

A

Report on

**EFFECT OF ALCOHOL/BIODIESEL BLENDS ON THE PERFORMANCE AND
EMISSION CHARACTERISTICS OF DIESEL ENGINE**

A Project report submitted for the partial fulfillment of the requirements for award of

Degree of

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MECHANICAL ENGINEERING

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CERTIFICATE

This is to certify that the project entitled **“EFFECT OF ALCOHOL/BIODIESEL BLENDS ON THE PERFORMANCE AND EMISSION CHARACTERISTICS OF DIESEL ENGINE”** is the record of the work carried out by **G.VAMSI KRISHNA (19815A0320), K.SHIVA (19815A0330), G. NAGA SAI KRISHNA (18811A0309), D. MOHAN SAI KRISHNA (19815A0311)** students of final year B. Tech in the department of Mechanical engineering. This work is done for the partial fulfilment for the award of BACHELOR OF TECHNOLOGY during the year 2021-2022.

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ABSTRACT

Increasing costs, the depletion of fossil resources, and a lack of contribution have sparked a lot of interest in biodiesel (jatropha) as an alternative fuel source. The purpose of this study is to evaluate the combustion and vibration behaviour of diesel engine using iso-butyl alcohol added biodiesel mix (B20). **Iso-butyl alcohol** additives (at higher quantity) was added to B20 in various proportions of 5% (by volume), 10 % (by volume),and 15% (by volume). The thermophysical properties such as density, calorific value, viscosity, flashpoint, fire point, cloud point and pour points were assessed as per the ASTM standards. The experimental test was carried out at four different loads and a compression ratio of 17.5. The detailed analysis was performed for the combustion and vibration of diesel engine.