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CERTIFICATE OF THE PRINCIPAL SUPERVISOR

This is to certify that the thesis entitled "*Studies on Hybrid Nanosystems for Multimodal Biomedical Applications*" submitted to the School of Sciences, Tezpur University in partial fulfillment for the award of the degree of Doctor of Philosophy in Physics, is a record of research work carried out by **Mr. Deepak Kumar Jha** under my supervision and guidance.

All help received by him from various sources have been duly acknowledged. No part of this thesis has been submitted elsewhere for award of any other degree.

Date: Place: (P. Deb) Principal Supervisor



TEZPUR UNIVERSITY (A Central University established by an Act of Parliament) Tezpur-784028, Assam, India

CERTIFICATE OF THE EXTERNAL EXAMINER AND ODEC

This is to certify that the thesis entitled *"Studies on Hybrid Nanosystems for Multimodal Biomedical Applications"* submitted by Mr. Deepak Kumar Jha to Tezpur University in the Department of Physics under the School of Sciences in partial fulfillment of the requirement for the award of the degree of Doctor of Philosophy in Physics has been examined by us on ______ and found to be satisfactory.

The Committee recommends for the award of the degree of Doctor of Philosophy.

Signature:

Principal Supervisor Date: External Examiner Date: