EEE 556 ASSIGNMENT

1. What is a circuit breaker?

A circuit breaker is an automatically operated electrical switch designed to protect an electrical circuit from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected.

1. How does a circuit breaker differ from a switch?

A switch is designed to allow a signal to break or make the circuit, within the limits of its current carrying capacity. A switch is not typically protected from accidentally being presented with loads that exceed its rating, but can be easily toggled as needed. While circuit breaker is typically used as a safety device designed to keep a circuit continuously connected until/unless the current exceeds a specific safe level, at which point the breaker trips automatically and disconnects the circuit to keep the downstream equipment from being damaged.

1. Which of the gases are employed in a commercial gas-blast circuit breaker?

Sf6 and Air

1. Why is the asymmetrical breaking current higher than the symmetrical breaking current in a circuit breaker?

Asymmetrical breaking current is the rms value of the combined sum of Ac and DC components of the short circuit current at the instant of separation of breakers contacts while the

Symmetrical breaking current is the value of the AC component alone.

1. What is meant by the rated voltage of a circuit breaker?

The rated voltage is the value of voltage used to designate the circuit breaker and to which is related its operating performance. The rated voltage indicates the upper limit of the highest voltage of systems for which the circuit breaker is intended.

1. What are the types of test conducted on a circuit breaker?
2. Mechanical test
3. Thermal test
4. Dielectric test
5. Short-circuit test