

Surface Enhanced Raman Spectroscopic Study of Some Functional Molecules Adsorbed on Noble Metal Nano Particles

**A thesis submitted to the University of North Bengal
for the degree of Doctor of Philosophy (Science)
in
Physics**

By

Washim Hossain

Supervisor

Dr. Sripada Haldar
Associate Professor and Head
Department of Physics
University of North Bengal
Raja Rammohunpur
Siliguri, Darjeeling-734 013
West Bengal, India

Co-Supervisor

Dr. Uttam K Sarkar
Associate Professor and Head
Department of Physics
Malda College
Malda-732101
West Bengal, India

April, 2019