**Abstract**

 Silver nanoparticles have attracted much attention in recent years. At low concentration these silver nanoparticles are non-toxic in nature and have a broad spectrum of antibacterial actions. Many methods are being investigated for the efficient production of silver nanoparticles among which green synthesis process using plant extract showed more successive rate. Employing plants towards the synthesis of nanoparticles are more advantageous because these plants can act as capping and reducing agent and hence increase the rate of reduction and stabilization of nanoparticles. In this present study silver nanoparticles were synthesized by silver nitrate solution dissolved in distilled water with guava leaves as reducing agent. The biosynthesized nanoparticles were characterized with different characterization techniques. The presence of silver nanoparticles was confirmed by UV-VIS, XRD, FTIR and SEM spectroscopic techniques. Antibacterial activity study was also carried out for the biosynthesized silver nanoparticles.