Preface

On the ground of exhaustive applications of nanoparticles, advances are occurring in the thesis of nanoparticles. The area of synthesis and structural determination of solution of noble metals (Gold & Silver) nanoparticles is particularly interesting because of its rich optical and spectroscopic applications and other catalytic applications.

The works carried out as a part of this doctoral are reported in eight chapters. This thesis begins with the introduction of nanoparticles and highlighting the various synthesis routes to synthesize nanoparticles and for the therapeutic application point of view (chaper 1). The literature pertaining to nanoparticle synthesis given in literature review (chaper 2 A). Objectives of the work is given in chapter 2 B. A brief description of different characterization techniques employed for morphological and structural investigation of powder have been given in the material and methods chapter (Chapter 3).

The synthesis and characterization of Gold, Silver and Bimetallic (Gold-Silver) Nanoparticles in presence of different microorganisms are given in separate chapters (chapter 4, 5 and 6). Therapeutic application of Gold, Silver and Bimetallic (Gold-Silver) Nanoparticles are given in chapter 7. The results obtained for each system are present and discussed in the respective chapters.

Synthesized nanoparticles have been studied by UV-Visible spectra in solution form. Morphological characterization of the nanoparticle synthesized have been done by Particle counter, SEM and TEM. The conclusions drawn from the studies carried out for Gold, Silver and Bimetallic (Gold-Silver) nanoparticles are given at the end of chapters dealing with their synthesis and characterization of the above nanoparticles. Apart from these, conclusion of the investigation is present in chapter 8. It includes Summary and Future Prospects of This Work.