# MITIGATION OF MAGNETIC INRUSH CURRENT IN SINGLE PHASE TRANSFORMER USING VOLTAGE SOURCE CONVERTER

*A project report submitted in partial fulfillment of the requirements*
*For the award of the degree of*

**BACHELOR OF TECHNOLOGY**
**IN**
**ELECTRICAL & ELECTRONICS ENGINEERING**


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## DEPARTMENT OF
## ELECTRICAL AND ELECTRONICS ENGINEERING

## CERTIFICATE

This is certify that the project report entitled **"MITIGATION OF MAGNETIC INRUSH CURRENT IN SINGLE PHASE TRANSFORMER USING VOLTAGE SOURCE CONVERTER"** is a bonafide work submitted by **R PAVAN GANESH, B CHIRANJEEVI, B PAVAN SAI, D VENKATESH** and **M VENKATESH** in partial fulfillment of the requirements for the award of degree of

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## ABSTRACT

Magnetic inrush current in transformer results from any abrupt changes of the magnetizing voltage or it depends on the switching position. When a transformer is first energized, a transient current up to 10 to 50 times larger than the rated transformer current can flow for several cycles. This current is called as magnetizing inrush current. Magnitude of this current is dependent on number of parameters like switching instant of supply voltage, residual flux, the hysteresis characteristics of the transformer core, impedance of the primary circuit, etc. This magnetizing inrush current causes system disturbances and damages the transformer windings. To improve this situation inrush current is required to be reduced.

Here we discuss inrush current limiters that reduce inrush current at the time of switching of the transformer. Here, inrush current limiters using power electronic converters like voltage source PWM converter are used. Simulations using MATLAB are carried out and results are tabulated.