

# SLBS ENGINEERING COLLEGE

## MODEL ANSWER PAPER

(Electrical Engineering)

**Subject-** Switch Gear & Protection

**M.M.-10**

**Subject Code-** 6EE3A

**Year & Sem.-** 3<sup>rd</sup> year & 6<sup>th</sup> sem.

Q1- Write the name of comparators used in static relay? (1)

A1- Amplitude comparator and Phase comparator.

Q2- What is tripping condition for amplitude comparator? (1)

A2- Operating quantity must be greater than to restraining quantity.

Q3- Which relay used with static relay as a slave relay? (1)

A3- DC polarised relay.

Q4-What is a tripping condition for phase comparator? (1)

A4- Phase angle between operating and restraining quantity is less than or equal to 90 degree.

Q5- Write merits and demerits of static relay over electro-magnetic relay? (3)

A5- Merits-

- Fast response.
- Compact size
- Long life
- Low burden on CTs and VTs.

Demerits-

- Static relays are temperature sensitive.
- Static relays are sensitive to voltage transient.
- Static relay need an auxiliary power supply.

Q6- Explain static relay.

(3)

A6- In a static relay, the comparison or measurement of electrical quantities is performed by a static circuit which gives an output signal for the tripping of circuit breaker. Most of present day static relays include a dc polarised relay as a slave relay. A static relay employs semiconductor diodes, transistors, zener diodes, thyristors, logic gates, etc. as its components.