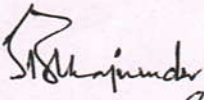
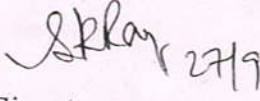


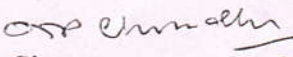
CERTIFICATE OF APPROVAL

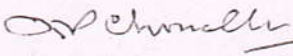
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Certified that the thesis entitled **Defects Mediated Optical Properties of ZnO Based Nanostructures** submitted by **Avijit Ghosh** to Indian Institute of Technology Kharagpur, for the award of the degree of **Doctor of Philosophy** has been accepted by the external examiners and that the student has successfully defended the thesis in the viva-voce examination held today.

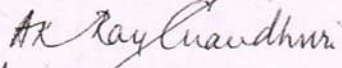
Signature 
Name **S. B. Majumdar**
27.9.10
(Member of the DSC)

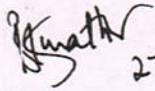
Signature 
Name **S. K. Ray**
(Member of the DSC)

Signature 
Name **S. K. Ray**
(Member of the DSC)

Signature 
Name **S. K. Ray**
27.9.10

(Supervisor)

Signature 
Name **A. K. RAYCHAUDHURI**
(External Examiner)

Signature 
Name **S. K. Ray**
27.9.10
(HOD & Chairman)



INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

upon the recommendation of the Senate hereby confers the degree of

Doctor of Philosophy

on

Avijit Ghosh

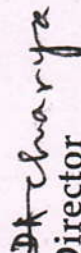
in recognition of the research work on

Defects Mediated Optical Properties of ZnO Based Nanostructures

Given under the seal of the Institute at Kharagpur on the Twentysecond day of August, Two Thousand and Eleven


Registrar




Director