

Any data not given is to be reasonably assumed.

All calculations and sketches should be clear and neat

Material properties ($f_{cu} = 30 \text{ N/mm}^2$, $f_y = 400 \text{ N/mm}^2$ for H.G.S, $f_y = 280 \text{ N/mm}^2$ for Mild Steel)

Figure (1) shows the typical floor building, with the following data:

There are walls for all beams

- Wall thickness = 250 mm
- Density of brick walls (including plaster) = 18 kN/m^3
- All columns = 300x500 mm

Variables

Live Load (L.L)	= 2 kN/m^2
	= 3 kN/m^2
	= 4 kN/m^2
Height of Floor (H)	= 3000 mm
	= 4000 mm
	= 5000 mm
Dimension A	= 4000 mm
	= 4750 mm
	= 5500 mm
Dimension B	= 3500 mm
	= 4500 mm
	= 5500 mm

It is required:

- 1- Design of RC slab and draw the reinforcement details on plan.
- 2- Design of B1 and B2 in the plan against bending moment and shear.
- 3- Write down the beam schedule for B1 and B2 in the plan.
- 4- Give neat sketches of all reinforcement details for Beam B1, (using the moment of resistance diagram).

All dimension millimeter

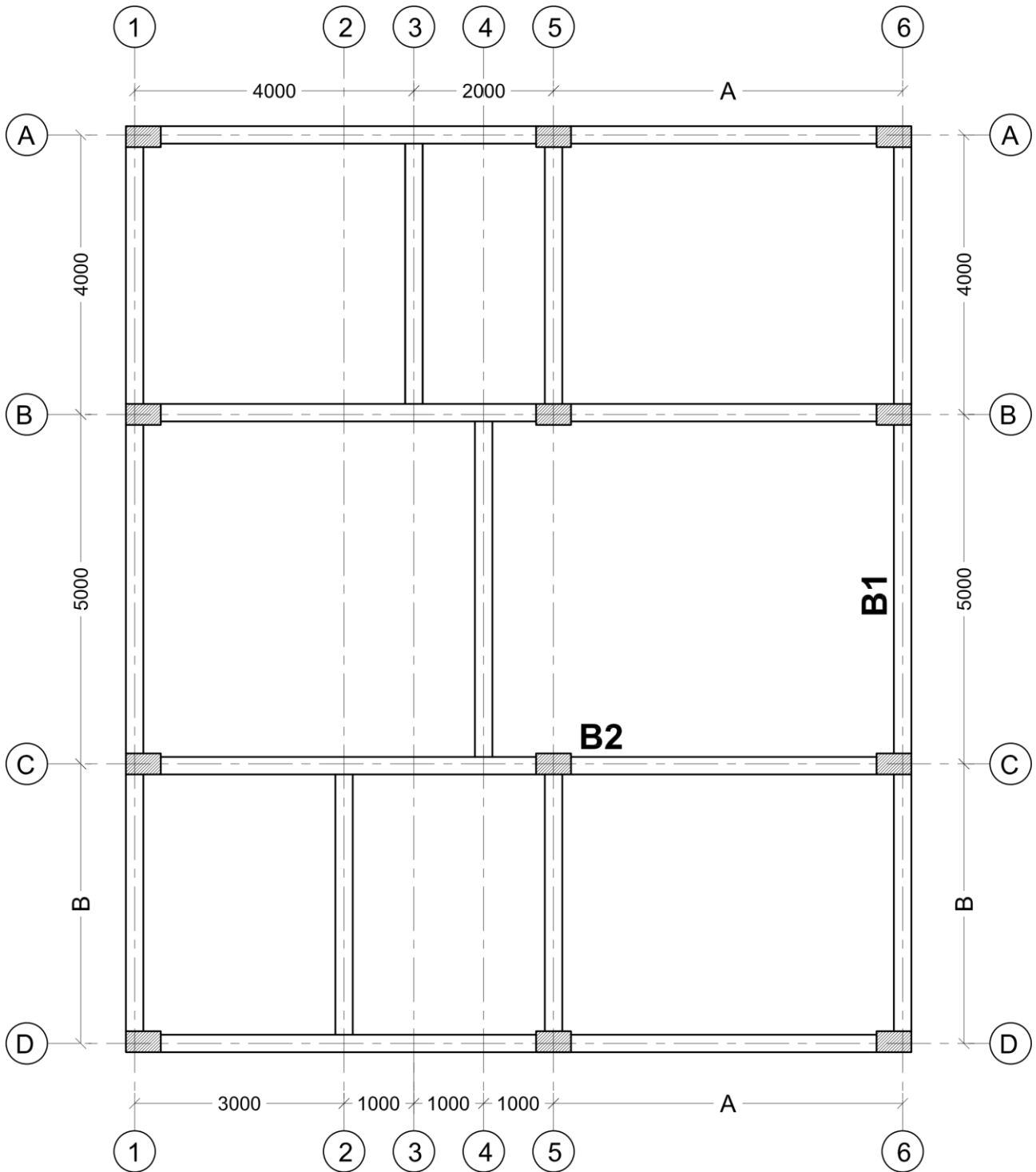


Figure (1)

