

**PHASE TRANSITIONS AND PHYSICAL  
PROPERTIES OF SOME MESOGENIC  
COMPOUNDS AND THEIR BINARY  
MIXTURES**

**A Thesis submitted to the University of North Bengal**

**For the Award of  
Doctor of Philosophy  
in Physics**

**BY**

**BARNALI BARMAN**

**GUIDE**

**Prof. Malay Kumar Das**

**Department of Physics  
University of North Bengal  
Siliguri – 734013  
West Bengal  
India**

**September-2021**