

## **Diesel and various blending nanoparticles based diesel, fuel properties study**

### **ABSTRACT**

In recent years, many researches have been performed to find suitable alternative fuels to petroleum products. In the present investigation, an experimental work has been carried out to examine the fuel properties test for pure diesel, diesel blended with silicon oxide nano, diesel blended with titanium oxide nano and diesel blended with graphene nanoplate which are namely as D, DS5, DT5 and DG5 respectively. The results indicated that the pure diesel fuel density is higher than DT5 by about 1%. However, this value is reduced to about 1% for DG5 and DS5 respectively compared to diesel fuel due to the blending effects. Meanwhile, in calorific value test, DS5 fuel energy content is lower than diesel by about 1.5%. However, this value is reduced to about 1.43% and 1.37% for DG5 and DT5 respectively compared to diesel fuel due to the blending effects.

**Keyword:** Diesel; Nanoparticle-diesel fuel blends