## **UG Laboratories/** Switch Gear & Protection Laboratory



## **List of Experiments**

- 1. To study the protection of transformer with percentage biased differential relay (Microcontroller based numerical relay).
- 2. To study IDMT over current relay (single phase) and to determine the pickup and reset value and determine the time and current characteristics.
- 3. To study the working of Buchholz relay.
- 4. To analyze the underground cable fault using Varley loop test.
- 5. To study the directional over current protection.
- 6. To study the breakdown voltage of transformer oil by adjusting electrode gap length.
- 7. To study and draw the characteristics of numerical overcurrent relay.
- 8. To study and analyze the different type of symmetrical and unsymmetrical faults occurs in transmission line.
- 9. To study microcontroller based over/under voltage relay.
- 10. To study the complete protection of alternator unit.
- 11. To study the protection of feeder system.
- 12. To study the principle of reverse power protection.

## List of Major Equipment's

- 1. IDMT over current relay kit (ME2471R)
- 2. Buchholz relay unit
- 3. Varley loop test kit (VPL-83A)
- 4. Transformer oil test kit
- 5. Feeder protection unit
- 6. Symmetrical and unsymmetrical fault analysis (NVI57065)
- 7. Microcontroller based over/under voltage relay (VPL-05)
- 8. Reverse power protection Panel
- 9. Protection of Alternator unit (PWS-3012A)
- 10. Percentage biased differential relay
- 11. (ME2473RD)
- 12. Directional overcurrent relay (JRP 011)
- 13. Numerical overcurrent relay (ANSI NO. 50&51)