Physics - 12th Class Physics Chapter 6 Short Questions Preparation

Q1. Differentiate between ductile and brittle substance,Give their examples.

Ans 1: Ductile substance:Substance that undergo plastic deformation unit they break are called ductile substance.Lead copper,and wrought iron are ductile.
Brittle substance: The substance which break just after the elastic limit reached are known as brittle substance.Glass and high carbon steel are brittle.

Q2. Differentiate between tensile stress and shear modes of stress and strain.

Ans 1: Tensile Stress: A stress that cause the change in length of an object is called tensile stress.
Shear stress: A stress that cause the change in shape of an object is called shear stress.
Tensile stain:If the strain is due to tensile stress it is called tensile strain.A strain produced in the object when it is subjected to shear stress is called shear strain.

Q3. Define module of elasticity.

Ans 1: The ratio of stress to strain is constant for a given material ,provided the external applied force is not too great called modulus of elasticity.
modulus of elasticity=stress/strain

Q4. Describe energy band picture of insulators.

Ans 1: Insulators are those materials in which valence electron are bound to very tight to their atoms and are not free.In terms of energy bands,it means that an insulator has:

- An empty conduction band
- A full valence band
- A large energy gap

Q5. Describe the energy band picture of semiconductors.

Ans 1: In semiconductors,valence band and conduction is partially filled and they have a very narrow forbidden energy gap.

Q6. Distinguished between soft magnetic material and hard magnetic materials.

Ans 1: Soft magnetic: The materials in which their domains can be easily orientated on applying external magnetic field and also return to original positions when field is removes.E.g iron.

Ans 2: Hard magnetic:The material in which their domains can not easily orientated on applying external magnetic field.But once the domains are lined up by a very strong magnetic field,they will restrain their position after the removal of magnetic field.

Q7. How the conductivity of semiconductor can be raised?

Ans 1: The conductivity of a semiconductor can be raised by the process of doping in which small number of impurity atoms are added to pure semiconductors.

Q8. Define stress and write its formula.

Ans 1: It is defined as the force applied on unit are to produce any change in shape,volume or length of a body.Its formula is Stress=Force/Area

Q9. Explain what is curie temperature?

Ans 1: The temperature at which the domains of ferromagnetic material start losing their orderliness is called Curie temperature,For example the curie temperature of iron is $750^{o}C$.

Q10. Define UTS of a material.

Ans 1: The maximum stress that a material can withstand is called ultimate tensile stress.