ABSTRACT:

Earlier different types of physical and chemical methods were used for the synthesis of nanoparticles but these methods had many drawbacks. These were not environment friendly, caused pollution, and were costly as well. Due to these reasons, researchers turned to the green synthesis of nanoparticles which turned out to be a revolutionary step. The CuO NPs were synthesized using linseed hydrogel. The dye degradation potential of CuO NPs was investigated against methyl orange dye. Synthesized nanoparticles were examined with the help of different techniques such as SEM, UV-Vis spectroscopy, EDX, and FTIR analysis. Synthesized CuO nanoparticles showed a peak at 290nm in the UV-Vis analysis. Peak at 603.84 cm^{-1} in FTIR spectrum confirm the presence of CuO NPs. The structure and composition of NPs were examined with the help of SEM and EDX analysis. These particles were spherical in shape having a size of 40-50 nm. Photocatalytic degradation of methyl orange with CuO NPs has been investigated and the result shows that synthesized CuO NPs can degrade the 56.4% methyl orange dye.