# VISVESVARAYA INSTITUTE OF TECHNOLOGY

SANTIBASTAWAD ROAD, MACHHE, BELGAUM – 590014
KARNATAKA

Project Report
On

# "ELECTROMECHANICAL CONTROL OF A CAMLESS VALVE ACTUATOR"

Submitted in partial fulfilment of requirement for the award of degree of

## BACHELOR OF ENGINEERING
## IN
## MECHANICAL ENGINEERING

Submitted by


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# SYNOPSIS

Fuel efficiency, performance and emission requirement are some of the key attributes of an automotive vehicle technology. Compliance with oncoming emission directives demands great effort from researchers on the design and development of an efficient internal combustion engine technology for vehicle application.

The main aim of this work focusses on the design and development of camless internal combustion engines for vehicle applications. In the conventional engine, a cam is a rotating or sliding piece in a mechanical linkage used especially in transforming rotary motion into linear motion or vice versa. This relative motion between the mechanical parts results in frictional power loss thereby affecting the fuel economy. In the present work efforts are made to eliminate various components of a valve train.

It has been calculated that the conventional valve train consumes around 5 to 10 per cent of the produced power by the engine for driving the different components involved in it. By removing some of the components of the valve train, we are avoiding the frictional power loses in the valve train and helping in allowing the engine to provide all the power produced to the transmission while maintaining the same fuel efficiency. The use of electromagnetic solenoids puts the strain on the electrical system which can be modified easily to take up the load.