

DECLARATION

This is to declare that the Ph.D. thesis entitled “**Study of Sprawl Pattern for Deriving bases for Urban Planning**” was carried out in partial fulfilment for the requirement of the Degree of **Doctor of Philosophy** at Department of Computer Applications, Sikkim University. This work has been done under the guidance of Dr. Mohan P. Pradhan (Supervisor), Associate Professor, at Department of Computer Applications, Sikkim University, Gangtok, Sikkim. I hereby declare that this thesis is my own work, and to the best of my knowledge, it contains no materials previously published, or written by any other person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at Sikkim University or any other educational institution, except where due acknowledgement is made in the thesis.

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DEDICATED TO MY FAMILY MEMBERS

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Date: May 2025

CERTIFICATE

This is to certify that the Ph.D. thesis entitled “**Study of Sprawl Pattern for Deriving bases for Urban Planning**” has been carried out at the Department of Computer Applications, Sikkim University by **Mrs. Chunnu Khawas** in partial fulfilment for the award of Degree of **Doctor of Philosophy**.

I consider that the thesis has reached the standard and fulfils the requirements of the rules and regulations prescribed by the University. The contents embodied in the thesis have not been submitted for the award of any other degree or diploma in this or any other university.

It is recommended that this Ph.D. thesis be placed before the examiners for evaluation.

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