Ceramics and composites

- Crystal structure: Boding, Crystal and amorphous materials.
- Engineering Ceramic: Al$_2$O$_3$, Zro$_2$, Sic, Si$_2$n4.
- Characterization of ceramic:
  1. Physical properties
  2. Thermal properties
  3. Electrical properties
  4. Magnetic properties
  5. Optical properties
  6. Mechanical properties
- Forming processes: Axial pressing, isostatic pressing (cold and Hot), Slip casting, Extrusion.
- Sintering: forces actonsintering, vapor phewe Sintering, liquid phasesintering, Crystal growth, Microstructure, Ceramic applications.