

## Abstract

ZnO-Co<sub>3</sub>O<sub>4</sub>/Chitosan composite was synthesized by simple chemical precipitation method and synthesized hybrid composite was characterized by X-ray diffraction, FE-scanning emission electron microscopy and Raman scattering spectroscopy. Chitosan (Cs) biopolymer has the chelating properties with metal oxides which facilitate the generation of electron hole pair efficiently on the catalyst surface by shortening the band gap of metal oxides. Hybrid composite was employed to check the photocatalytic degradation of methylene blue by using U.V visible spectrophotometer, which results the degradation of methylene blue approximately 90% within short time, indicates the chitosan has the effective adsorption properties and functional groups -NH<sub>2</sub> and -OH which provide the reactive surface for adsorption of pollutants specially azo dyes on catalyst surface and enhanced the photocatalytic activity by generating the free radicals and these free radicals helps in degradation.