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From

Dated: Kolkata, the 11th August, 2020

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To whom it may Concern

This is to certify that the research work embodied in present thesis entitled, "TOXICOLOGICAL CONSEQUENCE OF AGRICULTURAL GRASSHOPPER PEST (ORTHOPTERA: ACRIDOIDEA) FROM WEST BENGAL, INDIA" has been carried out by Sri Balaram Manna (M.Sc.) under joint guidance and supervision for the degree of Doctor of Philosophy in Science (Biochemistry) from Vidyasagar University, Midnapore, West Bengal, India at Entomology Laboratory, Department of Zoology, University of Calcutta, West Bengal, India.

Being a supervisor, I declare that Sri Balaram Manna has fulfilled all prerequisites necessary for submission of this thesis according to the norms and regulation of University Grants Commission, 2009. The procedure and observation were carefully checked time to time by me, analysed and finally drafted. The works presented in this thesis are original record of research and ensure distinct addition to the existing knowledge in the subject. The works incorporated in this thesis have not been submitted before elsewhere by any for any diploma or degree to this University or other. It is a great privilege to endorse for submitting the thesis of Sri Balaram Manna for the award of Doctor of Philosophy (Ph.D.) degree in Biochemistry to the Faculty of Science, Vidyasagar University, Midnapore, West Bengal, India. I wish him every success in life.

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Certificate

This is to certify that the research work embodied in this thesis entitled "TOXICOLOGICAL CONSEQUENCE OF AGRICULTURAL GRASSHOPPER PEST (ORTHOPTERA: ACRIDOIDEA) FROM WEST BENGAL, INDIA" has been carried out by Sri Balaram Manna (M.Sc. Biochemistry, P.G. Dip. Microbio. Tech.) under joint guidance and supervision for the degree of Doctor of Philosophy in Science (Biochemistry) of Vidyasagar University, Midnapore, West Bengal, India at Cell and Molecular Therapeutics Laboratory, Department of Biochemistry, Oriental Institute of Science and Technology, Vidyasagar University. The candidate fulfilled all the prerequisites necessary for the submission of this thesis according to the University Grants Commission 2009 regulation regarding Ph.D. The procedure and observation were carefully checked time to time by me. The work embodied in this thesis is an original record of research work and distinct addition to the existing knowledge of the subject. The work incorporated in this thesis has not been submitted by him or any other researcher for any diploma or degree to this or any other university. He is allowed to submit the work for Ph.D. degree in Biochemistry under the Faculty of Science, Vidyasagar University, Midnapore, West Bengal, India.

I wish him every success in life.

Smarajit Maiti

(Dr. Smarajit Maiti)

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