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## Certificate

*This is to certify that this thesis entitled “Apprenticeship-Type Learning (ATL) Model – Development and its Effect on Higher Secondary Students’ Achievement in Chemistry” is a certified and bonafide record of study carried out by Mrs. R.L. Bindu, Lecturer (Sel.Grade) in Education, N.S.S. Training College, Pandalam under my supervision and guidance, to be submitted for the award of the degree of Doctor of Philosophy in the Faculty of Education.*

Thiruvananthapuram

**Dr. K.R. Sivadasan**

Date :