

## **Abstract**

Nanocomposites of pure and chitosan coated zinc ferrites ( $\text{ZnFe}_2\text{O}_4$ ) were prepared with chemical co-precipitation method. Structure constitution, availability of various functional groups and surface morphology of prepared specimens were evaluated engaging X-ray diffractometer, Fourier-transform infrared spectroscopy (FTIR) and Scanning electron microscopy (SEM), respectively  $\text{ZnFe}_2\text{O}_4$  consisted of cubic structure. Improved crystallinity and presence of chitosan was verified by XRD results. SEM images visualized the rod-like geometry of prepared nanostructures with irregular shaped nanoparticles also. FTIR spectrum confirmed the presence of relevant functional groups. Samples were then tested for photocatalytic activity against methylene blue (MB) dye under the irradiation of sunlight. Furthermore, chitosan coated samples showed best results as compared to zinc ferrites.