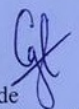
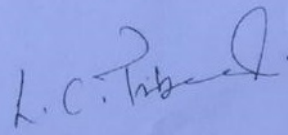
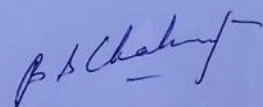


Certificate


This is to certify that the work presented in the thesis entitled "**Fast electron- and ion-collisions with diatomic and large bio-molecules**" which is being submitted by **Miss Madhusree Roy Chowdhury** for the award of degree of **Doctor of Philosophy in Applied Physics** has been carried out by her under my supervision and guidance. The matter presented in this thesis is original and has not been submitted for the award of any other degree or diploma.


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