



VEDANTA PHYSICS SOCIETY
PARTICIPATION
IN
NEHRU YUVA KENDRA HAMIRPUR CONTEST



NETA JI SUBHASH CHANDRA BOSE MEMORIAL GOVT.
COLLEGE HAMIRPUR



नेहरू युवा केंद्र संगठन

Report

On 21 December 2024, Nehru yuva kendra Hamirpur organised the district level competition at N.S.C.B.M. Govt. college Hamirpur. The program consists of various competitions like drawing competition, mobile photography, speech competition, project presentations etc. **Sahil Thakur** and **Samriti Kaushal** as a member of vedanta physics society participated in the competition from the Govt. college Hamirpur and got second place in science project exhibition (Group).

Participation details

Participants Name - Samriti Kaushal
&
Sahil Thakur

Participated in - Project presentation
(Group)

Project Name - Transmission line Fault
detector



**PRIZE CEREMONY WITH PRINCIPAL Dr. PRAMOD PATIAL
VICE PRINCIPAL Dr. SHASHI K. SHARMA AND
S.P. BHAGAT SINGH THAKUR**





PROJECT DETAILS

Aim And Objectives Of The Project

In This Project We solve the big problem by our idea, These days when three phase transmission line first wire touch to second wire then that fault effect on substation and sometimes substation transformer fused so we make a system for transmission line all type of fault , for example in transmission any fault Line to Line fault or Line to ground fault or fire fault then that time automatic transmission line electricity power cut so our substation safe by that fault , So This is Our Idea For Solving This Big Problem

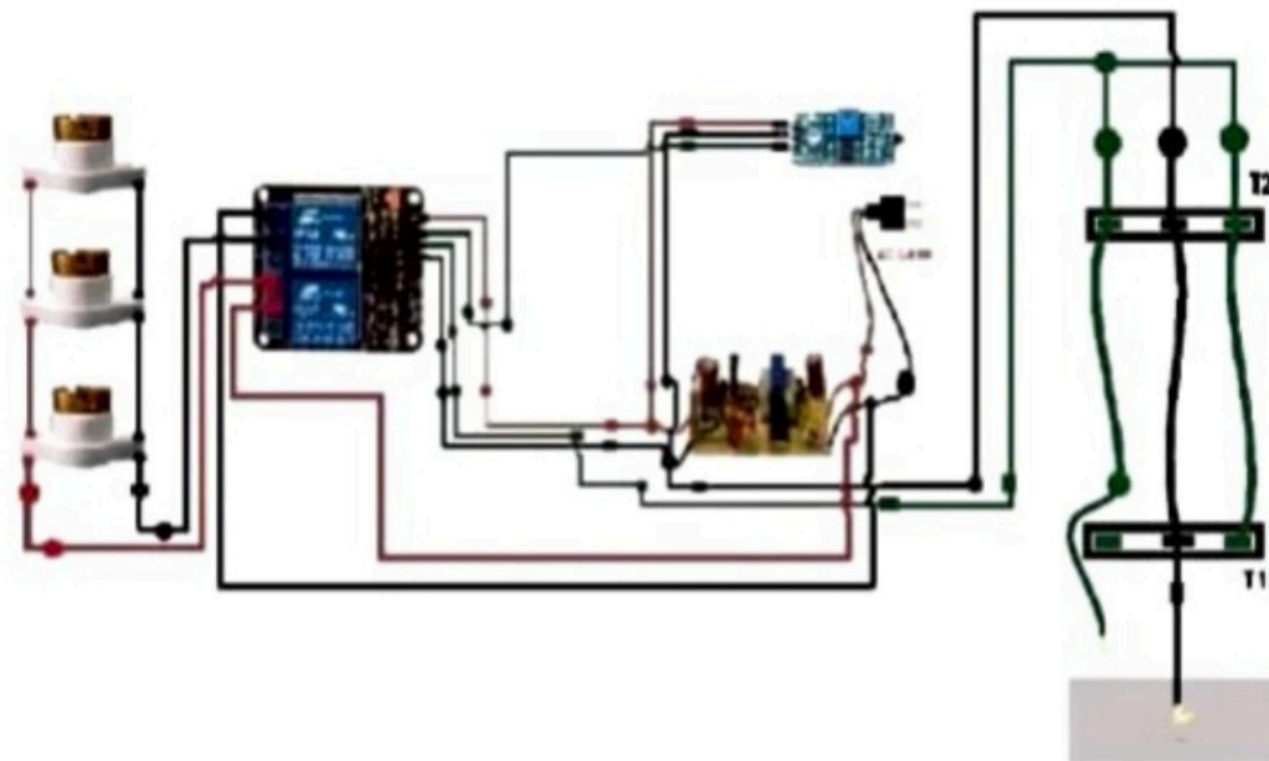
HARDWARE SPECIFICATIONS

- 1. Dual Channel 5V Relay Module / Relay 2. Temperature Module 3. Capacitor 25v/1000uf 4. LED Bulb 5. Resistor**
- 6. 5VAdopter Circuit 7. Steel Plate 8. PCB 9. Line Filter 10.AC Bulb/Holder 11.Jumper Wire 12.Hard Cover Wire**

