Properties of LC ->Each molecule is aligned with each other at some angle. ->It also shows anisotropic properties. ->These molecules possess a very high dipole moment. ->Its molecules are parallel to each other because of strong intermolecular attraction.

Classification of LC

LC are divided into two parts.

i) Thermotropic ii) Lyotropic

Thermotropic -> These are formed by the change of

temperature. These remain the state of LC in a specific temperature.

Now, these are further divided into 3 parts. i) Nematic ii) Smectic iii) Cholesteric

Nematic-> -> Its molecules are thread like in structure. -> It can flow like liquids. -> Do not have layer structure. -> It has low viscosity. -> Flow in all directions but not in layers.

Smectic-> -> Its molecules are cigar like in shape. -> It has a well-defined layered structure. -> It cannot flow like normal liquids. -> It has limited mobility. -> It has high viscosity. -> It slides layer by layer. -> These are mostly soap type and greasy.

Cholesteric-> ->Its molecule has chiral center. ->Its molecules are arranged in layers. ->The structure of its layers is like nematic, hence known as chiral nematic.

Discotic-> -> Its molecules have disc-like structure. -> It is formed of aromatic compounds surrounded by flexible carbon chains.

Lyotropic->

->These are liquid crystals that depend upon the change in conc.

Properties of Lyotropic --> ->These liquid crystals are conc. dependent. ->These LC forms micelle like structure by its two parts that are hydrophobic and hydrophilic.

Applications of the LC ->These are in decorative purpose in cosmetics. ->These are used in body care cosmetics. ->Due to their color effect, these are used in nail paints and eye shadows. ->These are used in the screen of LCD, clock and calculators. ->These are used in the photovoltaic devices, OLED and wires.