

Advance Dynamics Lab

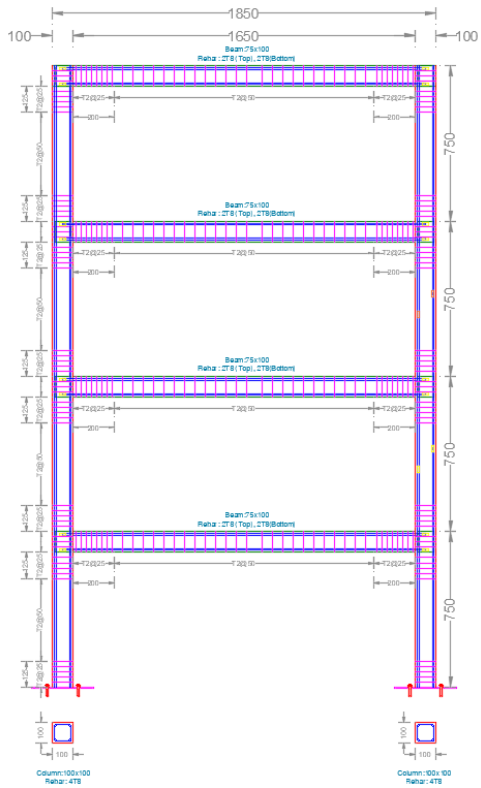
Department of Civil Engineering, Jamia Millia Islamia has developed a 'Shake Table Facility' costing Rs 1.00 crore, funded by UGC SAP-DRS phase-II. This is probably the second such facility in the NCR which shall be effectively used to simulate the structural behaviour under any Real Earthquake scenario.

The shake table is used to simulate the structural behaviour under real Earthquake scenario. Catastrophic earthquake in Northridge, Kobe, Turkey, Taiwan, and India have caused severe damage to buildings, bridges, and crucial lifeline infrastructures. The most important lesson learned from earthquakes is that structural engineers must possess the skills to significantly improve structure behaviour to resist earthquake damage and thereby avoid most of the deaths and financial losses.

Past earthquakes have demonstrated that it usually costs less to prepare for earthquakes in advance than to repair the damage afterwards. It is urgent to train a new generation of civil engineers that possesses understanding of seismic engineering who are qualified in design of new buildings and retrofit of the existing structures.

It is particularly important in Delhi, located in high seismic region, that structural engineers have a good understanding of structural dynamics principles and failure modes in structures due to the heavy emphasis on designing and retrofitting of structures for earthquake loads.

An experimental study of 4 story RCC frame was carried out on 12.09.2020. The natural frequency, acceleration/velocity and displacement and damages of the structures were recorded and simulations were carried out to promote the research in this area.



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Stages of Casting of Model





Damages after testing to 2.0g PGA