

Preparation of Heavy Metal Dyes Using Musa Sapientum Paradisiaca (Banana) and Study It's Fastening Property

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Abstract: Generally dye is a coloured substance that chemically bonds to the substrate to which it is applied. Dye is generally applied in an aqueous solution and may require mordant to improve the fastness of the dye on the fiber. Banana plants, which belong to the family of Musaceae, are native to the Malaysia-Indonesian region of South-East Asia. When the banana stem or leaf came in contact with our clothes banana leaf or stem or bark it stains our clothes. These stains are blackish or brownish in colour. This property of the staining the cloth we have to investigate the various metal complex of this banana stem and study their dying behavior for the fibre. The above study for the banana stem extract we have for the various metal complex i.e. copper, cobalt nickel, zinc, manganese, Titanium, aluminum at various pH depend on the complex formation behaviours of particular metal at particular phihises complex are study for the dying behavior for the fiber i.e. cotton and study their fastening property over the washing and sunlight, where we found that these various metal complex with banana stem extract shows the various shades of the colour. From this general observation we concluded that there is some dyeing ability in the bark of banana or in the stem of banana tree. 'The heavy metal dye by using Musa Sapientum Paradisiaca (banana tree) Stem'. Which shows different colour shade according to which metal ion solution to be used for the complex formation. The Various pH solution to be used for the Complex Formation according to heavy metal ion. Because every Metal forms the complex with legand at particular pH. The dye Shows Green, yellow, Brown, White colour with respect to metal ion. After staining these complex over the cotton it will stable at the shade but when treated with washing and sunlight the dye is found as temporary dye. On the basis of these result we can use these dye where the temporary dye is required such as temporary marker for the board.

Keywords: Banana, Dye, Metal Complex, Fastening Property

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