



## AIUB DSpace Publication Details

**Title:** Jannat Ara Mim, Md. Nizamuddin Ahmed Mazumder Rupam, Md. Mahbub Hossain Molla, Md. Jahangir Alam, and Md. Ehasanul Haque

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**Contact Email(s):** ehasanul@aiub.edu

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## Abstract:

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In this study, we employed the hand lay-up method to fabricate a composite material comprising nylon mesh as the reinforcing element and epoxy resin as the matrix material, along with the incorporation of jute, polyethylene, and aluminum foil paper. Extending beyond standard characterization, our research encompasses a range of tests, including tensile strength, strain, hardness, and flexural strength comparisons with blank epoxy sheets. While these tests revealed notable improvements, Young's modulus exhibited fewer promising results. Additionally, we explored water absorption properties. These multi-faceted observations promise to unlock novel applications and elevate composite material quality across a spectrum of industries. Furthermore, we conducted additional tests, including hardness assessments, UV absorption analysis, water absorption tests contributing to a comprehensive understanding of the composite's performance and applications.