**An Experimental Investigation on Mechanical properties of Concrete with Graphene oxide**

**ABSTRACT**:

Cement-based concrete is a widely used material for a great variety of constructions. Although, cement has great properties and high performance, its intrinsic brittleness is a weakness that requires further investigation for improvement. Graphene demonstrates a number of excellent properties, such as high flexibility, 1TPaYoungsModulus,

130 GPa tensile strength, high electrical and thermal conductivity. This study investigated the feasibility of implementing graphene into the concrete matrix for improving its compressive and tensile or flexural strength. The aim of this research is to study the performance of graphene cement concrete, and also compare the compressive and split tensile strengths of M25 concrete by replacing cement with 1% and 2% graphene oxide. To study compressive strength and split tensile strength the specimens were tested at 28days, 56days and 90 days of curing.XRD test was conducted to know the crystalline behaviour of the concrete specimens with amount of energy compared with nominal concrete.

**KEYWORDS**: Graphene Oxide (GO), compressive strength, split tensile strength, XRD analysis etc.,