

## **ABSTRACT**

In this thesis, yearly performance of the solar absorption cooling system is analysed which may be very crucial for commercial or residential building in Delhi and it is theoretically investigated in detail. Firstly, taking a two storey house of Delhi, considering all the real situation, building design is analysed and henceforth total cooling load for the house has been estimated according to the design. Secondly, an absorption characteristic of the “ClimateWell” absorption chiller is determined and according to that it is performance tested taking real time parameter through “TRNSYS” programme simulation. Since ClimateWell chiller is working in batch mode, thermal storage plays very important role, hence result obtained from the experiment done on storage tank is analysed as a main heat source for regeneration. Then, finally an integrated model of the overall system is designed and developed in TRNSYS. In addition, system parameters affecting the performance of the absorption cooling system are analyzed. TRNSYS is used for the yearly simulations of the system.

**Keywords:** Absorption Chiller, TRNSYS 16, Multizone Building (TYPE 56), ClimateWell, LiCl-Water.