

Thapar Institute of Engineering and Technology
School of Physics and Materials Science
Engineering Materials (UES012)
ODD Semester 2023 - 24 (July – Dec 2023)

Tutorial Sheet No. 1

1. Classify engineering materials. Give three examples of each.
2. What are composites, compounds, mixtures, and alloys? Give two examples of each.
3. Name the different mechanical, thermal, electrical, magnetic, chemical, optical, and dielectric properties of materials (at least two of each).
4. Mention and explain the different technological properties of metals and alloys.
5. What is the difference between macrostructure, microstructure, and substructure of the material?
6. What do you understand by structure-sensitive and structure-insensitive properties of materials? Give at least three examples of each.
7. Which technique can determine the substructure and crystal structure of materials?
8. Differentiate between grain and grain boundary.
9. Identify the type(s) of bonding(s) present in the following materials: Graphite, Bakelite, Glass, SiC, CdS, AgCl, MgO, Al₂O₃, Clay, Germanium, Brass and ZnO.