

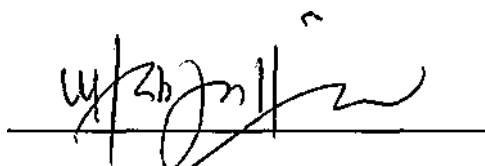
APPLICATION OF NATURAL DYE FROM
POMEGRANATE (*Punica Granatum*) SKIN ON COTTON
FABRIC TREATED WITH CHITOSAN

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This Final Year Project entitled "Application of Natural Dye from Pomegranate (*Punica Granatum*) Skin on Cotton Fabric Treated with Chitosan" was submitted by Nurul Hazwani Binti Sulaiman, in partial fulfillment of the requirements for the Bachelor of Science (Hons.) Textile Technology, in the Faculty of Applied Sciences, and was approved by



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ABSTRACT
APPLICATION OF NATURAL DYE FROM POMEGRANATE
***(PUNICA GRANATUM)* SKIN ON COTTON FABRIC TREATED WITH**
CHITOSAN

In this study, the application of pomegranate skins as natural dye on chitosan treated cotton fabric was examined. Two dye extraction methods were used namely boiling and solvent extraction. Solvent extraction gave darker brown shade compared to boiling. Application of chitosan was done using padding and all in one process where chitosan was applied together with the dye formulations. Result of treated fabric dye showed that padding was a better way of applying the chitosan on the fabric. The chitosan treated fabric has better dyeability and average to good colourfastness result was obtained even in the absence of mordants. The effect of mordants and the mordanting techniques was evaluated based on the colourfastness of the dyed cotton. Result indicated that the colourfastness properties of the pre-mordanted fabrics were slightly lower than those of the meta-mordanted ones with paddy husk performing slightly better than the slaked lime. Dyeing was conducted with 70% and 30% concentration of dye. Increase concentration of dye did not influence the colourfastness properties but slightly darker colour shade was obtained. Nonetheless, these results were comparable to those obtained when dyeing was conducted in the absence of mordants. Thus, it can be concluded the application of pomegranate skin as natural dye without mordants on chitosan treated cotton fabric is possible.