**Mechanical Behaviour of Self Compacting and Self Curing Concrete**

**ABSTRACT**:

The objective of this study is to compare the mechanical behavior of self-compacting and self- curing concrete with the conventional concrete. This research is proposed to adding chemical admixtures and pozzolanic material for making self-compacting concrete (SCC). Also, it is proposed to use self-curing compound instead of conventional or ambient water curing. Many researchers studied about the self-compacting concrete only and not for self-compacting and self-curing concrete, but this study proposed a methodology for self-compacting and self-curing concrete. Self-Compacting Concrete (SCC) is achieved by reducing the volume ratio of aggregate to cementitious materials, increasing the paste volume by using fly ash and superplasticizer(SNF). Curing techniques and curing duration significantly affect “curing efficiency.” Techniques used in concrete curing are mainly divided into two groups namely, Water adding techniques and Water retraining techniques. The self-curing technique is part of water retaining technique using various methods. In this paper self-compacting self-curing concrete (SCSCC) has been studied using Polyethylene Glycol 4000 (PEG4000). Mechanical properties such as compressive strength, split tensile strength and flexural behavior of the beam has been studied. The specimen with 1% PEG4000 performed well when compared to the conventional specimen.

**KEYWORDS:** Self compacting concrete, self-curing concrete, superplasticizer, PEG4000.