**Absract**

Transformers are a vital part of the transmission and distribution system. Monitoring transformers for problems before they occur can prevent faults that are costly to repair and result in a loss of service. Current systems can provide information about the state of a transformer, but are either offline or very expensive to implement. Transformers being the essential part of power transmission system are expensive, as is the cost of power interruptions. Because of the cost of scheduled and unscheduled maintenance, especially at remote sites, the utility industry has begun investing in instrumentation and monitoring of transformer. On-line transformer diagnostics using conventional technologies like carrier power line communication, Radio frequency based control system, and Supervisory control and data acquiring systems, Distributed control systems and Internet based communications are having their own limitations. GSM is an open, digital cellular technology used for transmitting mobile voice and data services. This project objective is to develop low cost solution for monitoring health condition of remotely located distribution transformers using GSM technology to preent premature failure of distribution transformers and improving reliability of services to the customers. An Embedded based hardware design is developed to acquire data from electrical sensing system. It consists of a sensing system, signal conditioning electronic circuits, advanced embedded hardware for middle level computing, a powerful computer network for further transmission of data to various places. A powerful GSM networking is designed to send data from a network to other network for proper corrective action at the earliest. Any change in parameters of transmission is sensed to protect the entire transmission and distribution. The performance of prototype model developed is tested at laboratory for monitoring various parameters like transformer Over voltage and Under Voltage, Over current and Under current, Over temperature etc.

**Block Diagram**

****