



ABSTRACT

Nanotechnology is the emerging and wide field of science. Very wide applications of nanoparticles were studied like water treatment and controlling environmental pollution. Industrial and biological applications are also being studied. Attempts were made for their use as antibacterial agents and anti-cancer agents. Experiments are in process to use them for diagnosis purpose too.

Iron oxide doped tin oxide nanoparticles were synthesized by simple hydrothermal and surfactant assisted method and they were loaded with metal oxide (copper oxide and zinc oxide) nanoparticles by deposition-precipitation method.

These nanoparticles were characterized by Fourier transform-infra red spectroscopy, Thermogravimetric analysis, Transmission electron microscopy, Scanning electron microscopy and XRD powder.

Their antibacterial activities were determined by well method using suspensions of these synthesized compounds against gram-positive and gram-negative bacteria. Copper loaded nanoparticles showed good activity against gram-positive strains while zinc loaded nanoparticles showed good activity against gram negative strains.