

L. D. COLLEGE OF ENGINEERING, AHMEDABAD (GTU)

8th Semester Civil Engineering - PDDC 2013 Batch

Subject Code & Name : X80602 - Structural Design-II

Assignment - 1

Date : 01-02-2017

Example:

1. Design a cantilever retaining wall to retain the earth of height 5.5 M above lower ground level. Fix the basic dimension and carry out the stability check of retaining wall. Design all structural component.
 - Take SBC of soil = 175 kpa
 - $\phi = 30^\circ$
 - $\mu = 0.5$
 - Unit Weight of Soil = 18 KN/M³
 - Grade of Concrete = M20
 - Grade of Steel = Fe 415
2. Design a cantilever retaining wall to retain the earth of 4 M height. With following requirement.
 - Surcharge Pressures = 15 KN/M²
 - Unit Weight of Soil = 18 KN/M³
 - SBC of soil = 150 KN/M²
 - Angle of internal friction $\phi = 30^\circ$
 - Coefficient of friction between base and soil $\mu = 0.55$
 - Grade of Concrete = M20
 - Grade of Steel = Fe 415

Design various component and carry out stability check.

3. Design and detail counterfort retaining wall for the following data.
 - Angle of repose = 30°
 - Unit weight of soil = 16 KN/M³
 - Height of wall above GL = 7 M
 - Safe Bearing capacity of Soil = 150 KN/M²
 - Coefficient of friction between base and soil = 0.60
 - Grade of Concrete = M20
 - Grade of Steel = Fe 415

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