ABSTRACT

- Many researchers are interested in biofuels because it is eco-friendly and potentially reduce global warming. Incorporating nanoparticles into biodiesel has increased its performance and reduced emission characteristics.
- The current study examines the influence of calcium oxide nano additions on the performance and emissions of a diesel engine that runs on IC engines. The transesterification process produced methyl ester and glycerine as by-product from waste cooking oil (WCO).
- The test fuel consists of biodiesel blends with and without calcium oxide nano additives (20,40 and 60 ppm). The fuel properties of the prepared WCO methyl ester were found to conform with the ASTM standards. The experimental results were determined by running a single-cylinder four-stroke diesel engine at different load conditions (20%,40%,60% and 80% load).