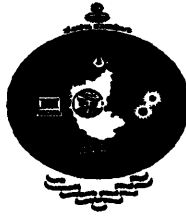


**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM- 590010**



**PROJECT REPORT ON
“Development of Eco-Biocomposites and their
Applications”**

(SPONSORED BY K.S.C.S.T.)

*Submitted in partial fulfillment of the
requirements for the award of the degree of*

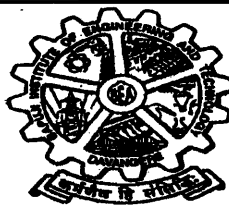
**BACHELOR OF TECHNOLOGY
IN
TEXTILE TECHNOLOGY**

PROJECT ASSOCIATES

ANUPAMA K.S	4BD06TX002
TIRUMALESH M.K	4BD03TX041
NEETHU L.N	4BD07TX408
SHREEDHAR D.K.	4BD07TX409

Project Guide

Dr. K. MURUGESH BABU
M.Tech., Ph.D., MIE, MISTE
PROFESSOR



**DEPARTMENT OF TEXTILE TECHNOLOGY
BAPUJI INSTITUTE OF ENGINEERING & TECHNOLOGY
DAVANGERE - 577004, KARNATAKA.
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ABSTRACT

Composites are widely used in our day to day life. Due to their low weight and ability to be tailored for specific end use they have gained a considerable ground in the high performance applications, such as aerospace, structural and automobile industry. However, the use of polymers that can be recycled when used with carbon and other niche fibers renders the composite non-recyclable. This has become a major issue as the landfills are filling up at a faster pace along with the need for going green due to global warming.

To tackle these issues research in recent years has been focused on substituting olefin (polypropylene, polyethylene, etc) based composites with biodegradable ones. In order to achieve the goal of recyclable composites, natural fibers surfaced as the fiber of choice for reinforcing composites. The current project uses coir, jute, kenaf, sisal and silk fibres as reinforcing material to fabricate bio degradable composites. The fibres are analysed for their various properties such as linear density, moisture content and tensile properties. Further the fibres are cut into required length and then processed through carding machine to make them suitable for further usage. Epoxy resin is used as matrix material in which fibres are reinforced to make bio degradable composites.

Composites are fabricated with various fibre:matrix ratios (30:70, 35:65,40:60) using compression moulding technique. They are tested for various properties like density, moisture content, Biodegradability, flexural and Tensile properties to find their applications in suitable areas.

The overall study reveals that sisal fibre reinforced composites exhibits minimum strength where as the kenaf fibre reinforced composite exhibits least strength.