"SEISMIC ANALYSIS OF REGULAR AND IRREGULAR RC BUILDING FRAMES"

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CERTIFICATE

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List of Symbol

K_i = *Stiffness of* i^{th} *Storey*

W_i = *Seismic weight of floor i,*

F_i= *Design* lateral forces at the floor i due to all modes considered

EI = Rigidity of Section

V_b = *Design base shear calculated using the approximate fimdamental Period T,*

V_B = Design seismic base shear

ABSTRACT

Several buildings in the current scenario have irregular configurations both in plan and elevation. This in future may subject to overwhelming earthquakes. In case, it is necessary to find the performance of the structures to withstand against disaster for both new and existing one. Structures experience lateral deflections under earthquake forces. Magnitude of these lateral deflections is related to many variables such as structural system, mass of the structure and mechanical properties of the structural materials. Reinforced concrete multi-storied buildings are very complex to model as structural systems for analysis. The current version of the IS: 1893 (part I) -2002 requires that practically all multistoried buildings be analyzed as three-dimensional systems. This is due to the irregularities in plan or elevation or in both. The thesis discusses the performance estimation of RC (Reinforced Concrete) Structures with irregularity. Structural irregularities are significant factors which decrease the seismic performance of the structures. The study as a whole makes an effort to evaluate the effect of vertical and plan irregularity on RC buildings, in terms of dynamic characteristics and the influencing parameters which can regulate the effect on Story Displacement, Drifts of adjacent stories, Excessive Torsion, Base Shear, etc.