

A Project Report Submitted to the  
**VISVESVARAIAH TECHNOLOGICAL UNIVERSITY, BELGAUM**



Entitled

***“Microcontroller based  
Partial Loaded Induction Motor Scheme”***

***SMART MOTOR CONTROLLER***

**(Sponsored by KSCST, IISc Bangalore)**

**In partial fulfillment of the award of the degree of the  
*Bachelor of Engineering in Electrical & Electronics Engineering***

**Submitted By**

<b>Mr. Prashant Kumbar</b>	<b>2HN06EE018</b>
<b>Mr. Prabhakar Bandagar</b>	<b>2HN06EE016</b>
<b>Mr. Sachin Vetral</b>	<b>2HN06EE405</b>
<b>Mr. Neelakantayya Hiremath</b>	<b>2HN04EE009</b>

**Under the Guidance of**

**Mr. Balwant Patil      Mr. Amit Neshti**



***Department of Electrical & Electronics Engineering***

**HIRASUGAR INSTITUTE OF TECHNOLOGY**

**NIDASOSHI-591236**

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## **Abstract**

In today's power scenario we are facing a major power crunch. Day by day gap between demand and supply of electric energy is widening. Bridging this gap from supply side is very difficult and expensive proportion. The only viable way in handling these crises, in addition to capacity addition, is the efficient use of available energy sources. Because of limited resources, huge capital investment limits. Fossil fuel based generation is harming the environment. Hydel power is capital intensive and poses threat to the ecological balance. The generating cost is increasing day by day. Unless the above crises are properly managed power scenario will be bleak. Conservation of the energy is the call of the day.

On the same line an investigation of the electrical energy saving obtained by reducing the terminal voltage of Induction Motors when they are not loaded or only partially loaded is presented. The purpose is to obtain information to help decide whether to install an energy saving device in plants using Induction Motors. The saving decreases with the increase of load. Switching-off one phase of the three phase supply during no load operation does not contribute to energy saving. Intermittent disconnection of the supply voltage can lead to considerable energy saving if the interruption interval is sufficiently long. With the help of digital interfacing we can make this scheme as a stand alone system by including the undervoltage and overvoltage protection for system.