**COMPARATIVE ANALYSIS OF STRUCTURE WITH AND WITHOUT FLOATING COLUMN**

**ABSTRACT**

The columns which are supported on a beam instead of rigid foundation are called as floating columns. Many of the buildings in India are constructed with floating columns. The earthquake force generated at different floor level of the building need to be carried out to the foundation by the shortest possible way which may not be the case when floating columns are provided. Providing floating columns may satisfy some of the functional requirements but structural behavior changes abruptly due provisions of floating columns. The flexural and shear demand of the beams which supports floating columns are much higher than surrounding beams, this leads to stiffness irregularities at a particular joint. Columns are main lateral load resisting elements in moment resisting frame and play a vital role in seismic performance of building. The stiffness of the storey below the floating column is usually lower than the storey above and below it.

In this thesis the seismic performance of building with and without floating columns are presented in terms of various parameters such as displacement, storey drift, maximum column forces, time period of vibration etc. The building having various locations of floating columns ie floating columns starting from different stories are considered for the study. The building is modeled by using finite element software SAP2000 V19. The beams and columns are modeled as two nodded element with six degrees of freedom at each node. The slab is modeled as membrane element with three degrees of freedom at each node. Equivalent static analysis and response spectra dynamic analysis are performed on the various buildings and their seismic performance is evaluated. The main aim is to evaluate the seismic response of building with floating columns and compare it with the normal building.