

## **Extraction and characterization of vetiver grass (*Chrysopogon zizanioides*) and kenaf fiber (*Hibiscus cannabinus*) as reinforcement materials for epoxy based composite structures**

### **ABSTRACT**

The study deals with the mechanical characterization of vetiver grass fiber and kenaf fiber reinforced epoxy-based hybrid composites. Five types of composite laminates were developed through the hand lay-up process by varying the percentage of vetiver grass and kenaf fibers. The tensile, flexural, compression and impact tests were conducted as per ASTM. The fractured surfaces of the tested specimens were studied using a scanning electron microscope. From the results, it was shown that properties of epoxy composites were improved by hybridization with vetiver grass and kenaf fibers. The improved mechanical properties of fiber-reinforced composites were noticed in increment of percentage composition of kenaf fibers.

**Keyword:** Vetiver grass (*Chrysopogon zizanioides*); Kenaf fiber (*Hibiscus cannabinus*); Epoxy; Composites; Properties