

M.E. Electrical Engineering – First Year - 2nd Semester Examination, 2018

Dielectric Engineering (HV)

Time: 3Hrs.

Full Marks: 100

Answer Any Five Questions

1. Discuss the factors affecting the breakdown voltage in vacuum 20
2. Discuss the streamer mechanisms in details with suitable illustrations 20
3. Describe tracking and breakdown of solids due to discharges, and discuss a test for any of the voltage ranges. 20
4. Discuss intrinsic and related forms of breakdown in solids. 20
5. Explain breakdown in liquids due to gaseous inclusions and due to solid particles. 20
6. Discuss partial discharges and describe a test in detail for partial discharge detection 20
7. Describe the different mechanisms of polarization and discuss relaxation frequencies for the different mechanisms 20

Write short notes on any two: (a) electron emission from metallic surfaces (b) time lags of spark breakdown (c) stress control

20