

EE4503 Tut 5

- bungalow \Rightarrow civil building for L_f
- low fire risk for r_f
- @ Tampines for N_g
- isolated area for C_d
- no lightning protection for P_B
- $L=15$, $W=20$, $H=6$ for A_d
- no provision of fire fighting & alarm equipment for r_p

Find risk due to ^{S1}lightning flash on building structure,
^{D2}resulting physical damage.

From table 7, use col S1 & row D2.

$$\rightarrow R_B = N_D \times P_B \times r_p \times h_z \times r_f \times L_f$$

$$N_D = N_g \times A_d \times C_d \times 10^{-6} \quad \text{where } A_d = [L \times W] + [6H(L+W)] + [9\pi(H)^2]$$

$$\therefore A_d = 2578$$

$$N_g = 5$$

$$C_d = 1$$

$$\Rightarrow N_D = 1.289 \times 10^{-2}$$

$$P_B = 1$$

$$r_p = 1$$

$$h_z = 1$$

$$r_f = 10^{-3}$$

$$L_f = 10^{-1}$$

$$\therefore R_B = 1.289 \times 10^{-6} \quad \#$$