



## Synthesis of Nanoparticles from wild weeds and assessing its antimicrobial Activity

• Falah Deebea • Neha Kumari • Aisha Jamal  
• Hena Naz

Received : November 2016

Accepted : March 2017

Corresponding Author : Hena Naz

**Abstract :** *The development of the biological experimental process for the synthesis of nanoparticles has evolved a new realm and has expanded into a new and important branch of nanotechnology. The present study aims to analyse the Biological synthesis of nanoparticles using Trifolium and Albizia plant extract and the effect of plant extract in reduction mechanism and particle's crystal structure. The bio-reduction behaviour of plant extracts of Trifolium and Albizia in the synthesis of Cu, Fe and Ag was investigated employing*

*UV/visible spectrophotometry, XRD and Fourier transform infrared spectroscopy.*

**Keywords:** *Nanoparticles, Phytochemicals, Antimicrobial, UV/Vis, XRD, FTIR.*

### Introduction:

Nanotechnology is the science that deals with matter at the scale of one billionth of a metre i.e  $10^{-9}$  m equals to 1nm and is also the study of manipulating matter at the atomic and molecular scale .

A nanoparticle is the most fundamental component in the fabrication of a nano-structure and is far smaller than the world of everyday objects that are described by Newton's laws of motion but bigger than an atom or a simple molecule that are governed by quantum mechanics.

Nanoparticles are fundamental building blocks of nanotechnology. The most important and distinct property of nanoparticles is their larger surface area to volume ratio (Arangasamy leela et al 2008).

Physical and chemical methods for synthesis of nanoparticles are more popular but they lead to the synthesis of toxic compounds which limits their application and it is not also economically feasible.

Biosynthesis of nanoparticles is now established as an alternative to chemical and physical methods of synthesis (Peter Amaladhas et al 2012).

### Falah Deebea

B.Sc. III year, Botany (Hons.), Session: 2014-2017,  
Patna Women's College, Patna University, Patna,  
Bihar, India

### Neha Kumari

B.Sc. III year, Botany (Hons.), Session: 2014-2017,  
Patna Women's College, Patna University, Patna,  
Bihar, India

### Aisha Jamal

B.Sc. III year, Botany (Hons.), Session: 2014-2017,  
Patna Women's College, Patna University, Patna,  
Bihar, India

### Hena Naz

Assistant Professor, Deptt. of Botany,  
Patna Women's College, Bailey Road,  
Patna-800 001, Bihar, India  
E-mail : [henanaz64@gmail.com](mailto:henanaz64@gmail.com)