time
   C. Brake distance - distance travelled during reaction time
   D. distance during reaction time

Answer. B

Question. Find the ultimate moment capacity?

Answer. 300.95 KN - m

Question. $\frac{d^3y}{dx^3} - 5.5 \frac{d^2y}{dx^2} + 9.5 \frac{dy}{dx} - 5 = 0$

Sol: $c_1 e^{m_1 x} + c_2 e^{m_2 x} + c_3 e^{m_3 x}$, $m_3 = 2.5$ then $m_1 + m_2 = ?$

Answer. 3