Aims
and
Objectives
AIMS AND OBJECTIVES

In the early stage in the field of Liquid Crystals was of only academic value. However, recent technological applications of liquid crystals have attracted scientists of all the fields. The new applications has given impetus to the synthesis of new liquid crystals.

It was proposed to synthesize and study mesogenic homologous series with different lateral substituents to obtain new mesogens as well as to explore further the effect of lateral substituents on mesomorphism.

Synthesis of mesogenic polymers with triazine moiety encouraged us to design and synthesize new low molecular weight molecules having symmetrically substituted moiety. They may provide the link between rod-like mesogens and disc-like mesogens. Polymer study is supplemented by synthesizing model compounds.

It was planned to synthesize diesters (Twins) with flexible spacers and to evaluate their mesogenic properties.

Chiral discotics are rare. It was proposed to re-examine a typical mesogen reported in the past and to supplement it by synthesizing another discogen of similar structure.
A binary system having a cholesterogen and nematogen with a terminal nitro group was planned for the study to initiate the work in the less explored field. Whether charge transfer complexes are formed which enhances the mesophase stability and induces smectic phases.

It was planned to carry out DSC study of some of the mesogenic homologous series to obtain enthalpy and entropy data and to confirm the transition temperatures.