Objective:

A primary object of this project is to provide a non fluoro low cost, easily available true alternate solvent or a mixture of solvents which dissolved mixture of metal complex azo dyes to form a uniform dye solution which has improved light resistance and a sufficient solubility in coating solvents [33] which do not “react” or “swell” with polycarbonate substrates, also have a good recycle properties of dyes. Spin coated thin film of dye solution should good optical constant and high reflectivity [30, 31].

Main objectives of the study:

- Experiments should do by non fluoro solvent (Partially / completely).
- Structural study of laser sensitive metal chelated azo dyes which use in experiments.
- Solubility relationship between solvents and laser sensitive metal chelated azo dye.
- Crystallinities of dye particles after evaporation of solvents on thin film.
- Surface tension of solvents and solubility of azo dyes and coatability with polycarbonate surface.
- Reflectivity variation of dye film.
- Reactivity of solvents with poly carbonates substrate.
- Calculate polarity of azo dyes and solvents find out relationships.
- Distribution of dye particles on polycarbonate surface checked by AFM.