VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590010

A PROJECT REPORT ON

"EXPERIMENTAL STUDY ON LIGHT-WEIGHT CONCRETE BY USING LIGHTWEIGHT AGGREGATES"

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Submitted in partial fulfilment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING

Under the Guidance of

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CERTIFICATE

Certified that the project work entitled **"EXPERIMENTAL STUDY ON LIGHT-WEIGHT CONCRETE BY USING LIGHTWEIGHT AGGREGATES"** is a bonafide work carried out by

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Are bonafide students of Department of Civil Engineering of Alva's institute of Engineering and Technology in partial fulfilment for the award of **BACHELOR OF ENGINEERING in CIVIL ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY ,BELAGAVI** during the year **2020-2021**.Itis certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library .The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

In this study comparison has been made on lightweight concrete (LWC) having different proportion of aggregates and mineral admixtures. Lightweight concrete is popularity due to its lower density and superior thermal insulation properties. It is compared with the conventional normal weight concrete. Lightweight concrete reduces the dead load of a structural, element which makes it especially attractive in multi-stories buildings.

The LWC is made of light weight aggregates that is replaced by rice husk and polystyrene in the place of fine aggregates(sand) and coarse aggregate. It helps to increase the volume of the concrete, hence reduces the weight of the concrete. The total lightweight concrete is more environmental and economic benefits can be achieved. If waste materials can be used replaced by fine lightweight aggregates.

Particularly, lightweight concrete can be categorized into three groups:

1. No-Fine's concrete
2. Lightweight aggregate concrete
3. Aerated concrete

In lightweight concrete prepared using Thermocol beams the coarse aggregates and weight is reduced more than 50% and 5-20% replacement of rice husk will increase the compressive strength, tensile and flexural strength.