SLBS ENGINEERING COLLEGE

MODEL ANSWER PAPER

(Electrical Engineering)

Subject- High Voltage Engineering

Subject Code- 6EE2A

Year & Sem.- 3rd year & 6th sem.

Q1- How much distribution voltages (conventional transmission voltages) in big cities? (1)

A1- 110kV to 220kV.

Q2- What is secondary emission? (1)

A2- Electrons may be emitted by the bombardment of positive ion on the cathode surface. This is known as secondary emission.

Q3-Explain penning effect. (4)

A3- A small percentage of Argon in Neon reduces substantially the dielectric strengths of pure Neon. In fact, the dielectric strength is smaller than the dielectric strength is smaller than the dielectric strengths of either pure Neon or Argon. The lowering of dielectric is due to the fact that the lowest excited stage of neon is metastable and its excitation potential (16eV) is about 0.9eV greater than the ionization potential of Argon. The metastable atoms have a long life in neon gas, and on hitting Argon atoms there is a very high probability of ionizing them. This phenomenon is known as Penning Effect.

Q4- What is Corona Discharge? (2)

A4-In non uniform fields, before the spark or breakdown of the medium take place, there are many manifestations in the form of visual and audible discharges. These discharges are known as Corona discharge.

Q5- What are various properties required for providing insulation and arc interruption? (2)

A5- The various properties required for providing insulation and arc interruption are-

- High dielectric strength.
- Thermal and chemical stability.
- Non-inflammability.
- High thermal conductivity.
- Arc extinguishing ability.
- Commercial availability at moderate cost.