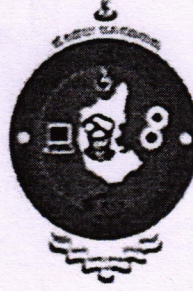


# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-560014, Karnataka



PROJECT (PHASE -02)  
(18CVP78)

## **"EXPERIMENTAL STUDY ON STRENGTH PROPERTIES OF COCONUT SHELL CONCRETE"**

*SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF DEGREE OF*

**BACHELOR OF ENGINEERING  
IN  
CIVIL ENGINEERING**

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DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to certify that, project report of entitled "EXPERIMENTAL STUDY ON STRENGTH PROPERTIES OF COCONUT SHELL CONCRETE" has been successfully carried out by LAKSHMI K H [ISV19CV013], PRAVEEN G S [ISV19CV020], SHIVAPADMA BASANAL[ISV19CV025] , GAGANA N [ISV20CV400] in partial fulfillment for the project report of Bachelor of Engineering in Civil Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2022-23. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Project report has been approved as it certifies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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## ABSTRACT

In this constructed environment, the rising cost of building construction materials is the factor of great concern. The prices of building materials are rising day by day. The coarse aggregates are the main ingredients of concrete. In this paper, the utilization of coconut shell as a coarse aggregate has been discussed based on the results obtained from comprehensive review of literature.

We all want that our buildings must be strong and should build with the construction material of reasonable rates. Every construction industry totally relies on cement, sand and aggregates for the production of concrete.

Nowadays, most of the researchers are doing the research on the material which can reduce the cost of construction as well as increase the strength. Some of the waste materials are used in concrete according to their properties. For instance fly ash, rice husk, slag and sludge from the treatment of industrial and domestic waste water have been found suitable as partial replacement for cement in concrete.

The coconut shell is a material which can be a substitute for aggregates. The shell of the coconut is mostly used as an ornament and as a source of activated carbon. Coco's Nucifera trees, otherwise known as coconut palm trees, grow abundantly along the coast regions. As a result coconut shells are abundantly available and it has been successfully utilized in many fields.

It mainly represents an experimental study on the effect of coconut shell on the strength of concrete when used in replacement of aggregate. The tests were conducted on concrete using M40 grade with varying percentage of coconut shell (10%, 20%, 30%, 40%, and 50%). Data presented include strength and slump value of concrete. The use of coconut shells can also help the prevention of the environment and also help economically. Sun drying shell should be used to make sure biodegradable materials decay before its mixing with concrete. It also contributes to sustainable construction. The aim of this paper is to spread awareness about the utilization of coconut shell as a construction material in civil engineering.

**Keywords:**CS (coconut shell); LWC (light weight concrete), lignin, mix design.

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# PHOTO GALLERY

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