Ref: Ex/PG/EE/T/128D/2017

Master of Electrical Engineering, 2nd Semester Examination, 2017

Dielectric Engineering

Time: 3Hrs. Full Marks: 100

Answer Any Five Questions

1. Discuss the breakdown hypotheses in vacuum , 20

2. Derive Townsend current growth equations and discuss experimental determination of α and γ. 20

3. Explain breakdown in liquids due to gaseous inclusions and due to solid particles. 20

4. Describe in details, breakdown by discharges in solids. 20

5. Describe the different mechanisms of polarization and show how the permittivity of a dielectric varies with them. 20

6. Discuss electric stress and the different applications for stress control. 20

7. Discuss times lags of spark breakdown . 20

8. Write short note on any two : 10+10

   (a)Thermosetting and Thermoplastic materials (b) Electrets (c) Lichtenberg figures