



CERTIFICATE

It is certified that the thesis entitled “**ANALYSIS OF VIBRATIONAL SPECTRA OF BENZENE AND ITS DERIVATIVES USING LIE ALGEBRAIC METHOD**”, submitted by *Surja Kumar Singha* for the award of the degree of Doctor of Philosophy in Physics is a bonafide record of investigation carried out by him under my supervision. It is further certified that he has been duly registered and the thesis presented is worthy of being considered for the award of the Ph. D. Degree. This work has not been submitted for any degree of any other universities.

Place: Assam University, Silchar

(*Ramendu Bhattacharjee*)

Dated:

Supervisor