

## **CH 702: ORGANIC MATERIALS AND THEIR APPLICATIONS (3-0-0: 3)**

### **Organic Semiconducting Materials**

Basic concepts in conducting polymers, Synthesis of conducting polymers, Characterization of conjugated polymers, Optical and electrochemical properties, Charge transport in organic semiconductors, Carrier injection, Design of conjugated materials and applications in organic field effect transistors, Organic light emitting diodes, Organic photovoltaic.

### **Conjugated Polymer Based Sensors**

Fluorescence emission, Effects of solvents on fluorescence spectra of organic molecules, Quenching of fluorescence, Energy transfer process, Fluorescence sensing, Aggregation-induced emission, Different types of fluorophores used in imaging techniques.

### **References**

1. Terje A. Skotheim and John Reynolds , "Handbook of Conducting Polymers", (2 Volume Set), CRC Press-Taylor & Francis Group
2. Zhenan Bao and Jason Locklin , "Organic Field-Effect Transistors, (Optical Science and Engineering)", CRC Press-Taylor & Francis Group
3. Joseph R. Lakowicz , "Principles of Fluorescence Spectroscopy", Springer.