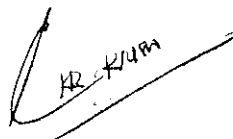


## CERTIFICATE

This is to certify that this thesis is an authentic record of the research work carried out by Smt. **REETHAMMA. O.V.**, under my supervision and guidance in the Division of Marine Biology, School of Marine Sciences, Cochin University of Science and Technology, in partial fulfilment of the requirements for the degree of Doctor of Philosophy of the Cochin University of Science and Technology, and no part thereof has been presented before for the award of any other degree, diploma or associateship in any University.

A handwritten signature in black ink, appearing to read 'KR. Kuma', written over a horizontal line.

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