



## Abstract

The red-hot field of research is nanotechnology. These techniques deal with size of 1-100nm particles. Nanoparticles due to their different sizes and various shapes used in the medical field, cosmetics, pharmaceutical, textile industry as well as in paints, adhesives and electronics. Metal nanoparticles exhibit excellent antimicrobial activity, dye degradation and used as ant-cancerous drug loading. Various methods are use for nanoparticles synthesis as chemical method, biological method which is also called green method and physical method. In this work silver nanoparticles were synthesized through single step reaction (Green synthesis) by wet chemical reduction method in which syzygium cumini (jamun) seed extract was used as reducing and capping agent. Characterized the silver nanoparticles by UV/VIS, XRD, SEM and FTIR techniques. Surface Plasmon Resonance of silver nanoparticles was observed at 411nm with 90nm size and homogenized spherical shape. These particles revealed the diabetic activity. Toxicological study is essential before their implementation in practical fields. When nanoparticles penetrated to cell produces reactive oxygen due to which oxidative stress build up and cell death occurs. In this study different concentrations of silver nanoparticles were administered orally for 14 days to mice. Observed organs through histopathological analysis. Toxicity of silver nanoparticles depends on the size. Silver nanoparticles of this work presented low toxicity at low dose and high toxicity at high dose for different organs (liver, spleen, lung and stomach) of mice. And have no effect on the heart and kidney at low and high concentration of dose of silver nanoparticles.