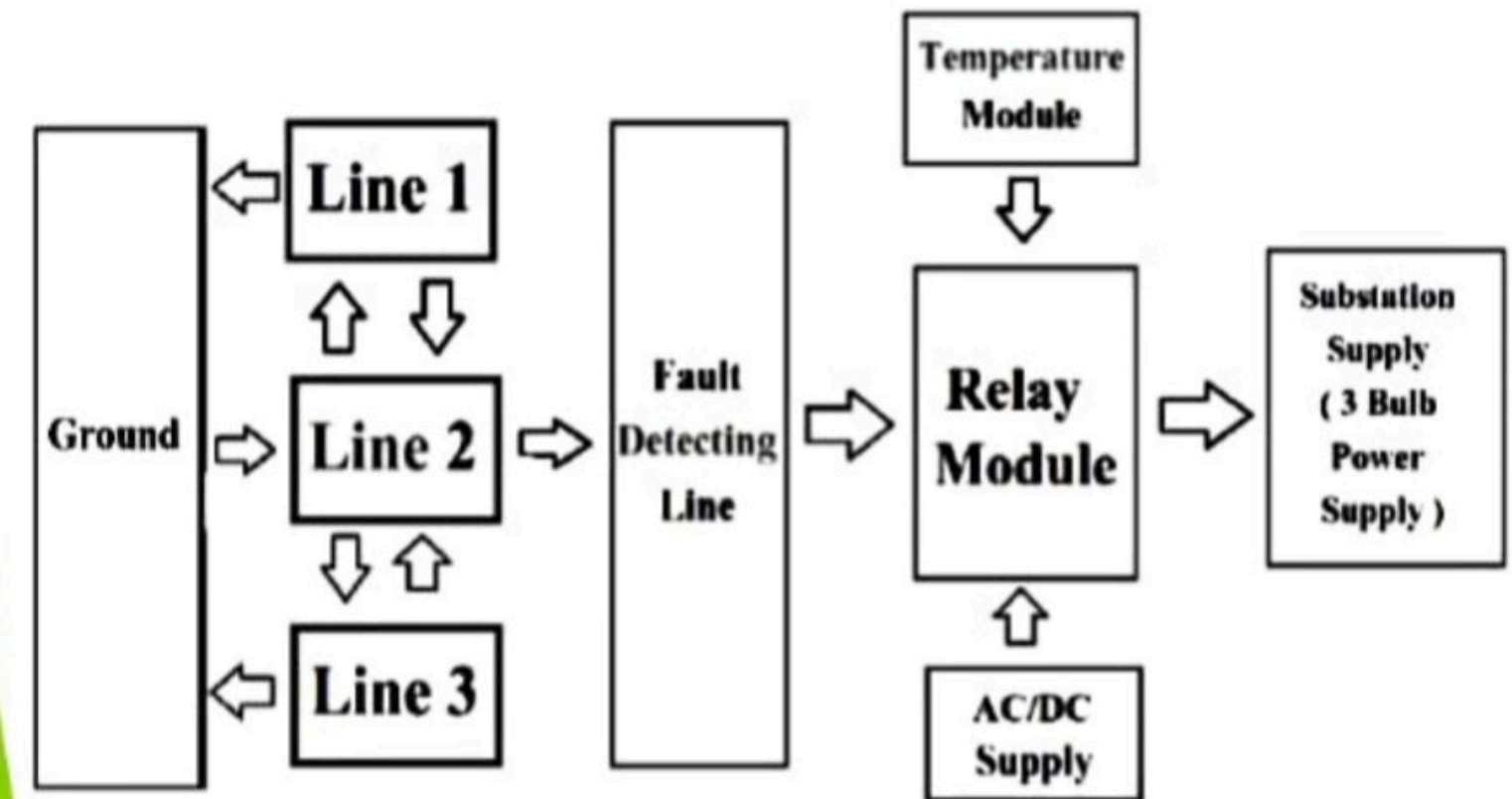
TRANSMISSION LINE FAULT DETECTOR

Basic Circuit Diagram Of Project Idea

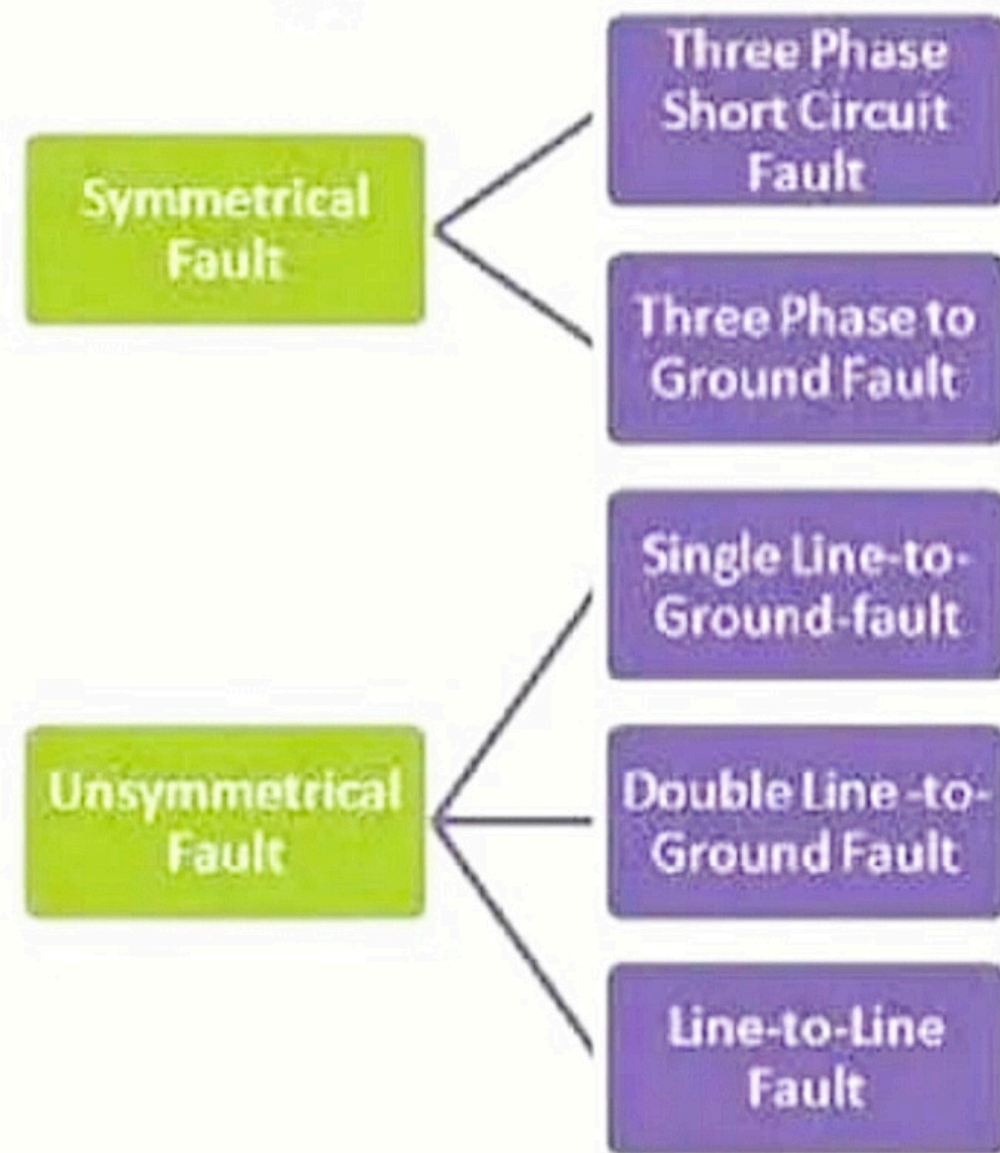
Dual Channel Relay Module Circuit



Block Diagram



Types of Fault

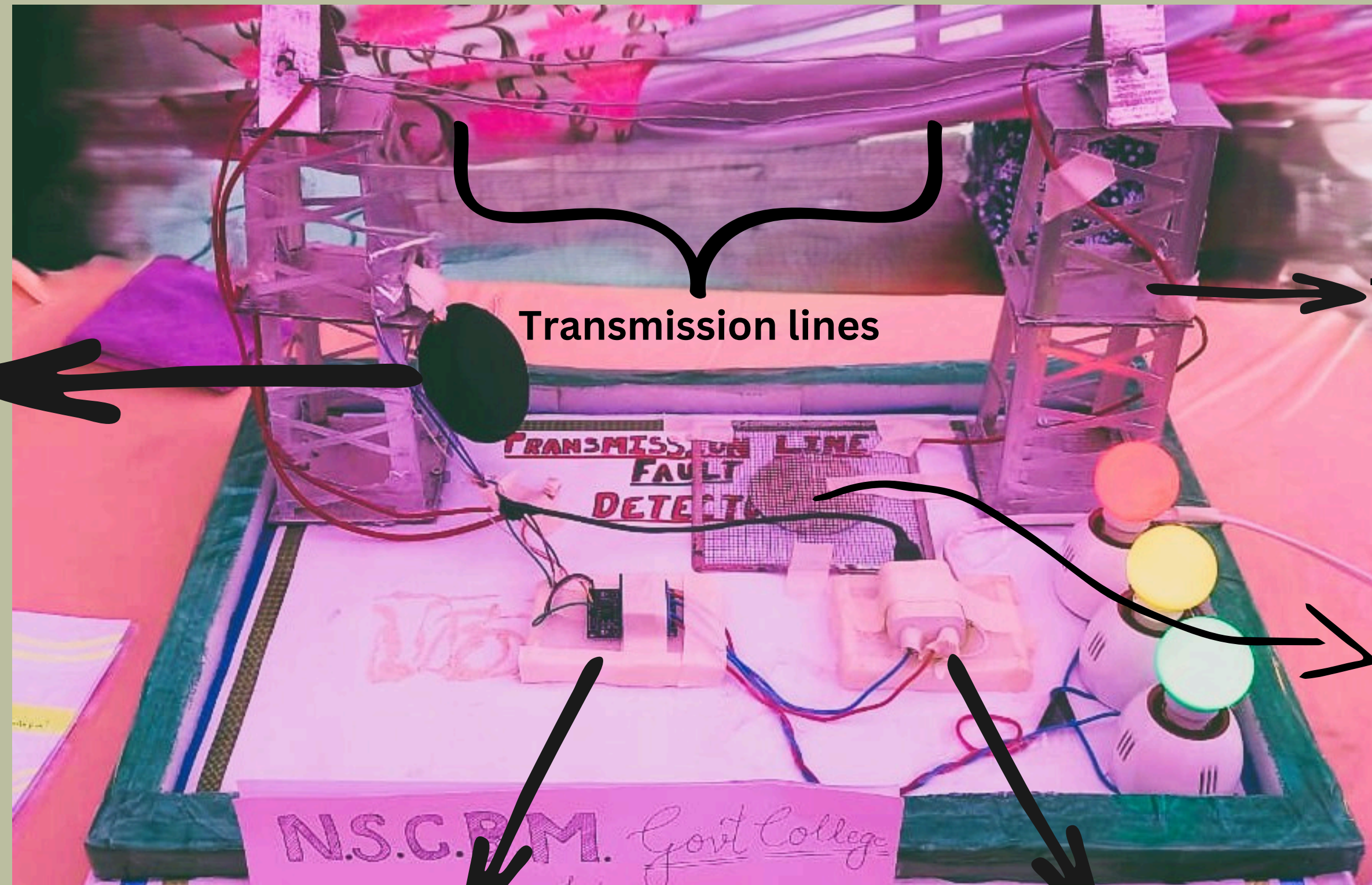


TRANSMISSION LINE FAULT DETECTOR

Transmission line fault detector is a device or system used to identify or detect the fault(abnormal electrical condition) on transmission lines and also allow the isolation of the faulty section and minimizing the disruption. It generally monitors the parameters like current and voltage to detect any change indicating a fault

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TRANSMISSION LINE FAULT DETECTOR



Temperature
sensor

Transmission lines

Transmission
pole

Metal foil
used for
earthing

RELAY

AC to DC converter
or adaptor

TRANSMISSION LINE FAULT DETECTOR

Working Principle

- ▶ This Project Full Work On Relay System And Relay is an electrical switch so relay module when received the signal then relay cut the electricity power so this project full principle depend on Relay Principle , The relay is the device that open or closes the contacts to cause the operation of the other electric control. It detects the intolerable or undesirable condition with an assigned area and gives the commands to the circuit breaker to disconnect the affected area. Thus protects the system from damage.

Advantages

- ▶ We can stop losses by line to line fault in Transmission Line
- ▶ We can stop losses by Ground to line fault in Transmission Line
- ▶ We can Stop Losses by Fire and Temperature Fault in Transmission Line
- ▶ This Project Save fault in transmission line so our government money save

CONCLUSION

It is very proud moment for us to represent our college in the district level competition. Also the lessons learned from this experience can be leveraged to enhance future projects and refine strategies for similar challenges.

THANK YOU!