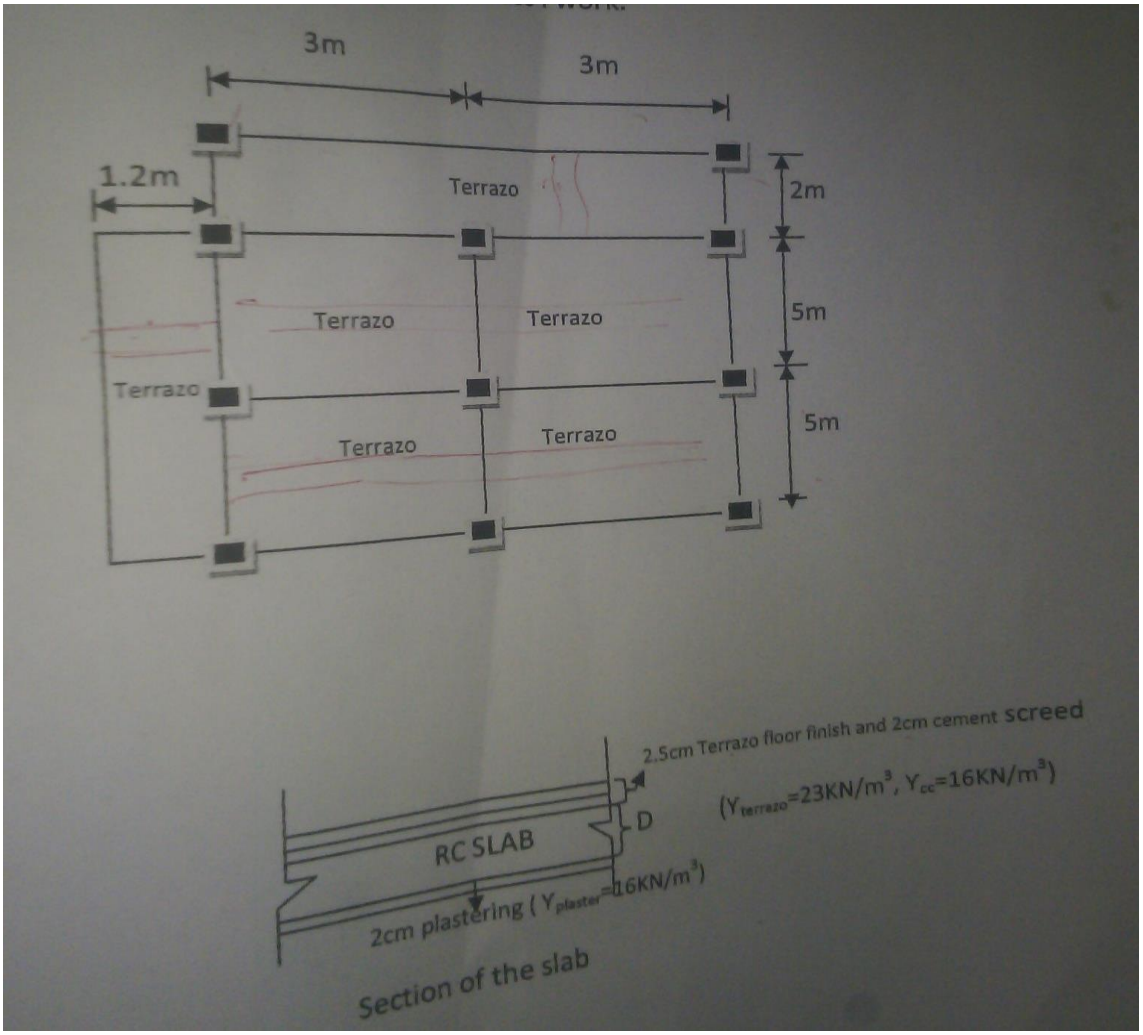
Reinforced concrete structure Mini Project

1.The floor system shown below is to be constructed using solid slab. The floor system is subjected to a partition load (uniform dead load) of 1.5 KN/m^2 and see the floor covering and plastering on the slab section. Assuming a live load of 4 KN/m^2. Design the whole floor system using the ULS for flexure and transfer the floor loads to the supporting beam then to the column. Finally design for the column by any method you understand with 2.8 m length. Please take any assumption for your design if you have reason for your assumptions. use material property s-400& C-25. (7.5%)



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2. The concrete floor system shown in figure below consist of column spaced at 6.5 m in x-direction and y- direction. Beams, supporting slabs ,frame into the columns from two dimensions .(don't consider slab in this design). use material property s-400& C-25. (7.5 %)

a) check whether the column is short or long.

b) determine the effective length and slender ratio for column BC by any method you understand.

c) Design the same column for the loads and moment shown on the table.

