



Answer the following questions :

Q1). Describe in Details the Main Differences between Crystalline, polycrystalline and Amorphous Solids of Materials?

Q2). How the Optical Properties Affect the Semiconducting Nature of Solids?

Q3). What are the Recombination Types and How they Affect the Solid Properties?

Q4). How the Photovoltaic Action is Generated? And How the PV Efficiency is Calculated?

Q5). What are the Main Classifications of Materials by Their Electrical Properties?

Q6). You Have a Semiconductor Material with an Energy Gap of 1.5 eV and Hall mobility of $400 \text{ cm}^2/\text{V}\cdot\text{Sec}$. What is the Suitable Application of the Materials and Why?

Q7). How the Electron-Hole Pairs are Created in Hetero-junction Materials? Describe using Some Examples?