



SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
Coimbatore-641035



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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

TITLE : ORGANIC LIGHT EMITTING DIODE



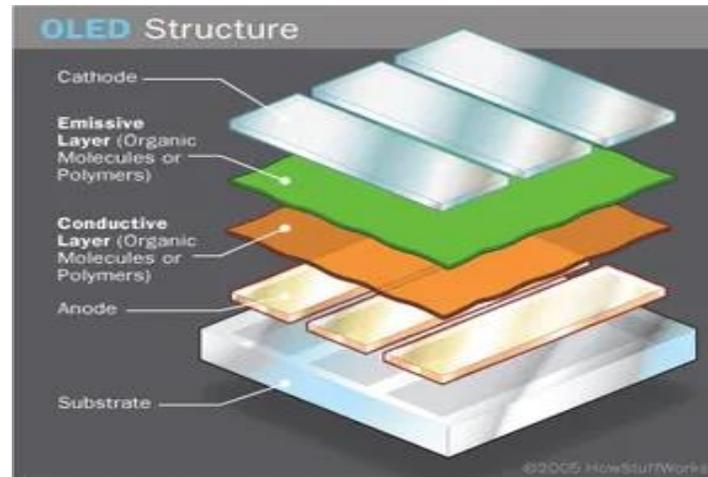
PRINCIPLE

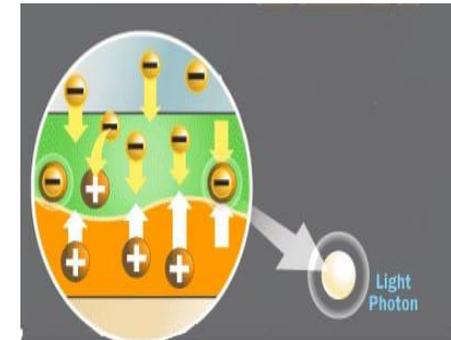
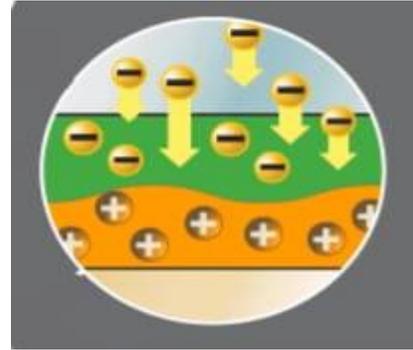
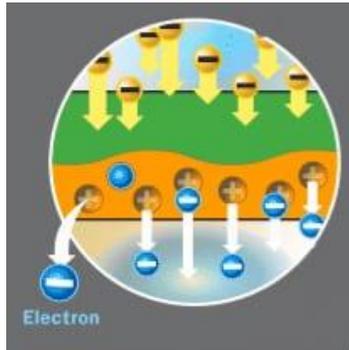
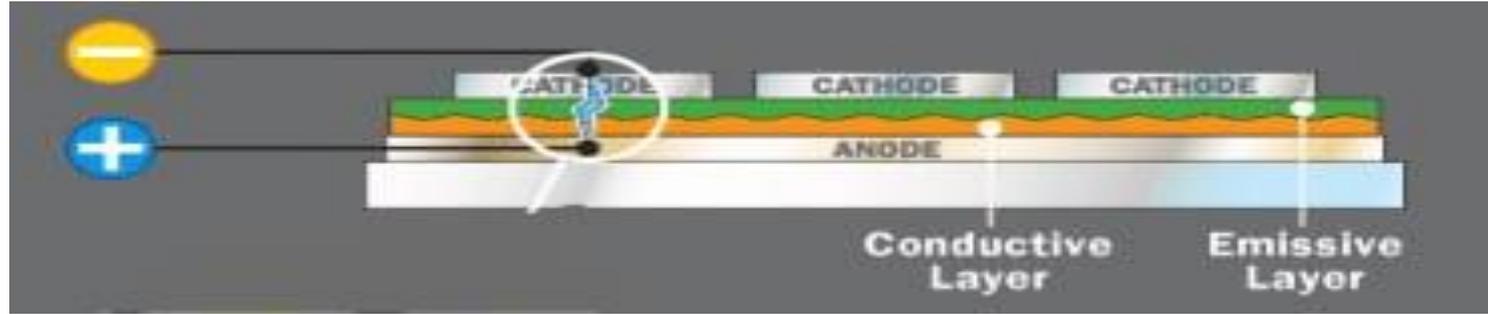
Phosphorescent organic light-emitting diodes use the principle of electro phosphorescence to convert electrical energy in an OLED into light in a highly efficient manner, with the internal quantum efficiencies of such devices approaching 100%.



WORKING

- Electrical current flows from the cathode to the anode through the organic layers, giving electrons to the emissive layer and removing electrons from the conductive layer.
- Removing electrons from the conductive layer leaves holes that need to be filled with the electrons in the emissive layer.
- The holes jump to the emissive layer and recombine with the electrons. As the electrons drop into the holes, they release their extra energy as light.







TYPES OF OLED:

- Passive Matrix OLED
- Active Matrix OLED
- Transparent OLED
- Foldable OLED
- Top Emitting OLED
- White OLED

ADVANTAGES:

- Flexible.
- Thinner and lighter.
- 100 percentage exitons level as compared to LED and LCDs.
- Vision quality is better than LED and LCDs.



DISADVANTAGES

- Life time is lesser(10000 hrs) as compared to LED and LCDs.
- Easily destroyed by water.
- Manufacturing cost is higher.

APPLICATIONS

- Smartphones.
- Computer monitors.
- Televisions.