

6. According to the Paschen's Law, the breakdown voltage of a uniform field gap is
- Directly proportional to the gas pressure and inversely proportional to the electrode gap
 - Inversely proportional to the gas pressure and directly proportional to the electrode gap
 - Directly proportional to the both electrode gap and gas pressure
 - Inversely proportional to the both electrode gap and gas pressure
7. Surge diverters are
- non-linear resistors in series with spark gaps which act as fast switches
 - arc quenching devices
 - shunt reactors to limit the voltage rise due to Ferranti effect
 - over-voltages of power frequency harmonics
8. Impulse testing of transformers is done to determine the ability of
- bushings to withstand vibrations
 - insulation to withstand transient voltages
 - windings to withstand voltage fluctuations
 - all of the above
9. In wet flashover tests, the conductivity of water used is
- $10 \pm 1.5 \mu$ Siemens
 - $100 \pm 15 \mu$ Siemens at ambient temperature
 - $45 \pm 10 \mu$ Siemens at room temperature
 - $< 1.0 \mu$ Siemens at 27° C
10. In EHV and UHV system, ratio of BIL to SIL will be usually
- Less than unity
 - More than 1.5
 - 1.5 to 2.0
 - 1.2 to 1.5
- PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

- Describe with a neat diagram, the different configurations of asynchronous interconnection in HVDC system. (8)
- Describe with a neat diagram, the operation of 6 pulse VSC circuit. (8)
- Illustrate the individual phase control method for generating gate pulse of HVDC valves. (8)
- Compare the salient features of SVC and STATCOM based on all operational aspects. (8)

15. Discuss the concept of flexible per unit system for DC quantities and explain the basic assumptions made in AC to DC converter. (8)