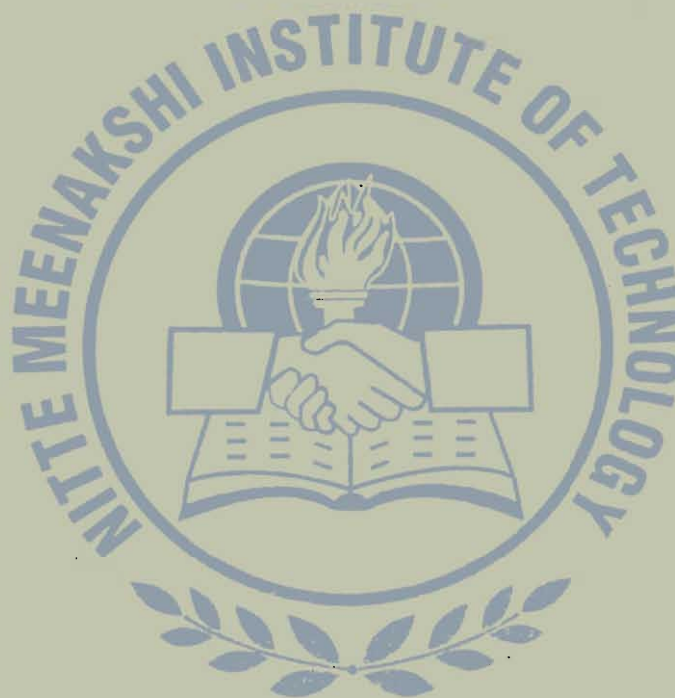


“DIESEL-JATROPHA-ETHANOL BLENDS” PERFORMANCE AND EMISSIONS OF A COMPRESSION IGNITION ENGINE

Project Proposal Reference No: 35S_B017

Sponsored By

KARNATAKA STATE BIOFUEL DEVELOPMENT BOARD



KNOWLEDGE • CHARACTER • UNITY

Submitted by

Karthik.P
(1NT09ME047)
Madhu.D
(1NT09ME055)

Jayanth.D
(1NT09ME044)
Kaushik.R
(1NT09ME048)

Under the guidance of
Mr.Manjunath.H.N
Lecturer,
Department of Mechanical Engineering, NMIT

ABSTRACT

There has been a growing concern on the emission of exhaust gases into the atmosphere whose consequence is environmental degradation and global warming. The sources of greenhouse gases have been identified of which the major contributor is the combustion of fossil fuels. Transportation accounts for about 30% of the world's secondary energy consumption and about the same in greenhouse gases. The increasing demand for transportation fuels combined with decreasing mineral oil reserves implies that the availability of petroleum is at the hands of a limited number of countries. This raises issues related to the security of energy supply. In addition, combustion of transportation fuels is one of the main sources of air pollution in urban areas. Therefore solution to these problems of fuel scarcity and exhaust lies in utilizing alternate fuel technologies. In this project, Bio-Fuels like Jatropha Curcas & Ethanol are used as alternate fuel.

Experiments were conducted on a Single Cylinder, Four-Stroke Diesel Engine using Diesel-Jatropha-Ethanol blends as well as on diesel fuel alone. The Engine performance & emission characteristics were analyzed by varying Injection Timings & load. Experimental results indicate that the blends 93D+2E+5J, 88D+2E+10J, 83D+2E+15J, 78D+2E+20J and 75D+20J+5E showed improved brake thermal efficiency and lower exhaust emissions and were found to be a good alternative fuel for Compression Ignition Engine.