NOMENCLATURE

A_h  Horizontal seismic coefficient
A_k  Design horizontal acceleration spectrum value
B    Footing width
CQC  Complete quadratic combination
d    Base dimension of the building at the plinth level
{d}  Global displacement vector
E_c  Modulus of elasticity of concrete
E_f  Modulus of elasticity of footing
E_s  Modulus of elasticity of soil
h    Height of the building
h_i  Height of floor i measured from the base,
I    Importance factor
I_f  Moment of inertia of footing based on cross section
K    Axial spring constant or spring stiffness
[K]  Global Stiffness Matrix
k_s  Modulus of subgrade reaction
n    Number of storeys in the building
P_k  Modal participation factor
Q_i  Design lateral force at floor i,
Q_{ik} Design lateral force at floor i in mode k
R    Response reduction factor
[R]  Global load vector
RCC  Reinforced Cement Concrete
S_a  Spectral acceleration
S_a / g Average response acceleration coefficient
S_d  Spectral displacement
SSI  Soil Structure Interaction
S_v  Spectral velocity
T_a  Fundamental natural period of vibration
ü,ü,u Nodal acceleration, velocity and displacement vectors
\[V_B\] Design seismic base shear
\[V_{ik}\] Peak shear force acting in storey \(i\) in mode \(k\)
\[W\] Seismic weight of the building frame
\[W_i\] Seismic weight of floor \(i\),
\[Z\] Zone factor
\[\lambda\] Peak Response
\[\mu_c\] Poisson’s ratio for concrete
\[\mu_s\] Poisson’s ratio for soil
\[\Phi_{ik}\] Mode shape coefficient at floor \(i\) in mode \(k\)
\[\omega_r\] Natural Frequency