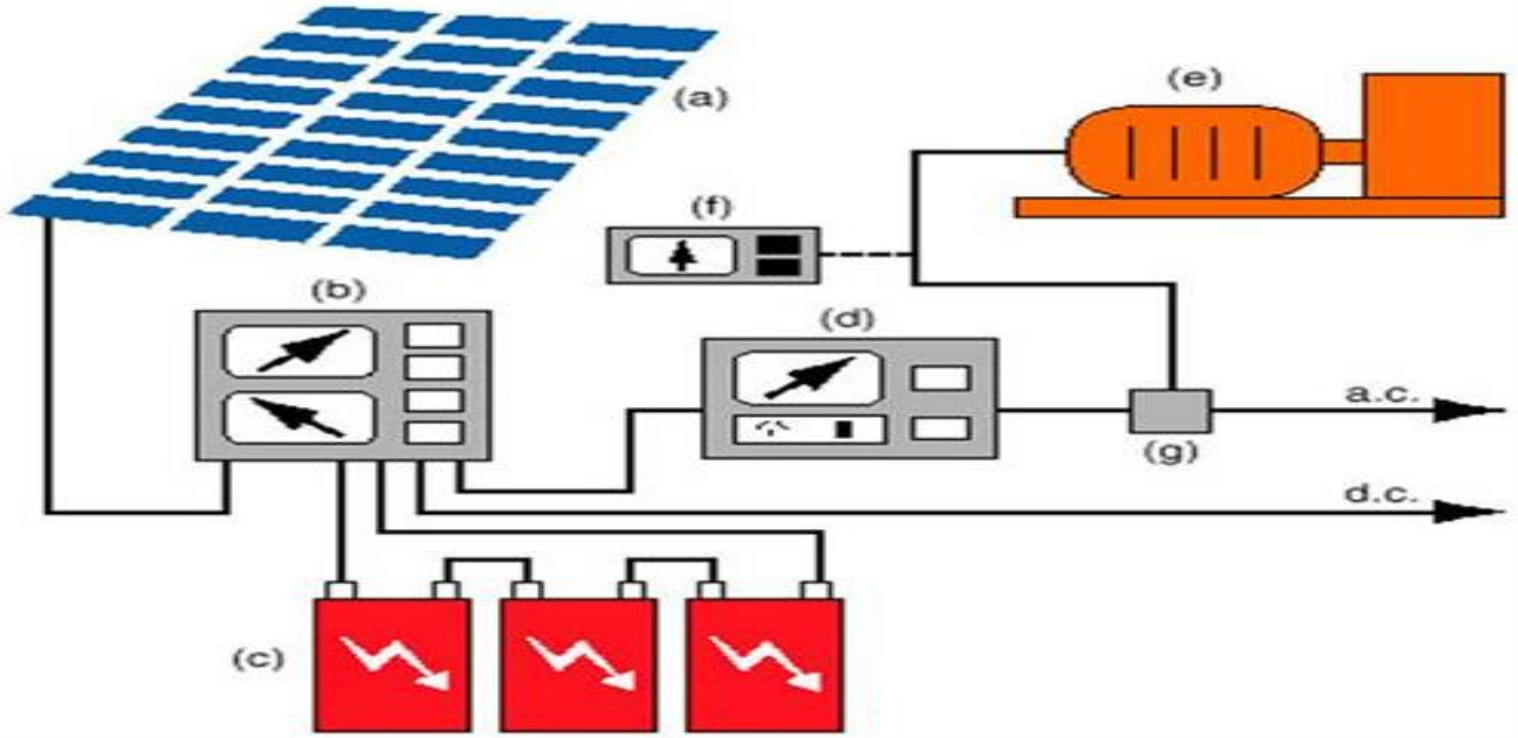
Chapter:5

(Photovoltaic Cell)

Lecture-2

The application of photovoltaic energy conversion system:



- This field causes negatively charged particles to move in one direction and positively charged particles in the other direction.[5] Light is composed of photons, which are simply small bundles of electromagnetic radiation or energy. When light of a suitable wavelength is incident on these cells, energy from the photon is transferred to an electron of the semiconducting material, causing it to jump to a higher energy state known as the conduction band. In their excited state in the conduction band, these electrons are free to move through the material, and it is this motion of the electron that creates an electric current in the cell.

