

1. **Production of Iron & Steel:** Introduction; Production of pig-iron process steel production processes (Bessemer; open hearth; LD; electrical etc) Steel -introduction carbon steel: classification of carbon steel.
2. **Alloy Steels:** Introduction ; Classification of alloy steel; Effect of alloying elements
3. **Heat Treatment of Steels:** Introduction; Heat treatment processes
4. **Cast irons and Cast iron productions:** Introduction; types of cast iron; Properties and application of cast irons; Effect of alloying elements on cast iron
5. **Non-Ferrous Metals:** Introduction; Aluminum and its alloy; Cu and its alloy properties and application of Zn, Ni, Cr, W, Ta etc.
6. **Corrosion:** Introduction; Types of corrosion (pitting, inter granular, crevice etc); Corrosion prevention methods (selection of materials, heat treatment, casting method, inhibitors etc.
7. **Inorganic Non Metallic Materials:** Introduction; Clay and its products; Refractory glass; Asbestos; Rock wool; Wood
8. **Organic Polymer Material:** Introduction; Thermosetting; Thermo plastics and elastomers; Tests of plastics; Fabrication of plastic objects.