VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANASANGAMA", MACHHE, BELAGAVI–590018, KARNATAKA

2022-2023

Project Report

on

"INVESTIGATION OF ENGINEERING BEHAVIOUR OF BLACK COTTON SOIL USING ARECANUT COIR AND COCONUT COIR AS SOIL STABILIZER"

Submitted in fulfillment for the award of degree

BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING

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CERTIFICATE

Certified that a Project report on entitled **"INVESTIGATION OF ENGINEERING BEHAVIOUR OF BLACK COTTON SOIL USING ARECANUT COIR AND COCONUT COIR AS SOIL STABILIZER"** has been successfully carried out by **NANDAN C R (1SV19CV017), PRAVEEN KUMAR (1SV19CV018), SUDEEP R (1SV19CV027)** students of **Shridevi Institute of Engineering and Technology, Tumakuru-572106,** in fulfillment of project for the award of **Bachelor of Engineering in Civil Engineering of the Visvesvaraya Technological University, Jnana Sangama, Belagavi -590018** during the academic year **2022-2023**. It is certified that all corrections and suggestions indicated for internal assessment have been incorporated in the report deposited in the Department library. There port has been approved as it satisfies the academic requirement in respect of project on current topic prescribed for B.E Degree.

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ABSTRACT

Base soil on which foundations of infrastructures rest should be strong enough in all aspect Strength of soil depends on its Atterberg limits, compressible characteristics and shear parameters. We need to have proper knowledge about the properties and their behaviour affected by many factors of all soils. Black cotton soil being the base soil needs to be careful about its engineering behaviour. Soil stabilization helps to achieve the required properties needed for the infrastructures. This project work is an attempt to present the behaviour of black cotton soil treated with Areca nut coir and Coconut coir as stabilizers. Black cotton soil is known for its expansive nature during rainy days and contraction in summer. Several methods have been adopted so far in the construction industry to improve the properties and behaviour of black cotton soil. In the present study stabilizers used Areca nut coir and Coconut coir are which s environmental friendly as well as waste material from Agriculture fields. This project present the effectiveness of using Areca nut shell coir and Coconut shell coir as stabilizing material with a proportion of nixing 1%, 2%, 3% and 4% respectively for improving engineering properties of black cotton soil.

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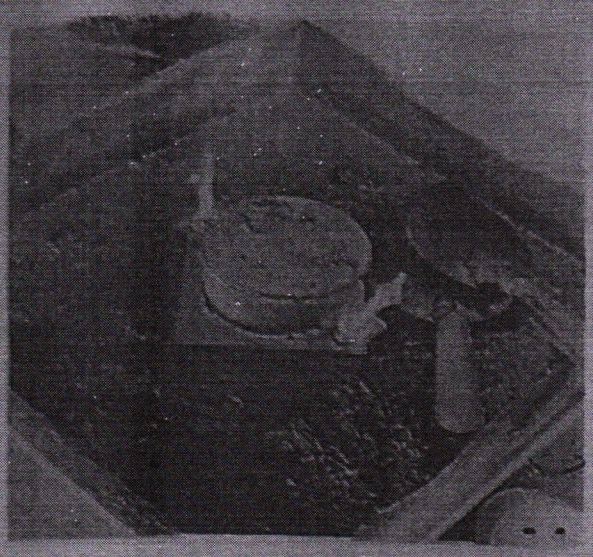
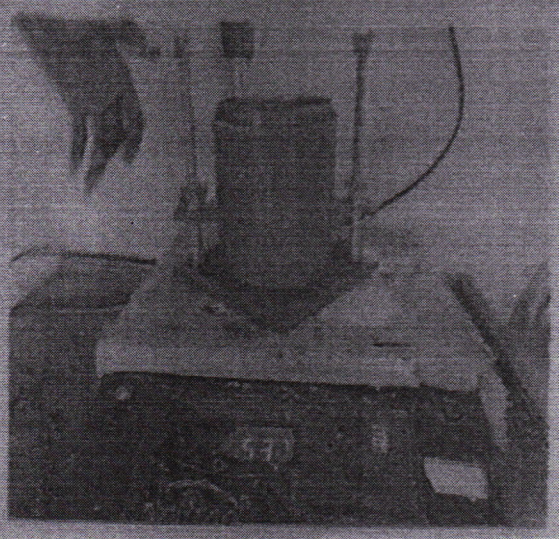



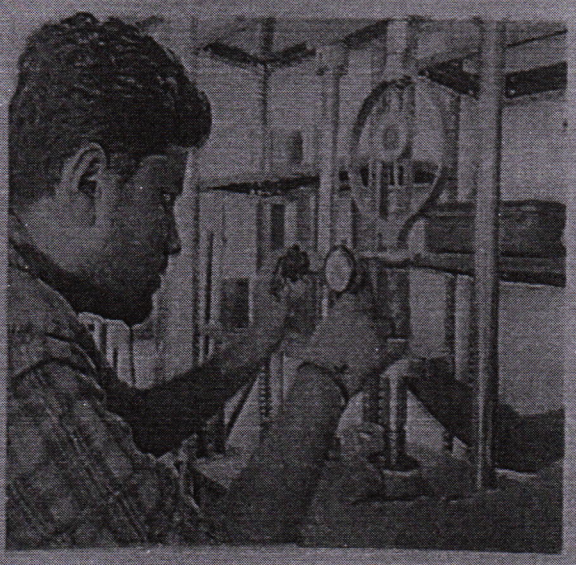

Fig15.Unconfined compression strength

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