MATHEMATICAL CONTRIBUTION OF FIRST NEPALI WOMEN MATHEMATICIAN CHANDRAKALA DEVI DHANANJAYA

A

THESIS

BY

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LETTER OF CERTIFICATE

This is certify that Mr. Bijaya Adhikari a student of academic year 2068-2069 B.S. with thesis number 999, exam roll No. 281481 and T. U. Regd. No. 9-1-9-383-2005 has completed this thesis under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Nepal. The thesis entitled **Mathematical Contribution of First Nepali Women Mathematician Chandrakala Devi Dhananjaya** Conducted during the period 2015 at the department of Mathematics Education, University Campus, Tribhuvan University, Kirtipur Kathmandu. I recommend and forward this thesis to be submitted for the evaluation to award the degree of master of education.

…….. ……..

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Date: 19 August, 2015

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has been approved in partial fulfillment of the requirements for the degree of Master of Education in Mathematics.

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BijayaAdhikari

ABSTRACT

The objective of the study was to expose the biography of Chandrakala Devi Dhananjaya (1915-2002)and her contributions in Nepalese Mathematics and characterize her book *Shishubodha Tarangini*. Furthermore, the researcher intent to explore the mathematics practiced around 1933 A.D. in Nepal. To achieve the objective of this study, the researcher conducted within qualitative paradigm and design of the study was historical type based on document analysis and biographical study.

The primary and secondary source of the data consisting of the study of profiles, consulting with the resource persons and study of related journals, books etc are used as tools of data collection for this study. Researcher used in-depth interview with resource persons for the biography of Chandrakala Devi Dhananjaya and snowball sampling was used. In the introductory part, Chandrakala's biography is described to point out some of the formative instances in the creation of one of the important mathematicians of the first half of the nineteenth century in the context of Nepal.

Finding of the study shows that by means of publishing the book *Shishubodha Tarangini*, Chandrakala Devi Dhananjaya had played the great role in the development of mathematics. She was inspired with the educational environment in her family.The book *Shishubodha Tarangini* is no more in practice at present days, however, the content of the book are still being practiced in a reformed manner. Moreover,*Shishubodha Tarangini* was mainly based on the practical mathematics.Chandrakala focused on arithmetic and mensuration but cannot see a problem of geometry.In *Shishubodha Tarangini* she also expressed inductive approach as a pedagogical view for teaching learning mathematics.

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ABBREVIATIONS

A D -Anno Domini

BCE - Century of Before Christ

HCF - Highest Common Factor

K U - Kathmandu University

LCM - Lowest Common Multiplier

SLC - School Leaving Certificate

T U - Tribhuvan University