

ASSIGNMENT ON FOUNDATION ENGINEERING

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Class: B.E. Civil – A

Question:

The time of reach 60% consolidation is 30 seconds for a sample of 1 cm thick tested in a laboratory under condition of double drainage. How many years will the corresponding layer in nature required to reach the same degree of consolidation, if it is 10m thick and drained on one side only?

INPUT

#NUMERICAL ON CONSOLIDATION

Given Data

H1 = float(input("Entre Value Of H1 in cm : "))

t1 = float(input("Entre value Of t1 in sec : "))

P = float(input("Entre value Of P in % : "))

pi = 3.14

H = int(input("Entre Value Of H in m : "))

Calculation of Tv

In Python, '**' is used for exponentiation, not '^'

Tv = (pi/4)*((P/100)**2)

print("Value of Tv: ",Tv)

print("For lab Condition")

d1= (H1/2)/100

print("d1 in m:",d1)

print("For Field Condition")

d2 = H # Assign the value of H to d2

print("d2 in m:",H)

t2 = ((d2**2)/(d1**2))*t1

print("Value of t2 in sec : ",t2)

print("Value of t2 in years : ",t2/(60*60*24*365))

OUTPUT

Entre Value Of H1 in cm : 1

Entre value Of t1 in sec : 30

Entre value Of P in % : 60

Entre Value Of H in m : 10

Value of Tv: 0.2826

For lab Condition

d1 in m: 0.005

For Field Condition

d2 in m: 10

Value of t2 in sec : 120000000.0

Value of t2 in years : 3.805175038051750