**CIVIL ENGINEERING DEPARTMENT**

**DESIGN OF CONCRETE STRUCTURE- 2**

**ASSINGMENT 1**

**THEORY QUESTIONS**:

1. What are the methods of analysis of flat slab?

2. What are the functions of Drop and column head in flat slab?

3. Define term “middle strip” and “column strip” with the help of diagram.

4. A hall of 30m x 42m is to be constructed and a flat slab is to be provided. Plan geometry of flat slab.

**NEMERICALS:**

**1.** Design the interior panel of slab with drop for an office floor to suit the following data :

 Size of office floor = 20m x 20m Use M20 and Fe-415.

 Size of panel = 5m x 5m

 Loading class = 4 KN/m2

**2.** A hall of 25m x 25m is to be constructed and flat slab is to be provided . plan the geometry of flat slab with rectangular panels . use M20 grade of concrete and Fe-415 steel.

**3.** An interior column 450mm x 450mm size with column head 1.5m x 1.5m and drop 3m x 3m x0325m is supporting flat slab panel of 6m x 8m. the thickness of flat slab is 260mm. ti is subjected to live load of 4KN/m2 and surface finish load is 1KN/m2. Use M20 and Fe-415 steel.

**4.** A flat slab is supported on 500mm diameter column spaced 6m x 5m apart in both directions. The column head has a diameter of 100cm. the live load on the flat slab is 5KN/m2. Determine the unbalanced moment in an interior columns. Also check the flat slab in shear at the interior support.

**5.** Design an interior panel of a flat slab with the following data:

 Size of floor =20m x 20m Size of panel = 5m x 5m

 Live load =4 KN/m2 size of column = 500mm diameter

 Use M20 concrete and Fe-415 HYSD bar. Drop is to be provided.