

[illegible]

Total number of questions: 06

Paper ID: (2015 onwards)

Max Marks: 60

All COs

OR

Explain Para magnetism. Derive an expression for magnetic susceptibility.

- Q. 3.** Describe the electrical & thermal properties that are required of a good CO2 insulator. Explain in detail the various types of insulating materials used for capacitors, line insulators and switchgear.

OR

What is photo-conductivity? Explain the construction and principle of operation of a Photo-Voltaic cell with equivalent circuit diagram.

- Q. 4.** Explain the characteristics of magnetic materials used for electrical apparatus. CO3
Draw arrangement of dipole moments in different magnetic materials.

OR

What is magnetization? Explain spontaneous and saturation magnetization. What are soft and hard magnetic materials and also give the applications of ferromagnetic materials?

- Q. 5.** What are dielectrics? Write the various factors affecting the dielectrics. Also CO2
explain the breakdown process in solid, liquids and gases.

OR

Derive the Clausius Mosotti equation for dielectric materials.

- Q. 6.** Write short notes on following: CO1
(a) Dielectric loss and loss tangent.
(b) Ferromagnetism & ferri-magnetism.

OR

- (a) Ionic polarization.
(b) Superconductivity and Super conductors.