

**EFFECT OF ENZYMATIC DESIZING AND SINGLE STAGE BIO-
SCOURING AND BLEACHING ON THE DYEABILITY OF COTTON**

SUHELA BINTI JAWARIS

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ABSTRACT

EFFECT OF ENZYMATIC DESIZING AND SINGLE STAGE BIO-SCOURING AND BLEACHING ON THE DYEABILITY OF COTTON

Cotton may contain between 4 and 12% by weight of impurities in the form of waxes, proteins, pectins, ash, and miscellaneous substances such as pigments and hemicelluloses. These impurities were removed from the fabric by scouring and bleaching, since their hydrophobic nature negatively affects the enhancement of the fabric's wettability and absorbency. Typical conventional pretreatment processes involve the use of chemicals in three separate steps. In this study, the effectiveness of enzymatic treatment and combination process was investigated and compared with the conventional treatments. The effect of the dyeability of the cotton fabric was compared based on the shade and the colourfastness. Overall results showed conventional pretreatment gave better result than enzymatic treatment and combination process in term of weight loss and whiteness. However, in term of absorbency, the enzymatic pretreatment gave nearly the same result with that of the conventional pretreatment. The enzymatic pretreatment produced better colour shades for the reactive dye than conventional pretreatment and both produced better colour shades for direct dye. Both pretreatment fabrics have average to good colourfastness to washing, perspiration and crocking except for the conventional pretreated fabrics dyed with reactive dye have a poor staining in colourfastness to washing.