



SNS COLLEGE OF TECHNOLOGY



An Autonomous Institution Coimbatore-35

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade

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

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

23CHT101- ENGINEERING CHEMISTRY

I YEAR/ 1 SEMESTER

UNIT4 – POLYMERS AND COMPOSITES

TOPIC – INTRODUCTION OF ORGANIC LED



INTRODUCTION OF ORGANIC LED

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Introduction



- Uses organic light emitting diode(OLED).
- Emerging Technology for displays in devices.
- Main principle behind OLED technology is electroluminescence.
- Offers brighter, thinner, high contrast, flexible displays.



What is an OLED?

- OLEDs are solid state devices composed of thin films of organic molecules that is 100 to 500 nanometres thick.
- They emit light with the application of electricity.
- They don't require any backlight. i.e., they are self-emitting.
- They are made from carbon and hydrogen.



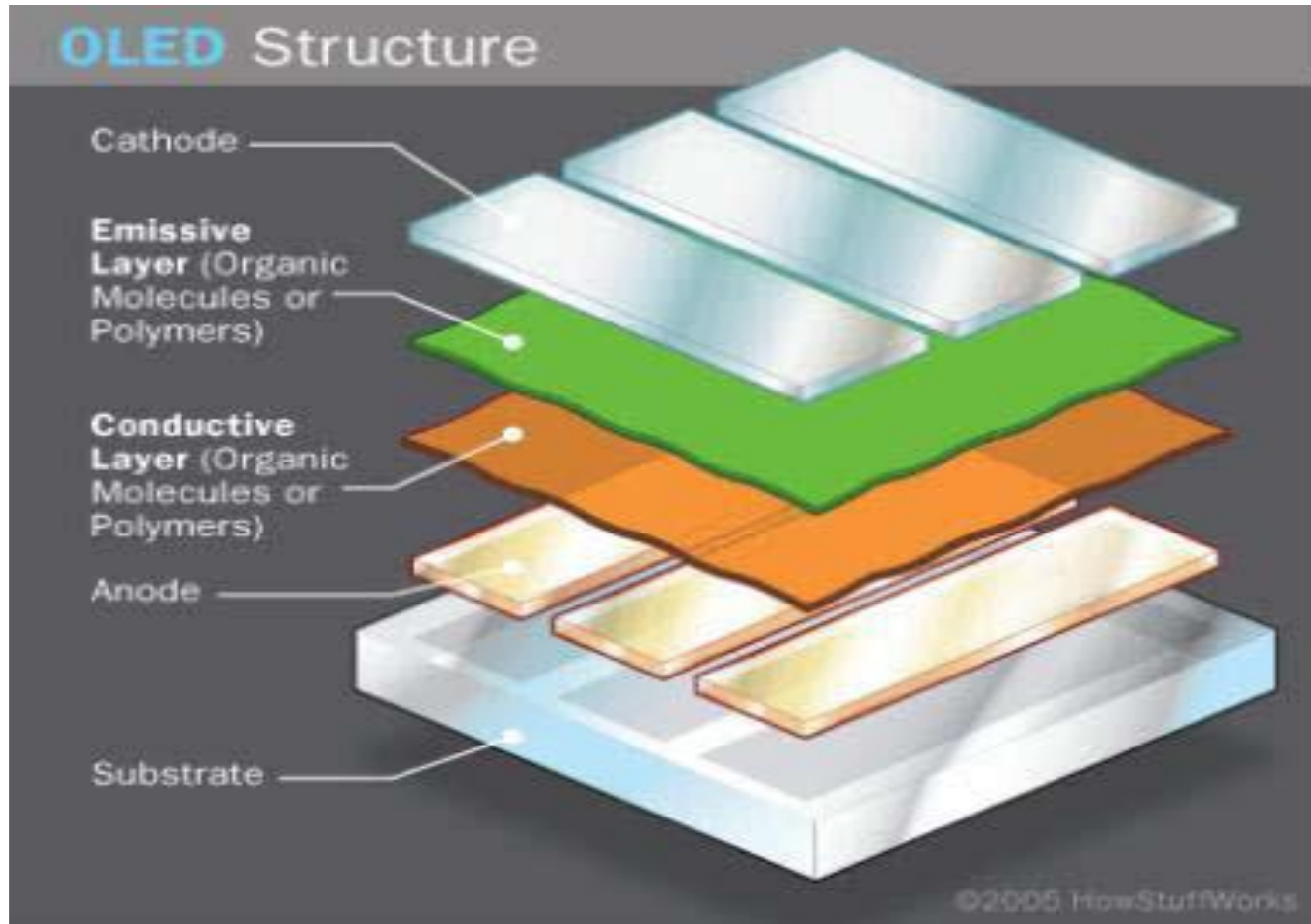
Features



- Flexibility.
- Emissive Technology.
- Light weight and thin.
- Low power consumption.
- High contrast, brighter and perfect display from all angles.



Structure of OLED





Working Principle



- A voltage is applied across the anode and cathode.
- Current flows from cathode to anode through the organic layers.
- Electrons flow to emissive layer from the cathode.
- Electrons are removed from conductive layer leaving holes.
- Holes jump into emissive layer .
- Electron and hole combine and light emitted.



Types of OLED



Six types of OLEDs

- Passive matrix OLED(PMOLED).
- Active matrix OLED(AMOLED).
- Transparent OLED(TOLED).
- Top emitting OLED.
- Flexible OLED(FOLED).
- White OLED(WOLED).



THANK
YOU