

## **ABSTRACT**

*ZnO nanoparticles has been successfully synthesized using calcination by temperatures of 600°C, 700°C, and 800°C. Synthesis of ZnO nanoparticles using sol gel method by utilizing the red and yellow watermelon peels extract as chelating agent. The result of ZnO nanoparticles crystallin proprties were characterized using X-ray Diffraction (XRD) and morphological characterization using Scanning Electron Microscopy (SEM). The result of ZnO nanoparticles using red watermelon peels by 700°(m700) and 800°C (m800) calcination temperature shows wurtzite crystal sctructure with average size 59,29 nm and 39,16 nm. The result of ZnO nanoparticles shows hexagonal shapes morphollogy. ZnO nanoparticles were used as photocatalysts for the degradation of Methylene Blue (MB) using three variation sucsh as variation of MB concentration, th length of UV irradiation time and mass of ZnO nanoparticles. The changes of these three variations can affect the result of degradation. MB highest degradation value by 65,45% by sample of m800 using 12 ppm consentration of MB solution and irradiation using UV light for 240 minutes.*

*Keywords: ZnO nanoparticles, photocatalyst, sol gel method, degradation of MB*