

- What are the various configurations used for bundled conductors used in EHV lines?
- Geometric Mean Radius of Bundles conductor.
- What do you understand by the maximum surface gradient of a conductor?
- What do you understand by the corona loss?
- What are the significance of Radio Interference?
- What are the properties of Circuit breakers for EHV AC.?
- What is the intrinsic strength of a solid dielectric?
- State the Paschen's law.
- Name some commonly used liquids for insulation.
- Draw a well labeled impulse waveform.

SECTION-B

- Q2 What are the various type of compensation used in EHV explain.
- Q3 What are the advantages and disadvantages of EHV system?
- Q4 The dimension of a 3 phase 400 KV horizontal line is at 15 m height and 11 m between each phase separation. Conductor 2×3.18 cm dia and $B = 45.72$ cm. Find out the matrix of inductances per km. for un-transposed configuration and find the same with the complete transposition.
- Q5 A transformer is connected by a length of 20 meters of lines to an arrester. The rate of rise of voltage is 700kv/. The arrestor voltage is 1700 KV. Calculate the voltage across the transformer.
- Q6 What are the various types of circuits breakers used in the EHV AC transmission? Explain their uses for various purposes.

SECTION-C

- Q7 A single line conductor 2.5 inch in dia of a 525-KV line (L-L) is strung 13 m above ground. Calculate :
- a) the corona-inception voltage
 - b) the effective radius of conductor at an over voltage of 2.5 p.u. Consider a stranding factor $m = 1.25$ for roughness
 - c) Calculate the capacitance of conductor to ground with and without corona
 - d) If a sound conductor is strung 10 m away at the same height, calculate the coupling factors in the two cases take $\mu = 1$.
- Q8 Explain the breakdown mechanism of short and long air gaps by using various theories.
- Q9 Write short notes on the following :
- a) Circuit breakers for EHV AC.
 - b) Audible Noise and Radio Interference
 - c) Surge Arrester
 - d) Voltage stability in EHV lines