Principle of Photovoltaic cell:

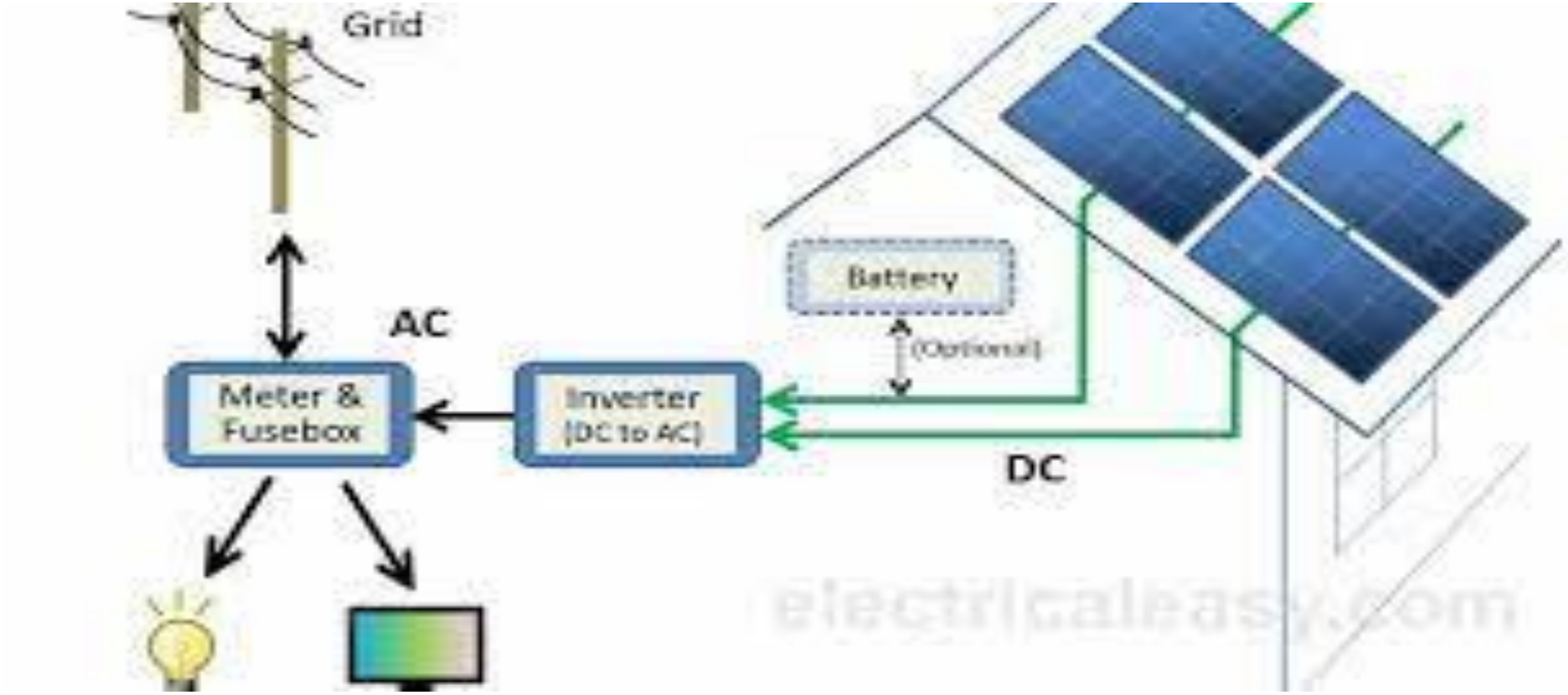
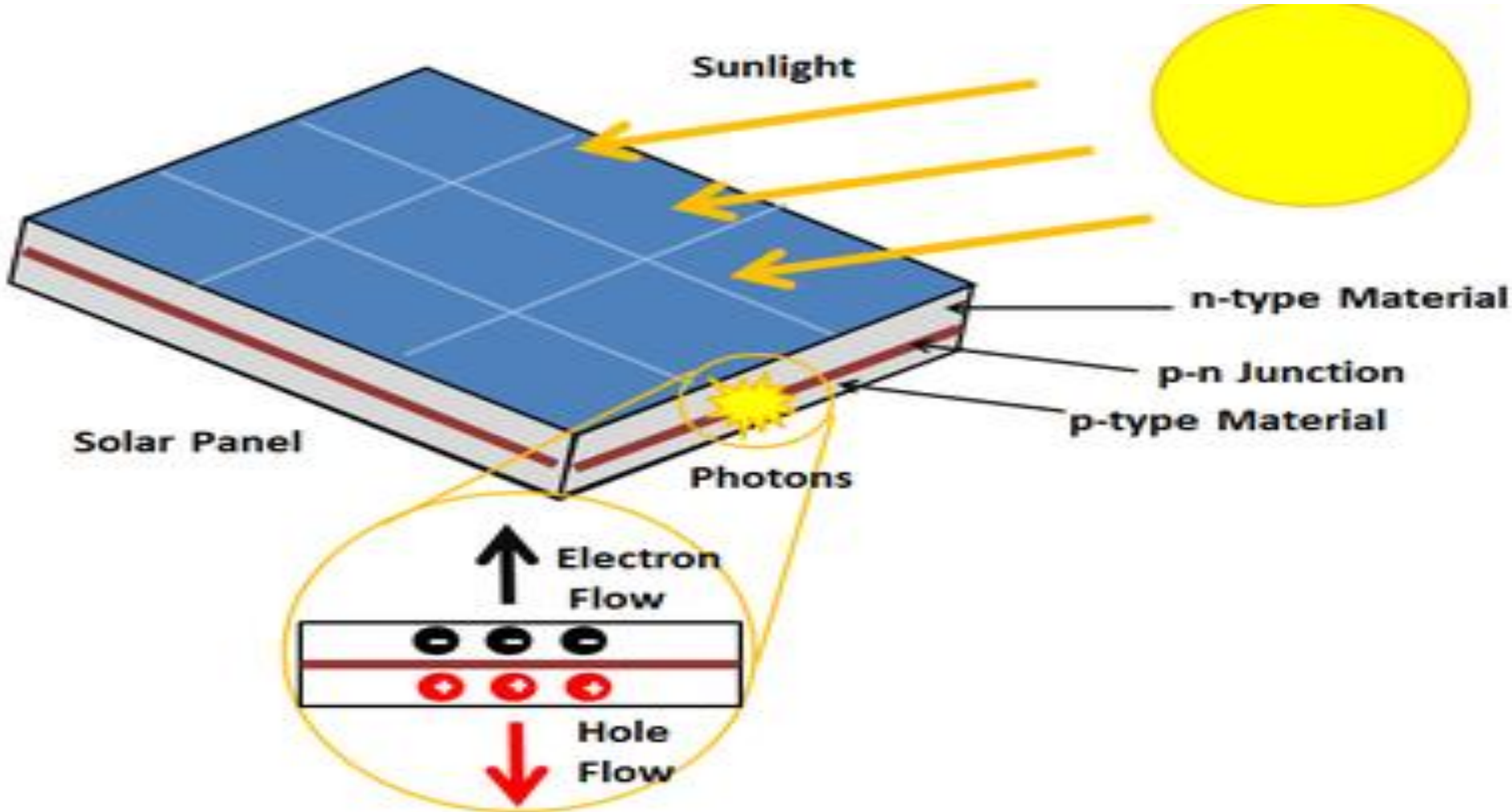


Photo-voltaic energy conversion system:

- Solar Photovoltaic (PV) is a technology that converts sunlight (solar radiation) into direct current electricity by using semiconductors. When the sun hits the semiconductor within the PV cell, electrons are freed and form an electric current. Solar PV technology is generally employed on a panel (hence solar panels)


Sunlight
n-type Material
p-n Junction
p-type Material
Solar Panel
Photons
Electron
Flow
Hole
Flow