**DESIGN OF STRUCTURES**

 **Quiz No. 3 (Data Sheet)**

**Part – A)** Fill in the blanks with appropriate answers:

1. All gravity loads are basically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ generated due to mass contained in a volume.
2. Mechanism and path must be found to transfer loads to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through a Medium.
3. Load Sharing is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proportional to stiffness.
4. Design Strip consist of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. The deflected surface of a one ­way slab is primarily one of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. In one-way slab, the main reinforcement will be in \_\_\_\_\_\_\_\_\_\_ direction and the shrinkage & temperature reinforcement will be in \_\_\_\_\_\_\_\_\_\_\_\_\_ direction.
7. Both the flat slab and flat plate floors are characterized by the \_\_\_\_\_\_\_\_\_ of beams along the interior column lines.
8. In flat plate floors, the shear strength is obtained by the embedment of multiple-U stirrups or structural steel devices known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Relatively, flat plate slabs are \_\_\_\_\_\_\_\_\_\_\_ suitable for larger panel size or heavier loading than flat slabs.
10. An elastic analysis (such as by the equivalent frame method) must be used for \_\_\_\_\_\_\_\_\_\_\_\_ load even if the floor system meets the limitations of the direct design method for \_\_\_\_\_\_\_\_\_\_\_\_ load.
11. The total factored static moment, which states that, Absolute sum of positive and average negative factored moments in each direction shall not be less than M0 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Total Factored Static Moment in Flat Slabs M0 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. It should be realized that the code provisions are based on a combination of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. The moment of inertia of a flanged beam section about its own centroidal axis Ib =
15. For slabs supported on beams, there must be an edge beam at discontinuous edges having a stiffness ratio αnot less than \_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. The minimum thickness of Slab Supported on Beams is \_\_\_\_\_\_\_\_\_\_\_\_\_
17. The minimum thickness of flat plate slab is \_\_\_\_\_\_\_\_\_\_\_
18. The minimum thickness of flat slab is \_\_\_\_\_\_\_\_\_\_\_
19. Label the components of Flat slab: a\_\_\_\_\_\_\_\_\_\_\_b \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ g \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ h \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The diameter of the column capital is usually about \_\_\_\_\_\_\_\_\_\_\_% of the average span length between columns.
2. The projection of the drop panel below the slab must be at least \_\_\_\_\_\_\_\_\_\_\_\_\_ of the slab thickness outside of the drop.
3. When a qualifying drop is used, the minimum thickness has been reduced by \_\_\_\_\_\_\_\_\_\_\_\_% from the minimum when a drop is not used.
4. If the ratio of dead load to live load is higher, the effect of pattern loadings will be \_\_\_\_\_\_\_\_\_\_\_\_\_
5. The column strip takes a \_\_\_\_\_\_\_\_\_\_\_\_ share of the negative longitudinal moment than the positive longitudinal moment.
6. The critical section for two way shear is located so that its periphery bo is at a distance \_\_\_\_\_\_\_\_\_\_\_ outside a column, concentrated load, or reaction.
7. As in beams, this critical section of width bw times the effective depth ‘d’ is located at a distance \_\_\_\_\_\_\_ from the face of the equivalent square column capital or from the face of the drop panel.

**Part – B**

Describe the Limitations of Direct Design Method.