FAQs

1. **Explain the different classification of slabs.**

a. Based on shape:

Square, rectangular, circular and polygonal in shape.

b. Based on type of support:

Slab supported on walls, Slab supported on beams,

Slab supported on columns (Flat slabs).

c. Based on support or boundary condition:

Simply supported, Cantilever slab, Overhanging slab, Fixed and Continuous slab.

d. Based on use:

Roof slab, Floor slab, Foundation slab, Water tank slab.

e. Basis of cross section or sectional configuration:

Ribbed slab /Grid slab, Solid slab, Filler slab, Folded Plate

f. Basis of spanning directions:

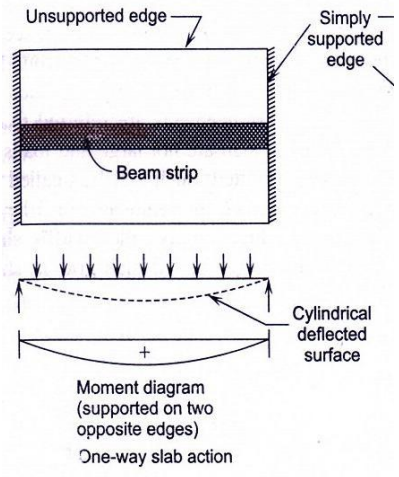
One way slab – Spanning in one direction

Two way slab - Spanning in two directions

2. **Explain the behavior of one way and two way slabs.**

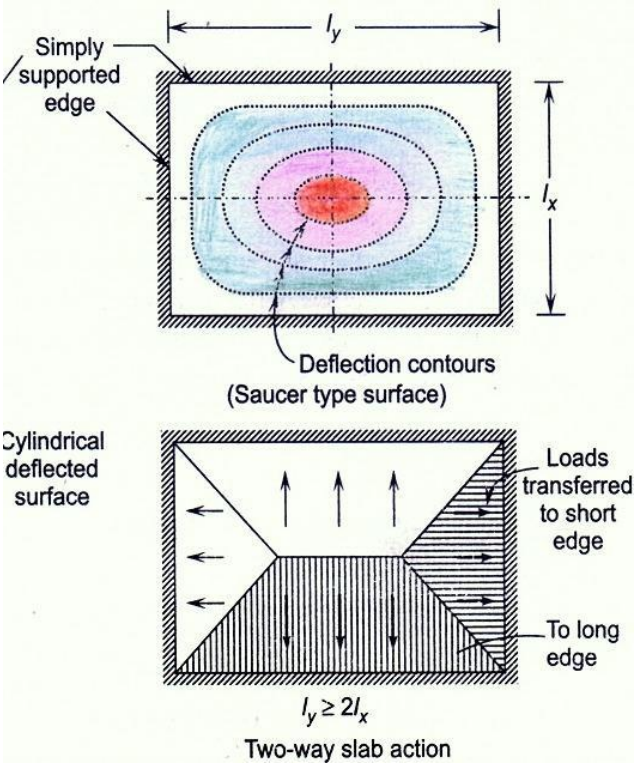
One-way Slab

- One-way slabs, supported by parallel walls or beams, bend in only one direction and transfer their loads to the two opposite support walls or beams.
- Even when a rectangular slab is supported on all the four edges, the slab may be considered as a one-way slab if the length-to-breadth (L/B) ratio of the slab is greater than two.



- A one-way slab is designed for the spanning direction alone; the main tension reinforcing bars of such slabs run parallel to the span. For the transverse direction, a minimum amount of shrinkage reinforcement is provided.
- One-way slab action is assumed in a ribbed floor (slab with joist beams) made of precast double tee sections, in ribbed floor with integral beams, and also in hollow-block or - cored slabs.

Two Way Slab



- Two way slabs are the slabs that are supported on four sides and the ratio of longer span (l) to shorter span (b) is less than 2.
- In two way slabs, load will be carried in both the directions. So, main reinforcement is provided in both directions for two way slabs.
- Plan view of one-way slab (a) Supported on two opposite edges (b) Supported on all edges (L/B > 2)

3. Explain the differences between one way and two way slabs.

One way slab	Two way slab
One way slab is supported by beams in only 2 sides.	Two way slab is supported by beams in all four sides.
The ratio of longer span panel (L) to shorter span panel (B) is greater than 2.	The ratio of longer span panel (L) to shorter span panel (B) is less than or equal to 2. Thus, $L/B \leq 2$.
Main reinforcement is provided in only one direction for one way slabs.	Main reinforcement is provided in both the direction for two way slabs.