

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELGAUM



A Project Report on

“PERFORMANCE EVALUATION OF BI METALLIC PISTON USING ALTERNATIVE FUELS IN C.I. ENGINES”

SANCTIONED BY

**“KARNATAKA STATE COUNCIL FOR SCIENCE AND
TECHNOLOGY”**

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ABSTRACT

All over the world the use of petroleum products has increased day by day. The vehicle population is also increasing day by day. The vehicle population has tremendously increased in the recent year with the explosion of vehicle population in the world wide. As the vehicle population increases the use of fossil fuel like petrol and diesel has increased tremendously.

Generally the emission like CO, HC, NO_x, SO₂ particular matters and smoke are treated as emission from the exhaust gas of engines. Among the emission, the HC and CO are more toxic in nature and which leads to air pollution. The diesel engine predominant then petrol engine in the developed country India as a developed country the diesel engine predominant in agriculture sector, power sector, automobile sector.

The main aim of the project is to reduce emission like CO, HC from the exhaust gasses of diesel engines for the above specific application the semi adiabatic air gap silver crown piston is used as a modified piston.

The experiment is conducted using this modified piston in the existing diesel engine. From the experimental result it is found that the CO is reduced by 31.9% at zero load for semi adiabatic air gap silver crown piston compared to conventional piston.

At $\frac{3}{4}$ load the CO is reduced by 25.71% semi adiabatic air gap silver crown piston compared to conventional piston. It's also observed from experiment result that HC is reduced by 28.35% in zero load and reduction 31.34% in $\frac{3}{4}$ load for semi adiabatic Air gap silver crown piston when compared with conventional piston.

From the experimental result it is concluded that the semi adiabatic air gap silver crown piston effectively reduced CO and HC.