

Question bank for UNIT 3

1. Explain the properties and applications of following materials with examples.
 - Semiconductors,
 - Stainless steel,
 - Cast iron,
 - Aluminium alloys
 - Titanium alloys
 - Ni- alloys
 - Mg- alloys
 - Ceramics
 - Polymers
 - Metal – matrix composites
 - Polymer matrix composites
 - Fiber reinforced composites
 - Aggregate composites
 - Biomaterials
2. Explain the working principle and applications of following optoelectronic devices.
 - i) LED
 - ii) Laser diode
 - iii) Phototransistor
 - iv) Photo-resistor
 - v) Photo-diodes
3. List the dielectric materials and illustrate their applications.
4. Explain the casting/forming / joining process with their advantages, disadvantages and applications.
5. Explain the properties and applications of different types of cast iron
6. Illustrate the effect of different alloying elements on the properties of steel.
7. Classify stainless steel based on microstructure and list their applications.