كلية الهندسة بشبرا

جامعة بنها
BENHA UNIVERSITY
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Faculty of Engineering at Shoubra

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Assignment (2)
TWO WAY SOLID SLABS

*Systematic arrangement of calculations and clear neat sketches are essential.
*Any data not given is to be reasonably assumed according to Egyptian Code of Practice.

Problem (1)

For the plan shown in Figure (1), it is required to:

1- Design all slabs and draw reinforcement details on plan scale (1:50).

2- Design the critical sections for flexure and shear of the beams B1 & B2.

3- Draw an elevation and cross-sections showing reinforcement details of the beams B1 & B2.

Given that:

Floor height	= 3.0 m
Live load	= 2.5 kN/m^2
Floor cover	= 2.0 kN/m^2
O.W of wall/m3	= 16.0 kN/m^3
Thickness of the walls	= 250 mm
Characteristic strength of concrete used	= 30.0 MPa
The main steel is high tensile steel of grade	= 420 MPa

The stirrups steel is mild steel of grade 24/35

Problem (2)

For the plan shown in Figure (2), it is required to:

1- Design all slabs and draw reinforcement details on plan scale (1:50).

2- Design the critical sections for flexure and shear of the beams B1 & B2.

3- Draw an elevation and cross-sections showing reinforcement details of the beams B1 & B2.

Given that:

Floor height	= 3.0 m
Live load	= 3.0 kN/m^2
Floor cover	= 1.50 kN/m^2
O.W of wall/m3	= 16.0 kN/m^3
Thickness of the walls	= 250 mm
Characteristic strength of concrete used	= 30 MPa
The main steel is high tensile steel of grade	= 420 MPa

