

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM-590018**



**K.L.E Society's
K.L.E COLLEGE OF ENGINEERING AND TECHNOLOGY
CHIKODI- 591201, KARNATAKA**



DEPARTMENT OF CIVIL ENGINEERING

A Project Report on

**“STABILIZATION OF BLACK COTTON SOIL USING INDUSTRIAL
WASTES A-COMPARATIVE STUDY”**

A Dissertation work Submitted in partial fulfillment for the award of the degree of

**Bachelor of Engineering
In
Civil Engineering**

Under the Guidance of

Prof. Pradeep M. Hodlur

Asst. Professor

Department of Civil Engineering

K.L.E College of Engineering and Technology

Chikodi-591201

Submitted by

**Amit Toro
(2KD10CV003)**

**Deelip Bubanale
(2KD10CV009)**

**Malleshi Hosamani
(2KD10CV022)**

**Sneha Syamprasad
(2KD10CV047)**

ABSTRACT

Civil engineers face many difficulties when construction activities to be done in expansive soils such as black cotton soil because of their unconventional behaviour. These soils have large tendency to swell and shrink with respect to variation moisture content, thus causing serious problem to the structures build on them. Hence, these soils need to be stabilized before constructing on them. Considerable research has been taken places using different stabilizing material such as lime, hypo-sludge, cement kiln dust, iron slag, cattle waste ash and industrial wastes which cause problems in disposal and create environmental pollution and have proved to be useful in stabilization of black cotton soil.

In the present work an effort is made to study the effect of hypo-sludge, cement kiln dust, iron slag, cattle waste ash on the strength characteristics (UCS) of the soil procured from Chikodi KEB sub-station to KLE College of Engineering and Technology Chikodi. Further it proposed to study the enhancement in the strength of the soil land with the addition of the different % of lime for 3, 7 and 28 days of curing.

Key words: Black cotton soil, Hypo-sludge, Stabilization, Curing, Expansive soil,