

ACKNOWLEDGEMENTS

I shall remain always extremely grateful to Dr.K.P.Dhake, , M.Sc., Ph.D., F.A.S.I., F.I.C.S., F.U.S.I., Reader in Applied Physics, for the constant encouragement he has given me and the tireless efforts he has made in providing guidance throughout my investigations. Admittedly, without his able guidance, this thesis would have never seen the light.

I am very thankful to Prof.T.R.Joshi, Head, Applied Physics Department and Prof.Dipak Kumar De, Dean, Faculty of Technology and Engineering for providing the necessary laboratory facilities and providing me with the opportunity to carryout my investigations.

I am grateful to Dr.C.K.Chudgar, Reader, Chemistry Department, Faculty of Science for the opportunity given to me to work in his laboratory during the synthesis of liquid crystals.

I am grateful to Andre Laboratories, G.I.D.C., Baroda for providing some of the chemicals necessary for the synthesis of liquid crystals.

I am thankful to Dr.Vilas Tabhane, Institute of Science, Nagpur for the opportunity given to me to work in his laboratory.

I shall remain very thankful to Mr.W.P.Bhagat, Reader in Applied Physics, for the help rendered to me throughout the work.

I am very thankful to the teaching and non-teaching staff of Applied Physics Department for their cooperation during this course.

I take this opportunities to thank all my colleagues S.N.Patil, I.A.Shaikh, R.Patil, K.Samuel, R.Mukharjee and P.N.Vashi. My special thanks go to my colleague P.Supe for the help during the compiling of the thesis.

I am thankful to all my friends specially Khalil Al-Edwan who helped me directly or indirectly during this course.

I am thankful to Mrs.Seema Shaikh for all the care taken.

I must acknowledge the love and support provided by my parents, brothers and sisters, during my stay in India far away from my beloved motherland.

FAISAL AJJEH