

Cotton *Khadi* fabric dyeing with natural dye extracted from the petals of *Butea monosperma* Flower using different mordants

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■ **ABSTRACT** : Natural dyes are eco-friendly, biodegradable, non-toxic, and having no side effects on skin as compared to synthetic dyes. These dyes obtained from different natural sources which may be animal and plants sources (like stem, bark, flowers, leaves and roots of the plants). In the present work, dye was extracted from the petals of *Butea monosperma* flowers were used for natural colouring to cotton *Khadi* fabric with different concentrations of dye *i.e.* 10%, 20% and 30% using five different types of mordant *i.e.* *P. granatum*, *P. emblika* *T. bellirica*, *A. catechu* and *F. sulfate* (Iron (II) sulfate heptahydrate) at three different concentration (5%, 10% and 15%). Dyed *Khadi* fabric was evaluated for colour fastness towards washing, rubbing, and sunlight. Cotton *Khadi* fabric samples dyed with *B. monosperma* with 30% concentration of dye and 15 per cent mordants concentration using pre-mordanting method gave good to excellent wash and rub fastness ratings with all mordants. *P. granatum* and *T. bellirica* mordants with pre-mordanting method using different mordant's concentrations *i.e.* 5%, 10% and 15% as compare to all other mordants produced moderate fading to no fading against blue dyed standards of 1-8 rating scale. The dyed samples showed very good colour strength (K/S) and colourimetric appearance using CIE L* a* b* colour space in terms of colour co-ordinates. The fabric samples mordanted with *P. granatum* gave very good colour strength with all concentrations of dye and mordants as compare to other mordants, respectively. Large ranges of shades were obtained using different types of mordants and their concentrations with petals of *Butea monosperma* dye.

■ **KEY WORDS**: Natural dye, *Butea monosperma*, Colour fastness, Colour strength, Cotton *Khadi* fabric

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