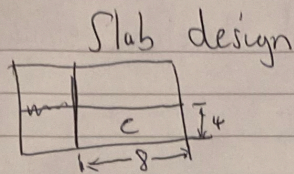


(b)



Slab C

$$\frac{33.93 \times 4^2}{8} = 67.86 \text{ kN/m}$$

$$f_{cu} = 30 \text{ N/mm}^2$$

Exposure Class: moderate

Cover 25mm

Effective depth =

$$225 - 6 - 25$$

$$= 194 \text{ mm}$$

$$\frac{67.86 \times 10^6}{30 \times 1000 \times 194^2} = 0.064$$

$$Z = 1 + \sqrt{1 - 3.53 \times 0.06}$$

$$d = 0.94$$

$$194 \times 0.94 = 182 \text{ mm} - Z$$

$$A_s = \frac{67.86 \times 10^6}{500 \times 182} = 745.71 \text{ mm}^2$$

12mm @ 12mm centres

Steel beam BR-CB

$$\frac{66.81 \times 4^2}{8} = 133.62 \text{ kNm}$$

$$460 \text{ N/mm}^2$$

$$\frac{66.81 \times 10^6}{460} = 145.24 \text{ cm}^3$$

UB 356 x 171 x 67