Physics - 12th Class Physics Chapter 6 Short Questions Preparation

Q1. Define yield point and ultimate tensile stress.

Ans 1: Yield point: The point on the stress-strain curve beyond which if stress is further increased then permanent deformation takes place in the given specimen.This is called yield point.
Ultimate tensile stress: The maximum stress that a material can withstand called ultimate tensile stress.

Q2. 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.

Q3. What is critical temperature in super conductivity?

Ans 1: The temperature below which the resistivity of a material falls to zero is called critical temperature.For example mercury.

Q4. Write the used of superconductors.

Ans 1: Superconductors can be used in :

1. Magnetic Resonance Imaging
2. Powerful but small electric motors
3. Fast computer chips
4. Magnetic Levitation Trains

Q5. Define retantivity.

Ans 1: When the current is reduced to zero,the material still remains strongly magnetized which is known as retantivity.

Q6. How n type semiconductors are formed?

Ans 1: When a silicon crystal is doped with a pentavalent element,e.g arsenic,antimony or phosphorus etc.four valence electrons of the impurity atom form covalent bond with the four neighbouring Si atoms,while the fifth valence electrons provide a free electron in the crystal.Such a doped semiconductor is called n type semiconductor.

Q7. How can the strain energy be determined from the force extension graph?

Ans 1: Strain energy can be determined from the force extension graph according to the following relation
Strain energy :$1/2\, l_1 F_1$

Q8. 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°C.

Q9. What does are of hysteresis loop tell?

Ans 1: The area of the loop is the measure of the energy needed ti magnetize and demagnetize the specimen during each cycle of the magnetizing current,This is the energy required to do work against internal friction of the domains.This work is dissipated as heat.It is called hysteresis loss.

Q10. 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