Question bank for UNIT 2 and UNIT 3

1. With a neat stress-strain diagram explain mechanical properties.
2. With a neat stress-strain diagram explain elastic and plastic properties.
3. With the help of stress strain diagram explain ductile and brittle fracture
4. Explain the following thermal properties: Thermoelectric effects, thermal expansion coefficient, thermal shock, thermocouple.

5. Explain the dielectric behaviours of a material.

6. Describe the following: insulating materials, ferroelectricity, piezoelectricity, superconductor, luminescence, optical fibres,

7. Explain the properties and applications of following materials with examples.
   - Semiconductors,
   - stainless steel,
   - cast iron,
   - aluminium alloys,
   - titanium alloys,
   - ceramics
   - polymers
   - Fiber reinforced composites
   - Aggregate composites
   - biomaterials