



## Green Synthesis of AgNPs and CuNPs using *Tambala* (Pera) Stem Extract

Zuber H. Mapkar<sup>1</sup>, Surbhi Benjamin<sup>1</sup> and Manohar V Lokhande<sup>2\*</sup>

1. Department of Chemistry, PAHER University, Udaipur-313003, Rajasthan, **INDIA**

2. Department of Chemistry, Sathaye College, Mumbai-400057, Maharashtra, **INDIA**

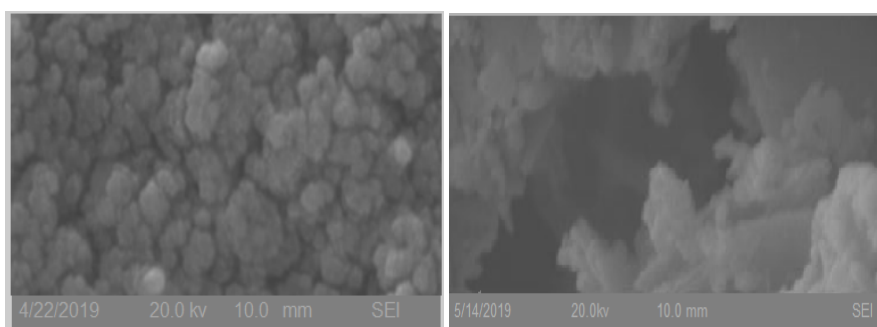
Email: [manohar2210@gmail.com](mailto:manohar2210@gmail.com)

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### ABSTRACT

*Eco-Friendly and cost-effective green synthesis method for silver and copper nanoparticles using Tambala (Pera) stem aqueous extract. The prepared silver (AgNPs) and copper Nanoparticles (CuNPs) was confirmed by using some techniques like SEM, X-RD, UV-Visible and EDX. AgNPs and CuNPs has different size having 18-22 nm and 43-58 nm. The average size of AgNPs and CuNPs were found to be 21.8 and 52.7 nm calculated by using sheerer equation. The prepared Silver and copper nanoparticles show microbial activities. The UV-Visible spectra for the AgNPs are obtained at 434 nm and for CuNPs it is found at 522nm. The capping molecules of NPs were negatively charged and were passably stable as revealed by zeta potential measurements and the XRD patterns illustrated their crystallinity. The synthesized AgNPs could efficiently inhibit various pathogenic organisms, including bacteria and fungi. The current research opens a new avenue for the green synthesis of nano-materials.*

### Graphical Abstract



SEM of AgNPs

SEM of CuNPs

**Keywords:** AgNPs, CuNPs, *Tambala* (Pera) Stem, Eco-friendly synthesis, UV-Visible and SEM.