



DEPARTMENT OF Civil Engineering

Assignment (Spring Semester 2020)

Subject: Foundation and pavement
Instructor: Engr. Furqan Wali
Semester: B-Tech 6th Semester

Duration: 6 Days
Total Marks: 30

Q.No. (01)

(30)

A strip footing is to be design for the proposed 2 story building in swat which support the dead load of 500 KN/m and live load of 300 KN/m at depth of 0.7m and the soil is found gravelly sand and characteristic values of the shear strength parameters are $C = 0$ and $\phi = 40^\circ$. Determine the required width of the footing if the factor of safety of 3.0 against shear failure of the soil is specified. Assuming that the WT may rise to foundation level. The unit weight of the sand above the W.T. is 17kN/m^3 and below the WT the saturated unit weight is 20 kN/m^3 .

Note: For $\phi = 40^\circ$ the Terzaghi BC factors are $N_q = 81.3$ and $N_\gamma = 100.4$

