

## **ABSTRACT**

‘Soil’ is a word which has several different meanings. One of the definition of soil is defined as unconsolidated material, composed of solid particles, produced by physical and chemical disintegration of rocks. Good quality soil must be capable of carrying out all the uses for which it is needed, without long term deterioration. Scientists often talk about sustainable use of soils with current uses of the soil should not affect its range of other uses, either now or in the future. If we do not maintain the soil in a reasonable condition, certain aspects of modern life could start to become unsustainable. It may be considered as ‘dirt’ by some, but to those who are concerned with its ability to support the world’s population, it is perhaps the most valuable non-renewable resource on Earth.

Usually strength of expansive soil can be determined by using Unconfined compressive strength (UCS), direct shear test, vane shear test and California bearing ratio (CBR). From these we are using California bearing ratio test for determining strength of soil which is mixed with lime and marble stone powder. In this project, we will be finding out strength of disturbed soil by adding various percentages of marble stone powder and 10% of lime as an additive which is used as a sub grade for the road construction. Experimental studies have been made for 0, 10, 20 and 30 percentages of admixture added in the soil sample. As a prerequisite liquid limit, plastic limit, moisture content and specific gravity tests have been prepared for all the samples. California bearing ratio (CBR ) test were conducted for both 2.5 and 5 mm penetration for all the soil samples to get the strength of the same.