

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELGAUM - 590014



A project report on

“Automation of substation using GSM based technology”

(Sponsored by Karnataka State Council for Science and Technology)

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

BACHELOR OF ENGINEERING

IN

ELECTRICAL AND ELECTRONICS

Submitted by

AMRUTHA RANI.K (1SV05EE001)

CHAITHRT.S (1SV05EE006)

SHWETHA T.M (1SV05EE031)

NANDINI .C (1SV06EE016)

Under the guidance of

Ms. Dhruva Kumari.C.S

Lecturer, Dept. of E&EE

SIET, TUMKUR



Department of Electrical & Electronics Engineering
SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(An ISO 9001 – 2008 certified Institution)

SIRA ROAD, TUMKUR-572106

2009-2010

ABSTRACT

Substation is an assembly of equipments in an electric power system through which electrical energy is used for transmission and distribution. Transmission lines bring the power from receiving station upto the substation at a voltage level of 66kV or 33kV. At the substation the voltage level is reduced to 6.6kV or 3.3kV. During the distribution of above said voltage level, various faults may occur in the substation. *Technology is ever growing and there is always scope for improvement and advancements in every field of work.*

Our project “**Automation of substation using GSM technology**” is aimed at checking the different failure parameters like under voltage, over voltage, under current, over current and single phase fault parameters at the sub station. If any parameter has failed then this system does not transmit power. Simultaneously, it sends the message of the faulty parameter, to the mobile of substation authorized person. It also announces vocally which parameters are failed.

This system is designed using embedded chip and GSM module. An embedded chip (PIC 16F877) is used for making quick decision about the faulty parameters. The same embedded chip is also used for controlling the functions of voice source and GSM module. The GSM module (SIM 300Z) is used for sending text message directly to the mobile of substation engineer about the faulty parameter. Finally, APR 9600 voice recording and reproduction chip is used to announce vocally the faulty parameter name.