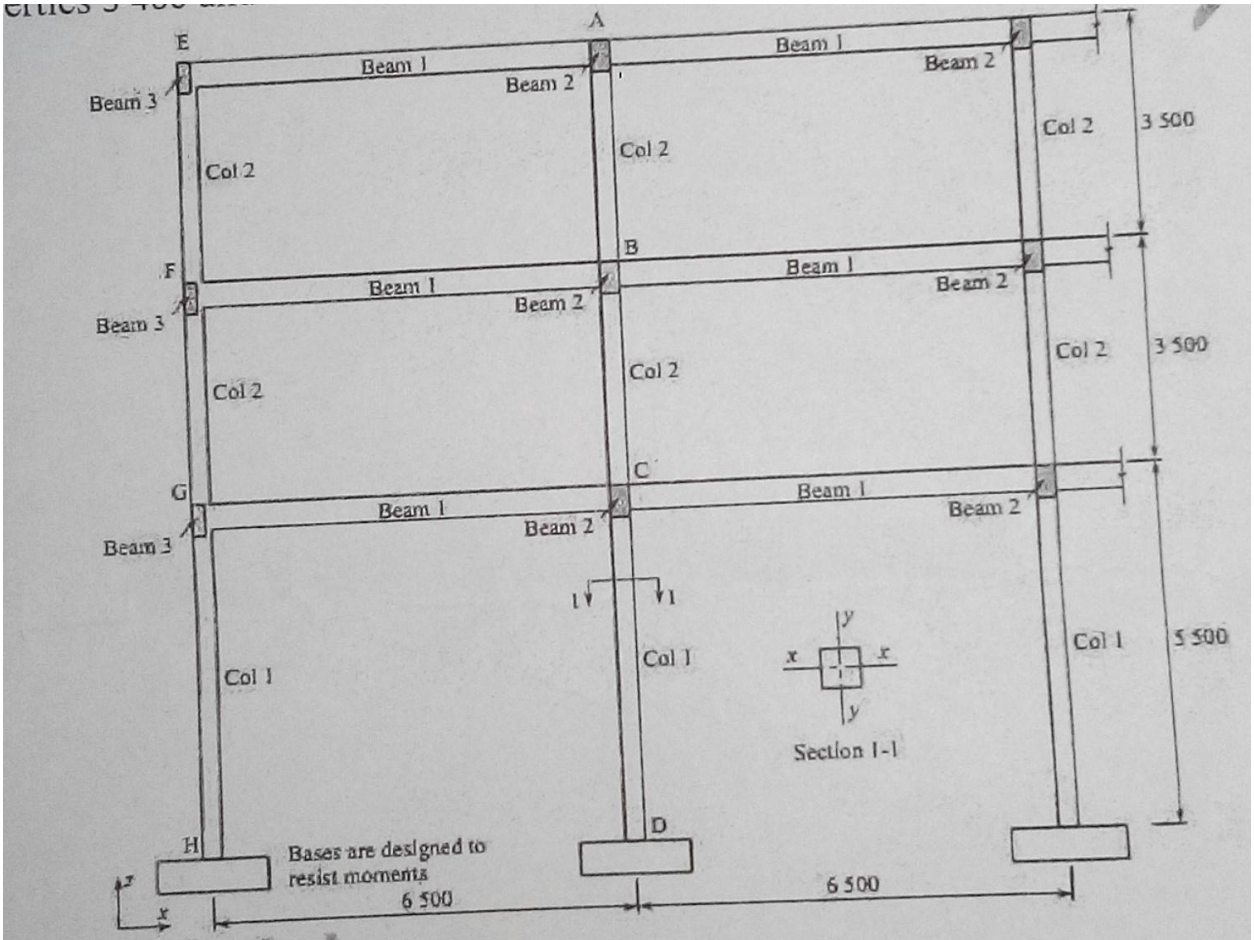

Figure 1.Section dimension are in mm

Member	Depth	Width	Length	moments(KN.m)	
				x-dir	y-dir
Beam 1	500	300	6500	120	200
Beam 2	500	300	6500	90	150
Beam 3	500	200	5500		
All Columns	400	400	As in fig.		