**Abstract**

Green synthesis of nanoparticle is a novel way to synthesize nanoparticles by using biological sources. It is gaining attention due to its cost effective, eco friendly and large scale production possibilities. Silver nanoparticles are usually synthesized by chemicals which are quite toxic and flammable in nature. This study deals with an environmental friendly and biosynthesis process of antibacterial silver nanoparticles from 2mM aqueous AgNO3 using extract of carica papaya peel, well adorned for its wide availability and medical property. It is observed that the use of ripe carica papaya peel extract makes a fast and convenient method for the synthesis of silver nanoparticles and can reduce silver ions into silver nanoparticles without using any severe conditions. The formation and characterisation of silver nanoparticles (AgNPs) are confirmed by UV-Vis spectroscopy, Scanning electron microscopy (SEM), X-Ray diffraction (XRD), Fourier Transmission infrared spectroscopy (FTIR). Fourier transform infrared spectroscopy analysis revealed that bio molecules are involved in the synthesis and capping of silver nanoparticles. The XRD analysis confirmed that the silver nanoparticles (AgNPs) are crystalline in nature. The morphology of the AgNPs is studied using SEM analysis. The silver nanoparticles synthesized via green route are highly toxic to multidrug resistant human pathogens hence it has a great potential in biomedical application