



**NARNARAYAN SHASTRI INSTITUTE OF TECHNOLOGY
ELECTRICAL DEPARTMENT**



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Project Title:- Small Scale Induction Heating

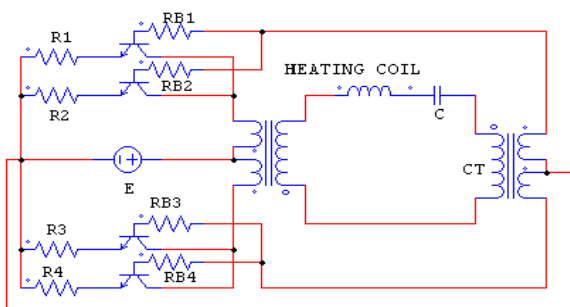
Abstract:- Now a days, induction heating is an advanced technique and it's a new trend in most of the metallurgy based industries due to numerous advantageous reasons of induction heating over other all types of heating.

In today's world of Industrialization, Machine' tools and parts play a very important role in day to day life. These tools and parts are generally made from iron and other metals, which needs to be casted and moulded for the final shaping. Moreover for the finished tool different processes such as hardening, annealing, forging etc. These operations are met by various HEATING methods.

We are going to design and construct a working model of small scaled "INDUCTION HEATING", which includes thorough designing of each of its main components, selection of components in such a manner that to reduce its cost and derive an economic design.

In various other types of heating techniques, the work piece is heated via. Conduction and or convection principle, which is proved to be a lossy and costly process, whereas in INDUCTION heating, work piece is heated by induction principle, which is far more easy, advantageous and comparably cheap and the work piece is solely heated and not the entire setup. Hence this accounts for monetary and power savings.

Block /circuit Diagram:-



Major Hardware components used:-

Heating coil, AC and DC capacitors, Steap down transformer, Coupling Transformer, Rectifier, inverter, LED etc.

Software used:-
None.

Project Application:-

- (1) Manufacturing industries.
- (2) Heating and melting of metals.
- (3) Annealing, soldering.
- (4) Cap sealing.
- (5) Hardening and various other metallurgical process and applications

Approx. Project Cost:- 5500*

Project Photo:-

