

EFFECT OF STIFFNESS IRREGULARITY ON THE PERFORMANCE OF RC FRAMED BUILDING

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IN PARTIAL FULFILMENT
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MASTER OF TECHNOLOGY
(STRUCTURAL ENGINEERING)

BY
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UNDER THE GUIDANCE OF

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CERTIFICATE

This is to certify that the thesis work entitled “**EFFECT OF STIFFNESS IRREGULARITY ON THE PERFORMANCE OF RC FRAMED BUILDINGS**“ being submitted by me, is a bonafide record of my own work carried by me under the guidance and supervision of Mr. Alok Verma, Associate Professor in partial fulfilment of requirements for the award of the Degree of Master of Technology (Structural Engineering) in Civil Engineering.

The matter embodied in this project has not been submitted for the award of any other degree.

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- e. Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the thesis and giving their details in the references.

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ABSTRACT

In the present study, behaviour of multi-storey building in which there is non uniform variation of stiffness along height i.e. soft storey characteristic is analysed for different storey of the building. In the event of earthquake, it becomes of prime importance to take into account the effects arising from the soft storey for better performance of building. If these irregularity effects are not taken into account, severe damage will occur to the building during earthquake. For the fulfilment of above objective, the effect of soft storey on building has been studied.

A five storey building in STAAD PRO V8i and seismic load is applied in accordance with IS 1893 (Part-1):2002. A total of five cases has been formulated in each storey by varying total stiffness of that storey to 90%, 80%,70%, 60% and 50% of base case (original building). Above step are repeated for all storey amounting to total of twenty five cases. Each case is studied carefully and effect on different output parameter is noted down.

It can be conclude from the present study that whenever stiffness decreases in lower storey, the large variation is observed in output parameter than those occurs while decreasing stiffness in middle or upper storey. By changing the stiffness of a particular storey appreciable variation occurs only in that storey.