

**Effective treatment of dye contaminated aqueous solution from bark of *guaiacum officinale***  
**“A Low cost effective Adsorbent”**

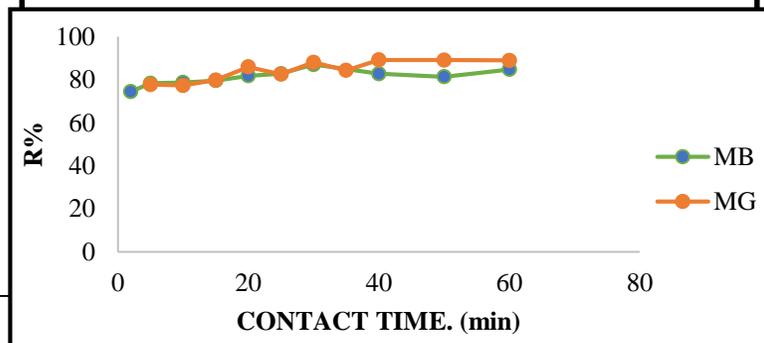
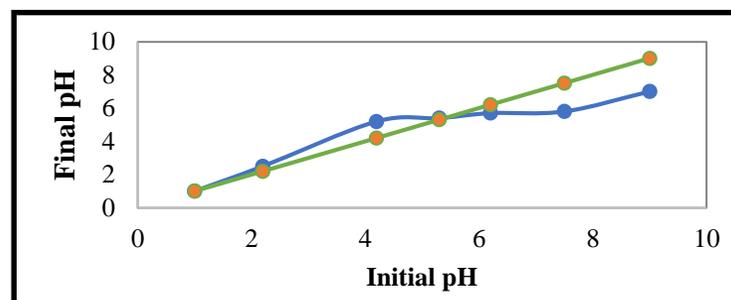
Ghazala Aftab<sup>1</sup>, Hira Sultan<sup>1</sup>, Ghazanfar Hussain<sup>2</sup>

NED University of Engineering and Technology<sup>1, 2</sup>



Synthetic dyes are present in waste water effluent, it is considered as a source for an impending hazard to the environment hereafter it is essential to remove such dyes from water bodies

Bark of the tree (*guaiacum officinale*) was found to be effective for the removal of methylene blue and malachite green from the water.



The suitable pH is 7 for the removal of 50 ppm of methylene blue and malachite green from aqueous solution. 0.2 g of adsorbent dosage was selected for maximum removal of both the dyes in 30min. 89% removal was achieved for MB and MG at these optimal conditions.

Under the optimized experimental conditions, the removal efficiency of 88% for both dyes by GOB can be achieved, indicating that bark of *guaiacum officinale* was a promising and environmental-friendly adsorbent to remove cationic dyes.

The value of PZC of *guaiacum officinale* that appears at 5.3 indicates that this natural material is favorable to remove anionic impurities at pH lower than PZC and at higher pH cationic impurities can easily be adsorbed and removed from waste water or textile effluent.

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- [4] Robinson, T., Chandran, B., & Nigam, P. (2002). Removal of dyes from a synthetic textile dye effluent by biosorption on apple pomace and wheat straw. *Water research*, 36(11), 2824-2830.