

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELGAUM - 590018**



PROJECT WORK REPORT ON

**“STABILITY ANALYSIS OF BIODIESEL, ETHANOL AND DIESEL BLENDS AND  
PERFORMANCE TESTING OF CI ENGINE WITH THESE STABLE BLENDS”**



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**MASTER OF TECHNOLOGY  
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## **Abstract**

In this work, stability of diesel–biodiesel–ethanol blends at different proportions, fuel properties (such as density, heat of combustion, cetane number, flash point and pour point) of the selected blends and their emissions performance in diesel engine are examined and compared to those of base diesel and thus to possibly standardize them close to the standard limit for diesel fuel.

Biodiesel is extracted from the waste vegetable oil by Esterification and is then blended as desired with the simultaneous increase of the volume of the components and thus the stability is examined in regular intervals to obtain the desired quality requirements for an efficient stable blend for the engine.

Engine performance and emissions characteristics of Diesel and blends of different proportions such as B50D, E04B50D, E08B50D, E12B50D, E16B50D are examined and compared with each other so as to determine the better blends among these to use in the existing CI engines.

This work is carried out so as to minimize the utilization of fossil fuel in our day to day life with the increase of the usage of renewable resources to meet our daily requirements in energy in automotives.