

DESIGN OF REINFORCED & CONCRETE STRUCTURES

ASSIGNMENT:3

- 1 For the cantilever retaining wall of height 4m, fix the basic dimensions of the various elements. Angle of repose of soil is 30° . SBC of soil is 150kN/m^2 and density of soil is 17 kN/m^3 . Friction coefficient between soil and concrete is 0.55. Design the retaining wall. Stability check for sliding and overturning.
- 2 For the counterfort retaining wall of height 6m, fix the basic dimensions of the various elements. Angle of repose of soil is 25° SBC of soil is 140kN/m^2 and density of soil is 18kN/m^3 . Friction coefficient between soil and concrete is 0.45. Design the retaining wall. Stability check for sliding and overturning are not required.
- 3 A cantilever retaining wall is designed to retain the earth 5 m high behind the wall. The unit weight of soil is 18 kN/m^3 and angle of internal friction is 22° . The bearing capacity of soil is 130 kN/m^2 and coefficient of friction between base and soil is 0.4. Use M20 – Fe 415. Assume depth of foundation is as 1.0 m. Fix the dimension of retaining wall and design only stem. Also carry out stability checks.