Assignment-1

Shivanshu Ai21btech11027

March 30, 2022

(7b.i)

Given height of model building = 80cm
Also the given scale factor is 1:30
→1 : 30 = Model height : Actual height
→Actual height = Model height * 30
→ Actual height = 80 * 30 = 2400 cm

(7*b.ii*)

Actual volume of tank = 27 m^2
and given scale factor is $1:30$

$\frac{1}{30} = \frac{modelheight}{actualheight}$
$\frac{1}{30} = \frac{modelwidth}{actualwidth}$
$\frac{1}{30} = \frac{modellength}{actuallength}$

as we know that volume = $length * width * height$
so,
$\frac{1}{30*30*30} = \frac{modelvolume}{actualvolume}$

model volume = $\frac{actualvolume}{27000}$
model volume = $\frac{27}{27000} = 0.001m^2$
on converting it into centimeter square = $0.001 * 10^6$
= $1000cm^2$