The stirrups steel is mild steel of grade 24/35

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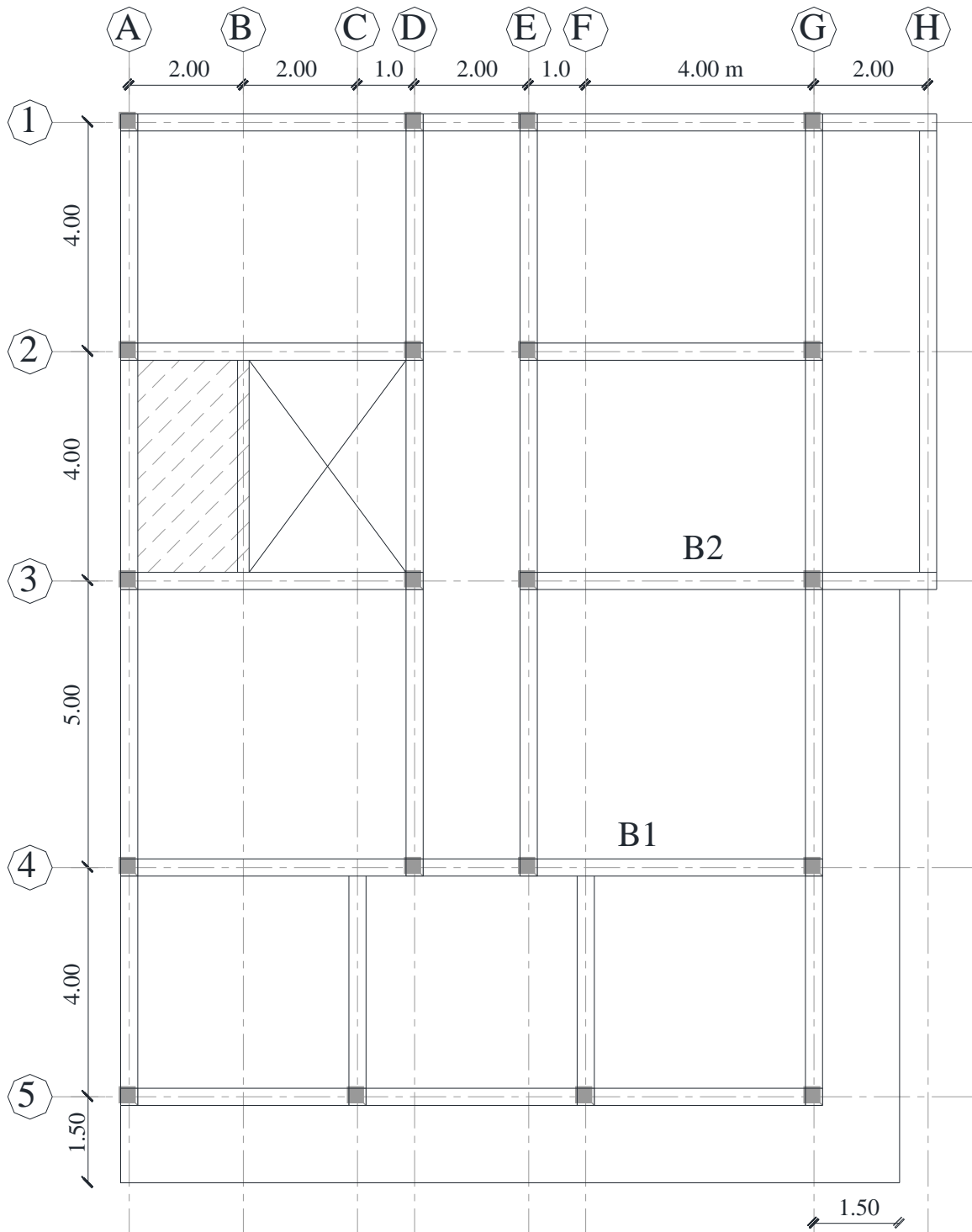*Any data not given is to be reasonably assumed according to Egyptian Code of Practice.
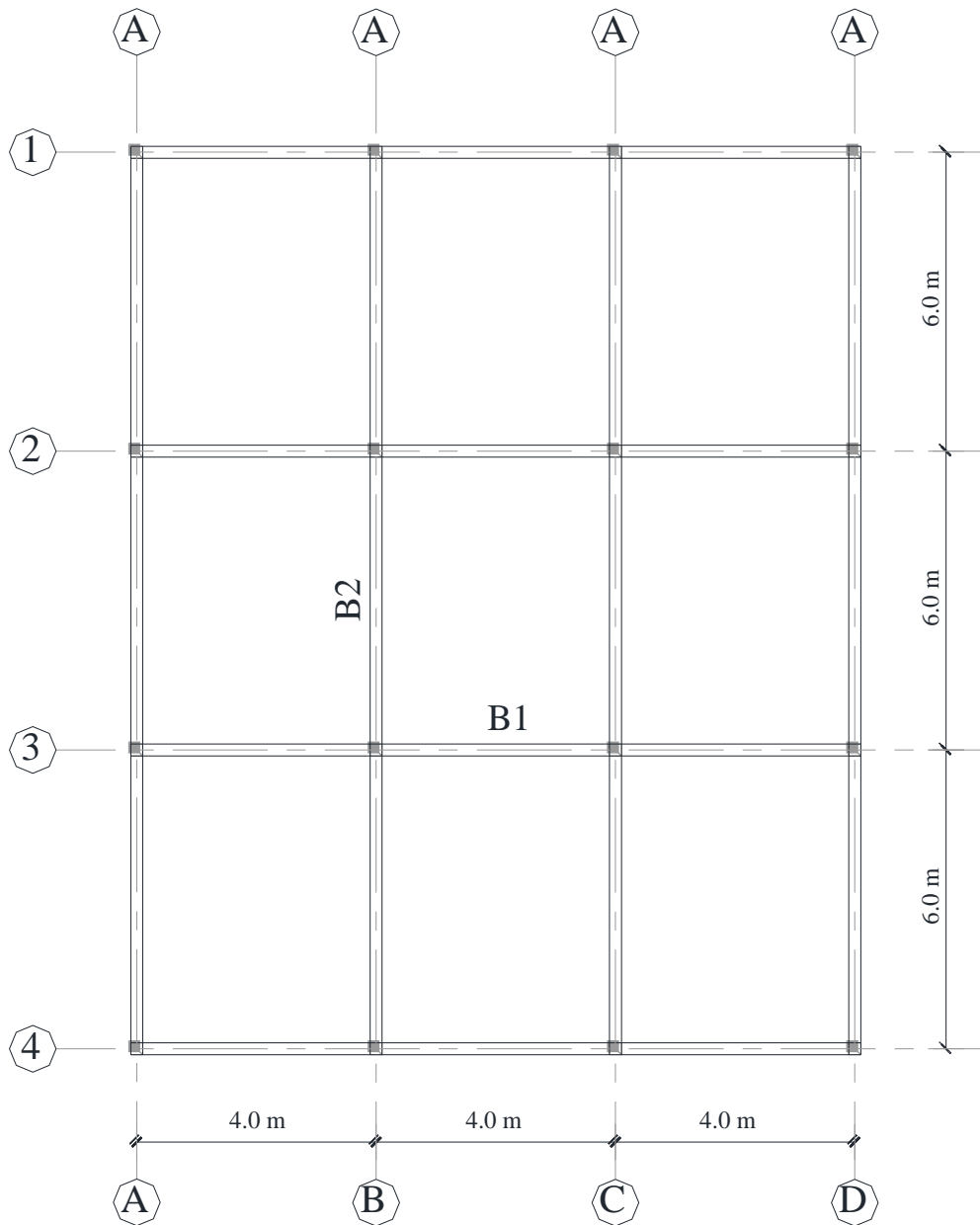
Figure 1

Assignment (2)
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Figure 2