



Visvesvaraya Technological University, Belgaum  
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PROJECT REPORT ON

**PERFORMANCE TEST OF FOUR STROKE DIESEL ENGINE  
USING BIODIESEL EXTRACTED FROM COTTON SEED OIL  
BLENDING WITH PETROLEUM DIESEL**

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## **ABSTRACT**

In this study oil extraction process was done by using soxhlet apparatus to determine the oil content in the cotton seed. Then cotton seed oil biodiesel was produced by transesterification process. Performance of cotton seed oil biodiesel in four stroke single cylinder VCR diesel engine was experimentally investigated. For this study cotton seed oil biodiesel was added to diesel fuel and B10, B15, B20 blends were prepared. Fuels were tested in the four stroke single cylinder VCR engine. The performance of cotton seed oil biodiesel blends were examined at varying the load condition. The effects of B10, B15, B20 and diesel fuels were determined .the result showed that BTE, ITE was higher for the blend B20 compared to diesel. From the results obtained lower contents of biodiesel blends can partially be substituted for the diesel fuel with any much modification in the diesel engine. The emission test was also done for diesel and other blends to determine the content of CO, CO<sub>2</sub>, NO<sub>x</sub>, and HC in the exhaust gas. From the results obtained it was clear that B20 had lower emission character.