

**INVESTIGATION ON MECHANICAL BEHAVIOUR OF NEWLY
DEVELOPED TAMARIND SEED REINFORCED BIO COMPOSITE**

A PROJECT REPORT

Submitted by

S.BHUVANESHWARAN

(112818114302)

R.UMESH

(112818114305)

M.VAIDEESHWARAN

(112818114306)

R.VISHNUJ RAM

(112818114307)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING



T.J.S. ENGINEERING COLLEGE



ANNA UNIVERSITY:CHENNAI 600025

JUNE 2022



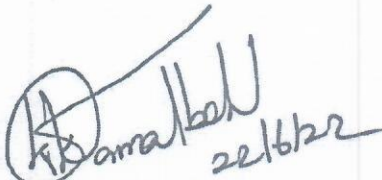
J. K. S.
PRINCIPAL

T.J.S. ENGINEERING COLLEGE
Peruvoyal, Kavaraipeetai,
Gummidipoondi Taluk,
Thiruvallur Dist - 601 206.

ANNAUNIVERSITY:CHENNAI600 025

BONAFIDE CERTIFICATE

Certified that this project report "INVESTIGATION ON MECHANICAL BEHAVIOUR OF NEWLY DEVELOPED TAMARIND SEED REINFORCED BIO COMPOSITE" is the bonafide work of "S.BHUVANESHWARAN [112818114302] R.UMESH [112818114305] M.VAIDEESHWARAN [112818114306] R.VISHNU RAM [112818114307]", who carried out the project work under my supervision.



SIGNATURE

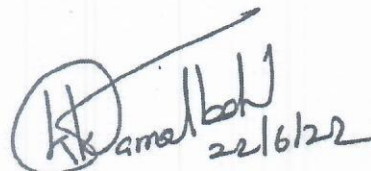
Dr. K. KAMAL SASU M.E., Ph.D (NIT-T)

Professor & Head Of

The Department

Department Of Mechanical Engineering

T.J.S. Engineering college



SIGNATURE

Dr. K. KAMAL BABU M.E., Ph.D (NIT-T)


Supervisor

Assistant Professor

Department Of Mechanical Engineering

T.J.S. Engineering college

Submitted for University project viva –voce examination held on 22.6.22


INTERNAL EXAMINER

22/6/22




EXTERNAL EXAMINER


PRINCIPAL
T.J.S. ENGINEERING COLLEGE
Peruvoyal, Kavaraipettai,
Gummidipoondi Taluk,
Thiruvallur Dist - 601 206.

ABSTRACT

The paper presents the study of the tensile strength, flexural strength and impact energy absorption characteristics of the tamarind seed jute fiber with a view to using it as an alternative sustainable engineering material for various practical applications. Tamarind seed jute fiber reinforced epoxy resin matrix composites have been developed by hand lay-up technique with varying process parameters, such as fiber condition (treated untreated), different type of composite of tamarind seed jute fibers. The effects of these factors on the tensile strength, flexural strength and impact energy of the components were studied. From this, the maximum tensile strength varies from 1300N to 48.3N, similarly the maximum flexural strength varies from 0.150KN to 0.085KN and the maximum impact energy varies from 0.4J to 0.1J as a function of fiber volume fraction. The optimum compressive strength and flexural strength and impact energy were obtained at the composition. The application at present, tamarind seed jute fiber / epoxy composites are widely used in various engineering and structural applications such as electrical industries.



A handwritten signature in green ink, appearing to read 'J. S. ...'.

PRINCIPAL

T.J.S. ENGINEERING COLLEGE
Peruvoyal, Kavaraipeetai,
Gummidipoondi Taluk,
Thiruvallur Dist - 601 206.